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Technical Tips

Introduction



Fractal Design, Inc. has thoroughly tested Ray Dream Studio 5 to ensure that it runs correctly with most Macintosh and Windows software and hardware. If you experience a problem with Ray Dream Studio 5, first complete the steps given in [“Before You Call Technical Support” on page 398](#). Then refer to the list of commonly asked questions and their answers. If you cannot resolve the problem, please refer to [“Fractal Design Ray Dream Studio Troubleshooting Worksheet” on page 423](#) for information on how to contact Technical Support.

Before You Call Technical Support



When you first experience a problem with a software program you might be able to find the solution yourself without calling Technical Support. If you do call Fractal Design Technical Support, please have the following information available. Please fill out the Troubleshooting Worksheet included at the back of this manual.

- 1 Which Fractal Design product are you using?
- 2 Which version?

Macintosh: Look under the **Apple** menu if the program is running or highlight the application icon and choose **File menu ▶ Get Info**.

Windows: Look under the **Help** menu.

- 3 What is your serial number (see the label attached on the back inside cover of this manual)?
- 4 What kind of computer are you using?
- 5 How much RAM does your computer have?
- 6 What kind of problem are you having?

- 7 Do you get an error message? If so, what message?
- 8 Is there anything unusual about your computer set up? Do you have a special video card or accelerator, for example.
- 9 Do you have a CD-ROM player? When was it last used?
- 10 Are you running virus protection or disk compression software, and if so, what products are you using?

Once you have answers to the above questions, call Fractal Design Technical Support at (408) 430-4200. To investigate the problem yourself, look below for instructions based on your computer platform.

Macintosh

The most common cause of problems when running Macintosh software is a conflict with Extensions.



To find out if an Extension conflict is causing a problem:

- 1 Restart the computer while holding down the **Shift** key.
- 2 When you see the message **Welcome to Macintosh. Extensions off**, release the **Shift** key.
- 3 Run the software to see if the problem still occurs.

- 4 If the problem goes away when you start the computer with Extensions off, you know that the culprit is an item in the **Extension** folder or **Control Panel**. Once identified, it is usually just a matter of getting the most current version of the product to solve the problem permanently.



To identify the item that causes the conflict:

- 1 **System 7.5** Choose **Apple menu ▶ Control Panels ▶ Extensions Manager**. If you need more instructions than what appears in this control panel, see your System 7.5 documentation. After turning off one half of your extensions, go to Step 2.

Pre-System 7.5 Create a new folder and name it Extensions Off. Open the Extension folder and drag half of the items into the new folder.

- 2 Restart your computer in the usual way. See if the problem still occurs.

If the problem still occurs you know the culprit is still active.

Pre-System 7.5 If the problem goes away, you know the culprit is in the Extensions Off folder. Whichever folder contains the culprit, cut that group in

half and restart again. Keep cutting the group in half until you zero in on the extension that causes the problem.

System 7.5 If the problem goes away, you know that the extension is turned off. Turn half of the extensions back on. If a problem still occurs, turn off half of the remaining extensions. Keep turning extensions on or off until you zero in on the extension that causes the problem.

- 3 If you get all the way through the Extensions folder without locating the item that causes the problem, it is possible that the culprit is in the **Control Panels** folder.

Follow the same procedure with the **Control Panels** folder, starting by removing all items that are not included in Apple's standard system.

- 4 If you identify the problem as an Extension or a third-party **Control Panel** device, contact the developer of that software to verify that you have the most current version.

If you have the most current version, contact Fractal Design Technical Support at (408) 430-4200. We will want to have the name and phone number of the developer's technician you spoke with so we can work with them to create a permanent solution.

- 5 If the problem is identified as an Apple **Control Panel**, contact Fractal Design Technical Support at (408) 430-4200.

Windows

If you are running Windows, sometimes there is a video driver incompatibility. The solution is easy so try this test to see if your problem is caused by a video driver.

Windows 3.1 and Windows NT

- 1 Close all applications except Windows.
- 2 In your Main directory, locate and double-click the icon labeled **Windows Setup**.
- 3 Write down the current Display setting so you can return to it after this test.
- 4 Choose **Options menu** ► **Change System Setting**.
- 5 Where it shows Display, scroll down and select plain vanilla VGA.
- 6 You will need to restart Windows.
- 7 Run Ray Dream Studio 5 to see if the problem persists.

If the problems are gone, you know the cause was the video driver. Contact the manufacturer of your video card to get the most current video driver. Some manufacturers change drivers every few

months. The new version is most likely free and can usually be downloaded from a bulletin board or online service.

Windows 95

- 1 Choose **Start menu** ► **Settings/Control Panel**.
- 2 Double click **Display** and select the **Settings** tab.
- 3 Click **Change Display Type /Record Adapter Type**.
- 4 Click **Change under Monitor Type** and select **Show All Devices**.
- 5 Make a note of the current setting so you can return to it after this test. Scroll to **Standard Monitor Types** and select **Standard Display Adapter (VGA)**.
- 6 Click **OK**.

If running under VGA does not solve the problem or if the manufacturer verifies that you are running the most current driver, contact Fractal Design Technical Support at (408) 430-4200.

Set up



Q. The Ray Dream Studio 5 installer does not install Ray Dream Studio 5 on my machine. What can I do?

To install the complete Ray Dream Studio 5 including the tutorial files, you need to have 20 MB of hard drive space reserved for program files, plus 20 MB free disk space available on your hard drive.

Macintosh: If you have enough hard drive space and are still having problems, try restarting the Macintosh while holding down the **Shift** key to turn all extensions off. Then reinstall Ray Dream Studio 5.

Windows: If you have enough hard drive space and are still having problems, try rebooting the computer with the following turned off:

- Any virus protection software.
- If you are using disk compression, try installing to an uncompressed volume.
- Any TSR (Terminate and Stay Resident) application not required to run Windows.

See TSR Programs (Windows) later in this appendix for instructions on how to turn off TSR's.



Then reinstall Ray Dream Studio 5. If installation is still unsuccessful, contact Fractal Design Technical Support.

Memory



Q. Is there a limit to the size of image that Ray Dream Studio 5 can produce?

A. If there is enough RAM or scratch disk space available to open the file, Ray Dream Studio 5 renders images of up to 16,000 x 16,000 pixels.

Q. How do I select the scratch drive for Ray Dream Studio 5?

A. Choose **File menu**► **Preferences: Imaging: Scratch Drives**.

Q. How can I increase the memory allocated to Ray Dream Studio 5?

A. To change the total amount of RAM allocated to Ray Dream Studio:

Quit Ray Dream Studio 5 if it is already running.

Macintosh:

1. Select the Ray Dream Studio 5 application by clicking once on its icon.

2. Choose **File menu**► **Get Info** from the **Finder** or press **Command-I**.

3. In the lower right corner of the Get Info box, type the amount of RAM you want Ray Dream Studio 5 to use in the Preferred Size box.

4. Close the Get Info box.



Recommendation: Always leave enough RAM for the System. Do not assign an application more RAM than you have available. Check **Apple menu**► **About This Macintosh** before changing RAM allocations.



Windows:

1. Close down any running applications that you really don't need.

2. Delete the contents of the clipboard.

This can be done by selecting the **Clipboard Viewer** from the **Main Group** or **Start menu**. When the **Clipboard Viewer** appears, Choose **Edit menu**► **Delete**.

3. **Windows 3.1** and **Windows NT** Release System Resources. To display the percentage of system resources available, choose **Help menu► About Program Manager** from the Program Manager. If the percentage of free system resources is less than 20MB, problems may occur.

Windows 95 Click **My Computer: Properties: Performance** tab.



To increase available system resources:

- Close all windows that you don't need open (do this in the Program Manager for Windows and Windows NT).
- Reduce the number of Program Groups (Windows/Windows NT).
- Close all unnecessary application windows.
- If you are running Wallpaper, turn it off.
- **Windows 95** Ensure you are using the most current version of Windows.

Q. If I upgrade my computer by adding more memory will it render faster?

A. Adding more memory might allow the computer to render some images without using the scratch disk so you may see a significant improvement in the speed, especially if your image includes

texture maps. It is not actually working faster, it just doesn't have to go to the disk as often.

Q. Will adding an FPU increase Ray Dream Studio 5's speed?

A. No. Ray Dream Studio 5 does not use the FPU.

TSR Programs (Windows)



Q. What is a TSR (Terminate and Stay Resident) application?

A. A TSR or memory resident application is a program or driver that stays in memory once it is loaded and works in the background. The program normally responds only to a specific command or event (such as the deletion of a file or a specific key stroke combination).

Q. How can I turn some or all TSR's off?

A. To turn off TSR's:

Using DOS 6 and higher:

1. Reboot the computer and press the F8 key as soon as you see "Starting MS-DOS."

2. The computer prompts you before executing each line in the config.sys file and autoexec.bat file. This allows you to selectively not load TSR's that are not required to run Windows.



You must load HIMEM.SYS in order to run Windows in enhanced mode. Also, if you have a SCSI drive, make sure that you load your SCSI drivers. (You may also need the Files and Buffers and Path commands in AUTOEXEC.BAT.)



3. Once the computer restarts, start Windows then start Ray Dream Studio 5.

4. If the problem persists, even with TSR's off, contact Fractal Design Technical Support.

Q. Can TSR's cause conflicts and how can I resolve them?

A. A TSR conflict occurs when a specific TSR conflicts with another TSR, application, or a function within an application. You can resolve a possible TSR conflict by:

1. Restarting the computer with only those TSR's turned on that are required to run Windows.

2. Retry the operation. If the conflict does not recur, the problem is probably caused by a TSR conflict.



If restarting with TSR's off resolves the problem, a TSR conflict is probably the cause of the original problem. Try to identify the specific TSR or combination of TSR's that cause the problem. Once identified, verify with the manufacturer that the version is up-to-date. Then contact Fractal Design Technical Support for additional instructions.



Modeling



Q. Can I use Adobe Illustrator or Corel Draw line art to create 3D objects?

A. Yes, you can use Adobe Illustrator or Corel Draw line art as cross sections, sweep paths, and scaling envelopes. Refer to [Chapter 7, "Free Form Modeling."](#) (Macromedia FreeHand is not supported in Ray Dream Studio 5.)

Q. After I use the **Rectangle** tool to draw a square (by holding down the **Shift** key to constrain it.) I want to edit the shape. How can I convert this shape to a Bézier shape? Previous versions of Ray Dream Studio could convert to Bézier. How do I do that in this version?

A. To convert your square to Bézier curves, so you can edit the shape, choose **Arrange menu**► **Ungroup**. Then use the **Add Point** or **Convert Point** tool to edit the shape.

Q. How do I create an object with holes in it?

A. Draw the cross section and the hole(s). With the cross section selected hold down the **Shift** key and select the hole(s). Choose **Arrange menu**► **Combine as Compound**.

Q. The object I made using the Modeling Wizard is not exactly what I want. How do I edit it? Can I use the Modeling Wizard to modify an object made in the Modeler?

A. The Modeling Wizard is only for creating objects. Objects created with the Modeling Wizard can be edited like other free form objects. Double-click the object in the **Perspective** window to launch the Modeler. Edit the object then exit the Modeler by clicking **Done**. Remember, any Wizard object can be recreated with eight mouse clicks or fewer, so it's not too inconvenient to start over again.

Q. How can I rotate the plane of the cross section like the Modeling Wizard does when it makes the banana?

A. No magic here. Simply choose **Geometry/Extrusion Method menu**► **Pipeline** instead of

Translation. With Translation (the default) the cross section remains parallel to the drawing plane. With Pipeline, the cross section remains perpendicular to the sweep path, so the plane of the cross section rotates as the sweep path curves.

Q. When I imported my 3D DXF file, all I got was an empty bounding box, or so many objects that I could not make any sense out of it. How can I fix this problem?

A. Ray Dream Studio 5 imports files based on the DXF standard created by Autodesk, the manufacturer of AutoCAD. Before you export from your DXF application, ensure that objects are saved as 3D faces. Then your file should import correctly in Ray Dream Studio 5.

Shading



Q. At what resolution should I save my bitmap image in order to use it as a texture map in Ray Dream Studio 5?

A. You will get the best results if the original image is saved at the size and resolution required for the final output. So if your final image is rendered at 300 dpi and the texture map is about one inch square in the final image (300 x 300 pixels), you would want your original to have a size of 300 x 300 pixels (one inch

square at 300 dpi). The closer you are to a one-to-one ratio between the original artwork and the final output, the better your texture map will look. Making the texture map larger (or higher resolution) increases the rendering time but will not increase the quality of the final image!

Q. Does Ray Dream Studio 5 support PANTONE colors?

A. Ray Dream Studio 5 supports the RGB and CYMK color models for selecting colors. PANTONE colors are not supported directly, but you can use the CMYK equivalent to select your original color. Remember that colors are manipulated in order to create a 3D image. If you start with a specified color, you don't necessarily end up with it after you have added lights, reflection and transparency, and allowed for the shading that indicates the curvature of your objects. The final artwork rendered from Ray Dream Studio 5 will always be in the RGB mode. Of course, you can do post production work in an image manipulation program, such as Adobe Photoshop, to specify PANTONE colors.

Q. What is the priority order for solid textures on objects? Say I have a transparent object with a bank of wood texture and part of the wood has a gold band "inlaid" in it. What will I see? How can I control the priority order?

A. Use the **Properties palette: Shading tab** to change the order of paint layers. Use the **Move Forward** and **Send Backward** commands to prioritize the paint layers.

Q. If I change the shape of my paint region will the texture map tile or stretch?

A. It will stretch. Remember that you can use the **Properties palette: Shading tab** to change the size of your paint region. Set the size to a size that is proportionate to your artwork to avoid distortion. If you want to increase tiling, click the paint region with the **Eyedropper** tool. Adjust the tiling in the **Shader Editor** and reapply the shader.

Q. If I have a long thin object how can I get my texture to tile correctly?

A. In the Shader Editor you can set the number of tiles you want in the vertical and horizontal planes to get the effect you are looking for.

Q. How can I make bumps show up better? I want them to appear higher or I want the indents to appear deeper.

A. Experiment with your lighting. Try not to have any light directly aimed at the bump or it will wash out. Indirect lighting shows the bump map shadows.

Q. I want to use some filters on my object but I cannot access them. Why?

A. You need to tell Ray Dream Studio 5 where to find the filters by identifying the plug-in folder in **File menu» Preferences: Imaging: Scratch Disk**. Remember that filters can only be applied to a 2D image. Filtering is a post-production process.

Q. Some Photoshop plug-ins look for Photoshop specific functions and cannot be used.

Printing



Q. I created a really neat 3D object but I can't figure out how to print it. Help!

A. Set up cameras and lights. Render your image. Open the rendered image and choose **File menu» Print**. For more information, refer to [Chapter 14, "Setting Lights & Cameras."](#)

Q. I printed my rendered image but the resolution is very poor. On screen it looks pretty good. What's going wrong?

A. It is up to you to select the size and resolution you desire for your printed image. The default is 72 dpi (screen resolution), which is very poor quality for printing but great for previewing your scene on screen. Set the resolution for

your image before rendering, by using the **Scene Settings dialog: Image Size** tab.

Arranging



- Q.** Even using various views, I have a hard time lining things up precisely.
- A.** Use the **Numerical** and **Alignment** tools, described in [“Positioning Objects” on page 234](#), to place objects precisely. You may also want to adjust the hot point on specific objects in order to get the exact placement you need.
- Q.** When I drag a new object into the **Perspective** window, sometimes I cannot find its projections. I have the feeling that the object is not where I think it is.
- A.** It does make a difference where you drop your object. Experiment with it. Generally, you should aim for the center of the Universe. However, should you really have a problem, you can always send your object to the center yourself. Select the object in the **Perspective** window, then choose **Arrange menu ▶ Send To Origin**. Better yet, create your object in the center of the universe by dragging and dropping the **Free Form** tool or one of the primitive tools into the **Hierarchy** window.

Q. I've tried using **Numerical** and **Alignment** to place my objects exactly where I want them but they don't seem to align as I would expect. They don't seem to rotate correctly either.

- A.** Make sure the Hot Points are set correctly. To return the hot point to the default setting: Select the hot point and click **Send to Center** in the **Numerical** dialog, and click **Apply**.
- Q.** I really like the **Virtual Trackball** tool but sometimes I have a hard time understanding how it is rotating the object. Can you help?

A. Be sure to start your rotation with the cursor inside the circle (otherwise, rotation is constrained to one plane). If you need more control, hold down the **Shift** key and your rotation will be constrained to 15° increments. Your object rotates around its Hot Point. (If you start your rotation outside the circle, rotation is constrained to the active plane.)

Q. Why doesn't the **Hierarchy** window scroll automatically?

A. If you want to have the **Hierarchy** window scroll while you drag, hold down the **Option/Alt** key. Otherwise, it behaves just like a window on the Finder (Macintosh) or Program Manager (Windows) behaves.

Q. I understand how to point a light or camera at an object but what if I want the light to point at a spot where there is no object? It seems like I should be able to do that.

A. Create a dummy object and place it at the spot where you want the light (or camera) to point. Remember that it points at the Hot Point. After using the **Point At** command, select your dummy object and delete it. The **Point At** command does not link the camera or light to the object, so if you move the object and want the camera or light to continue to point at the object, you will need to aim it again.

If you have Ray Dream Studio installed, you can use the Point At behavior as a way to keep one object directed at another through all or part of the animation. The Point At behavior can be applied to objects, as well as cameras and lights.

Lights and Cameras



Q.How can I create a new camera and move it in the **Perspective** window?

A.When you create a new camera using the **Edit/Insert** command, you can set the camera's position to Reference, or to any other of the preset positions under the **View** menu; to the same as position as the current camera; or at the center of the Universe (0,0,0).

You can also select a camera in the **Hierarchy** window and choose **Windows menu ▶ Numerical** or press **Command-I/Ctrl+I** to open the **Numerical** dialog. Set the x, y and z coordinates to 0, 0, and 0. Click **Apply**. The camera now appears in the center of the universe and you can move it as you would any other object in your scene. Remember you can also move a camera using the camera tools or the controls in the **Camera Properties** palette (**Windows menu ▶ Camera Properties**). Yet another way to move the camera is to select it in the **Perspective** window and drag it as you would move any other object.

Q.How can I control the intensity of shadows?

A.Double-click the light in the **Hierarchy** window and use the **Shadow Intensity** slider bar to adjust the intensity of the shadow. You can also try increasing the ambient light (just a little), but remember that ambient light affects the whole scene. (You may also want to use the Production Z-Buffer renderer, which renders soft shadows.)

Q.I set the ambient light to a nice clear white, but I am not getting the results I expected. What's wrong?

A.Ambient light refers to the light that is simply there in the room during the day. If you set the light to white it will probably wash out all the color and texture of your objects. Usually you will want to leave it set to the default neutral gray. Sometimes you may want a colored light for special effects but don't make it too bright!

Q.I set up my scene by placing the objects and adjusting the lights, but when I render the scene, everything appears to be washed out. Why is that happening?

A.Be sure you do not to set the lights too bright. If you adjusted the lights by assigning a very light yellow or white color, you are probably flooding the scene with too much light. Try rendering the scene with the lights set to a lower intensity.

Q.I added Fog to my scene but it doesn't seem to do anything. I don't see any fog.

A.Distance-based fog only shows if it is in front of something. Is your object in front of the fog? You may need to adjust the area where the fog starts or move your object into the fog. For information on how to determine where fog begins and ends, refer to "[Atmosphere](#)" on page 344.

Q.My object looks foggy now, but shouldn't fog affect the whole scene?

A.In order to see the fog in the rest of the scene, you will need to provide a background. The same is true of Ambient Light. Select a **Reflected Background** from the **Reflected Background** tab (Render/Effects), or create an object and position it behind the scene.

Rendering



- Q.** Can I interrupt a rendering once it has started? If so, how do I resume or do I need to start over again?
- A.** If you are using the Batch Queue, you can pause a rendering by clicking **Pause** in the **Batch Queue** dialog. Resume rendering by clicking **Resume** in the **Batch Queue** dialog. The contents of the Batch Queue are saved so you can resume a paused rendering later. However, once you clear the **Batch Queue** dialog, you will not be able to resume the rendering. Of course, you can abort a rendering by typing **Command-Period/ESC**, but an aborted rendering cannot be resumed.
- Q.** When using the Batch Queue, my rendering did not show the latest changes I made to my scene.
- A.** The Batch Queue renders the scene from the last version saved to your hard drive. (It's a good idea to save frequently!) The **Render** command renders your scene as currently shown, working from the copy held in RAM, showing the latest changes even if not yet saved to the hard drive. If you're happy with the output, remember to save it!
- Q.** What kind of image will I get if I choose to have the computer give me the best image possible in the time available instead of doing a full rendering? How will it relate to the Render Settings format I have set? Will it keep the dpi constant and change the size or keep the size I set and change the dpi?
- A.** It will keep the image size and adjust the resolution to the best quality available in the time you have specified.
- Q.** How long will it take to render my image?
- A.** Image processing time depends on a variety of factors including: computer speed, rendering resolution, scene complexity, lights, transparencies and reflections, types and complexity of textures. Generally, more complex images take longer to process than simpler images. Use the **Estimate Render Time** command in the **Scene Settings dialog: Image Size** tab for information specific to your image.