



# 4

## Ray Dream Studio 5 Basics

### Overview



This chapter describes how to setup Ray Dream Studio and some of the basic operations you'll need to know when creating 3D illustrations and animations.

## Learning about Ray Dream Studio 5 Files



Everything in Ray Dream Studio can be saved as a file. You can save entire scenes as **filename.RDS** files, which store all the information in the scene including objects, lights cameras and render settings. You can also save the individual components of a scene as separate files.

Objects, Shaders, Deformers, Links, Behaviors and Render Filters can all be saved as individual files (.BRW) that only the **Browser** palette can open. Once loaded into the palette, they can be dragged into your scene. You can also store file sets in different folders to create libraries of components like, **Shader** and **Object** libraries. The **Browser** palette commands let you save, add and remove different folders, or families, from the **Browser** palette. Refer to “[Using the Browser Palette](#)” on page 28 for more on using **Browser** palette commands.

Lights and cameras can be saved either as part of scene or as separate scene files, which you can store in the **Browser** palette. In this way you can create libraries of lighting and camera setups the same way you would **Shader** libraries.

## Setting Up Ray Dream Studio 5



### Launching Ray Dream Studio

The first time you launch the application, a dialog appears requesting your name, organization and Ray Dream Studio 5 serial number. In your Ray Dream Studio package, you'll find a peel-off sheet containing several copies of your serial number. Be sure to place one of the serial number labels on your Registration Card and return it to Fractal Design. Place the remaining labels where you'll be able to find them easily for later reference. For example, on the cover of the manual and on the CD case.

Once Ray Dream Studio 5 has been personalized, the startup screen appears, followed by the Ray Dream Studio 5 windows.



The last five digits of your serial number are replaced by an x on the opening screen to discourage piracy (You will need the entire number when you call Technical Support.)

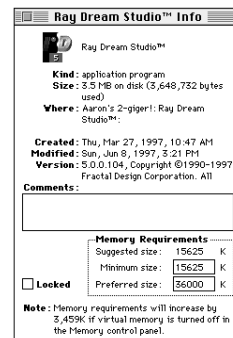


Ray Dream Studio 5 is a color application. For the best preview display, use the Macintosh Monitors control panel, the

Windows Setup options or your video adapter control panel to set your display to the highest color depth possible.

### Allocating Memory on a Macintosh

By default, the Macintosh version of Ray Dream Studio 5 is allocated a specific amount of RAM appropriate for most systems. If you have more memory available, you should increase Ray Dream Studio's memory allocation. Application performance will improve when you allocate more RAM to Ray Dream Studio. To check how much RAM you have available, choose **Apple menu» About This Macintosh** in the Finder.



*Use the Get Info dialog to allocate memory to Ray Dream Studio on a Macintosh.*



**To allocate memory to Ray Dream Studio (Macintosh):**

**1** Make sure the application is not running.

- 2 Click the **Ray Dream Studio 5** program icon on your system.
- 3 Choose **File menu» Get Info**. The **Studio Information** dialog appears.
- 4 Increase the **Preferred Size** to a level appropriate for your system.

## Selecting the Scratch Disk

Ray Dream Studio 5 uses free space on your hard drive to store portions of the scene you are working on. The program periodically reads and writes to this disk space as you zoom in or make changes in your scene. The disk space used by Ray Dream Studio 5 for this purpose is called the “scratch disk.”

Ray Dream Studio 5 works more efficiently when the selected scratch disk is fast and has plenty of free space. If scratch disk space and memory are limited, zooming is limited. You may want to use a disk utility to keep your scratch disk optimized.

By default, Ray Dream Studio 5 chooses the disk where the application is installed as the scratch disk. However, you can select any of your hard disks as the scratch disk.



### To select the scratch disk:

- 1 Choose **File menu» Preferences**.
- 2 Choose **Imaging, Scratch Disk** from the pop-up.

- 3 Select the scratch disk you wish to use.
- 4 Click **OK**.

## Using Extensions with Ray Dream Studio 5

Ray Dream Studio 5 has an extensible, open architecture. Application developers can create extensions to integrate with Ray Dream Studio. Extensions might include a new modeler (a tool set for shaping objects), procedural shaders, new types of lights, cameras, or even an alternative rendering engine.

There are currently several extensions packages available for purchase. You can install extension from the Installer on you Ray Dream Studio CD, or download them from the Fractal Design web site. To “unlock” extensions and add their functions to Ray Dream Studio, you need to purchase a serial number from Fractal Design. For more information, contact Fractal Design sales at 1-800-846-0111.

The complete Extensions Toolkit and API for creating Ray Dream Studio extensions is available on the Ray Dream Studio CD. Refer to the Extensions Portfolio User Guide on the Ray Dream Studio CD for more information on developing extensions.

At any time when the program is running, you can get information on the Ray Dream Studio 5 extensions installed in your

system. Choose **Apple menu» About Extensions** (Macintosh) or **Window s Help menu» About Extensions**.

## Using Plug-Ins with Ray Dream Studio

Plug-in filters let you apply image editing filters to your rendered images. Ray Dream Studio supports Adobe Photoshop-Compatible Plug-ins. By default, Ray Dream Studio searches for plug-ins in the Plug-ins folder. However you can set a new folder using the **Preferences** dialog.



If you move any of these folders from this location or remove an element from them, you may lose access to some of the program's features.



### To set a default plug-in folder:

- 1 Choose **File menu» Preferences**.
- 2 Choose **Imaging, Scratch Disk** from the pop-up.
- 3 Click **Set Directory**. A dialog appears which lets you choose a folder on your system.
- 4 Choose the folder you want to use.
- 5 Click **Select**.

## Setting Application Preferences

Ray Dream Studio's Preferences let you customize many of the application's default settings. You can also set preferences for the colors of the many of the interface elements.

This section only describes the preferences that affect the entire application. Other specific preferences such as Mesh Form modeler, 3D Paint and others are covered in the related sections of this manual. You can find a specific preference by referring to the related chapter. For example, Mesh Form preferences are described in "Setting Preferences for the Mesh Form Modeler" on page 141.



### To set the default unit of measure:

- 1 Choose **File** menu► **Preferences**.
- 2 Choose **General** from the pop-up.
- 3 Choose a measure system from the **Default 3D** pop-up. Your selection becomes the default unit of measure for all 3D objects.
- 4 Choose a measure system from the **Default Image Size** pop-up. Your selection becomes the default unit of measure when setting the size of rendered images.



### To set interface element colors:

- 1 Choose **File** menu► **Preferences**.
- 2 Choose **Color** from the pop-up.
- 3 Click the color chip next to the element whose color you want to change.
- 4 Select a color from the color picker that appears.
- 5 Enable **Custom color in the Motion Path** controls if you want to pick a custom color for motion paths.
- 6 Enable **Custom Color in the Bounding Boxes** controls if you want to pick a custom color for object and group bounding boxes.
- 7 Click **Ok**.

### Shaded Preview Preferences

The Shaded Preview display mode in Ray Dream Studio lets you see an almost rendered preview of your image. This type of high quality preview can dramatically slow down redraw speed. However, if you have QuickDraw 3D™ or Direct3D™ acceleration on your system, you can optimize the Shaded Preview mode. This is the only mode that supports 3D acceleration, and you must "turn it on" to use it.

Ray Dream Studio also lets you set some options to optimize between performance (speed) and quality. You'll want to set these options based on your preference for working and the capabilities of your system. You'll probably want to experiment with different settings to find what's right for you.



QuickDraw 3D (Macintosh) and Direct3D (Windows) are extensions to the system architectures that improve the drawing of 3D objects onscreen. These architectures enable software and hardware developers to create 3D acceleration tools that work together.



### To set Shaded Preview options:

- 1 Choose **File** menu► **Preferences**.
- 2 Choose **Shaded Preview** from the pop-up.
- 3 Click the **Renderer** pop-up and choose the renderer you want to use:

**Ray Dream Z Buffer** This is the default renderer. It is not accelerated.

**RAVE Software** This renderer uses QuickDraw 3D software acceleration.

**RAVE Hardware** This renderer uses QuickDraw 3D hardware acceleration. You must have specialized hardware to take advantage of this renderer.

**Direct3D Software** This renderer uses Direct3D software acceleration.

**Direct3D Hardware** This renderer uses Direct3D hardware acceleration. You must have specialized hardware to take advantage of this renderer.

**Note:** The onscreen results will vary slightly between the different renderers.



The RAVE and Direct3D software renderers require the associated software installed in your system. This software is installed during the Ray Dream Studio standard installation. If you do a custom install and choose not to load these items, you won't be able to use the accelerated renderers.



4 In the **Preview Quality** entry box, enable the features you want and disable those you don't want:

- Texture Mapping
- Diffuse Light
- Specular Light
- Light Cones and Colors

**Note:** Each feature you use increases screen rendering time. If you're not satisfied with the updating responsiveness when you move and rotate objects, disable some of these features.

5 If you want light cones to move interactively when you adjust a light, enable the **Follow light moves** option.

**Light Cones and Colors** must be enabled for this feature to be valid.

6 Select the **Texture resolution** you want: **Low, Medium or High.**

Lower resolution improves performance, but shows less detail. **Texture Mapping** must be enabled for this feature to be valid.

7 When you're finished setting options, click **OK** to close the **Preferences** dialog.

Remember, these preferences only apply when you're using the **Shaded Preview** display mode in the **Perspective** window.

## Setting up your Workspace



Your Ray Dream Studio workspace refers to the layout of windows, palettes and toolbars. Most of Ray Dream Studio's windows and toolbars can be customized to suit the way you work. Ray Dream Studio

also has a number of preset configurations that are especially suited for specific display sizes.



*This is a sample workspace configuration for Ray Dream Studio.*



*To set the best workspace for your display:*

Choose **Windows** menu ▶ **Workspace** and select one of the workspaces that corresponds to your display resolution (1024x769, 800x600, etc.).

You can also choose **Large Font** setting for some workspaces. Large font settings take into account the extra room needed when you use your operating system's Large Font settings.

As you work you'll probably arrange Ray Dream Studio's windows and palettes to best accommodate your work style for different tasks. You may have different

layouts for animating and modeling. Ray Dream Studio lets you save these workspace layouts for later use.



#### *To save a workspace configuration:*

- 1 Choose **Windows menu**► **Workspace**► **Save Current**. The **Save Workspace** dialog appears.

- 2 Enter a name for your workspace and click **OK**.

Saved workspaces appear at the bottom of the **Windows menu**► **Workspace menu**.



#### *To hide/display windows and palettes:*

Choose **Windows menu**► and the name of the window or palette you want to hide/display.

A checkmark beside the window's name indicates that it's displayed.

### Setting up the Working box

The working box is a three-dimensional reference tool for positioning and arranging objects.



#### *To set the default size of the working box:*

- 1 Choose **File menu**► **Preferences**.

- 2 Choose **Perspective** from the pop-up
- 3 Enter a value in the **Size** box. This value sets the initial size of the working box.

### Setting up the Grid

The grid in Ray Dream Studio can be an invaluable tool for placing objects in 3D space.



#### *To set up the default grid properties:*

- 1 Choose **File menu**► **Preferences**.
- 2 Choose **Perspective** from the pop-up.
- 3 Enter a value in the **Space** box. This value sets the initial space between grid lines.

For example a value of 4 would mean that there is 4 inches between grid lines.

- 4 Enter a value into the **Draw a line every** box. This value determines whether a line is drawn for every grid increment, or less frequently.

In the example above, a value of 1 would draw a line every 4 inches.

### Displaying Grid Planes

The working box in Ray Dream Studio exists in 3D. The three visible grid planes of the working box represent the XY, ZX and ZY planes. You can choose which planes to display.



#### *To display/hide grid planes:*

Click a plane in the **Display Planes** button. Visible planes have dark colored previews on the button.

### Customizing Toolbars

You can also customize Ray Dream Studio's toolbars. By default, Ray Dream Studio displays a limited set of toolbars, which includes tools for working in the **Perspective** and modeling windows, buttons for setting rendering options, previewing animations and performing basic file operations.

There are several other toolbars you can use in Ray Dream Studio which contain tools for zooming and accessing Internet Web sites.



#### *To display or hide toolbars:*

- 1 Choose **View menu**► **Toolbars**. The **Toolbars** dialog appears.
- 2 Click the name of the toolbar you want to display. A toolbar is displayed when a checkmark appears next to its name.
- 3 Enable the **Lock Toolbars** checkbox, if you want all the toolbars to remain locked to the main window.
- 4 Enable **Reset to default** to display only the default toolbars.



Toolbars can remain part of the main window, or you can have them float as separate palettes.



### *To undock a toolbar:*

Click one of the edges of a tool and drag it towards the center of the window.

A palette containing all the tools in the toolbar appears.



### *To dock toolbars:*

Drag the toolbar to the edge of the window. When the palette's outline switches to a toolbar layout, release the mouse button.

## Creating a New Scene



Before you can create a new 3D illustration, you have to create a new document. A new document can be a blank scene or a predesigned scene you add using the Scene Wizard.

### Creating an Empty Scene

When you create an empty scene in Ray Dream Studio, the **Perspective** window opens using your default workspace setup. Your scene contains only one default light and a default camera.



### *To create an empty scene:*

- 1 Choose **File** menu ► **New**. The **New** dialog appears.
- 2 Click **Create Empty Scene**. An empty **Perspective** window appears.

### Using the Scene Wizard

The Scene Wizard is a picture-based assistant that guides you through the steps of creating scenes. There are two ways to create scenes with the Scene Wizard, by using templates or by picking various components of your scene, step-by-step.

There are three different categories of Scene Templates: **Logo Templates**, **Indoor Templates** and **Outdoor Templates**. Each of these contains completed scenes in each of

their categories. Once you've created the scene, you can edit it, just as if you'd created it from scratch.

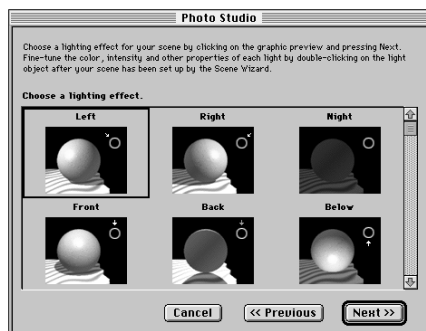


*Use the Template Scene Wizards to create a scene using preset scene elements.*

There are two categories of step-by-step wizards: **Photo Studio** and **Indoor Step by Step**.

These categories create scenes by stepping you through several screens to select various components. The **Photo Studio** lets you choose lighting effects, backdrops, and

props. The **Indoor step-by-step** lets you choose wall and floor combinations, and lighting effects.



Use the **Photo Studio Scene Wizards** to set lighting effects and backgrounds for your scene.

The **Scene Wizard** can create new scenes or you can apply the **Scene Wizard** settings to an existing file.

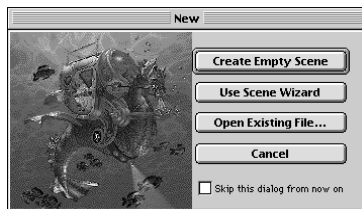
You can have the **Scene Wizard** automatically appear whenever you launch Ray Dream Studio.

### *To have the Scene Wizard automatically launch:*

- 1 Choose **File menu**► **Preferences**.
- 2 Choose **General** from the pop-up.
- 3 Enable the **Use Scene Wizard on New** to have the wizard appear whenever you use the **New** command.

### *To create a new scene using the Scene Wizard:*

- 1 Choose **File menu**► **New**. The **New** dialog appears.



The **New** dialog appears when you click the **New** button.

- 2 Click **Use Scene Wizard**.
- 3 Follow the on-screen instructions.
- 4 Click **Done** when you've reached the final screen.

### *To use the Scene Wizard to add to an existing file:*

- 1 Choose **File menu**► **Apply Scene Wizard**.
- 2 Follow the instructions provided by the wizard. The selections you make in the **Scene Wizard** are applied to the current file.

## Opening an Existing File

You can open any file you created in versions 3 or 4 of Ray Dream Studio or Designer.

### *To open an existing file:*

- 1 Choose **File menu**► **New**. The **New** dialog appears.
- 2 Click **Open Existing File**.

or

Choose **File menu**► **Open**. The **Open** dialog appears.

- 3 Locate the file using the dialog controls and click **Open**.

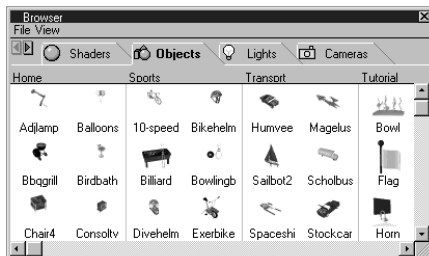
## Placing Objects in your Scene

### Using the Browser Palette

The **Browser** palette helps you store and reuse items and features you've created or customized.



The **Browser** palette has eight tabs—**Shaders, Objects, Lights, Cameras, Deformers, Behaviors, Links and Render Filters**. Each tab category lets you organize items you save into directories.



*The Browser palette is a visual catalog of all the items you can use to create 3D scenes.*

When you've customized an item in one of these tab categories, you can save it to the **Browser** palette, where it will be easy to retrieve and use again later. Most operations with the **Browser** palette are the same in all categories.

**Note:** Objects, light sets and cameras are saved as normal Ray Dream Studio documents (.RDS files). Items in other **Browser** palette categories are saved as special **Browser** palette documents (.BRW files).



#### *To display the Browser palette:*

- 1 Choose **Windows menu** ▶ **Browser**. The **Browser** palette appears.
- 2 Click the tab for the category you want.

You may need to widen the window or click the tab scroll arrows to show the tab category you want.

The **Browser** palette offers three view modes for its contents—**Text, Small Icon** and **Large Icon**.



#### *To change Browser palette view:*

Choose **Browser palette: View** menu and select the display you want.



#### *To change column width:*

Drag the column divider to set the new column width.

When the number of columns exceeds the window width, use the scroll bar on the bottom to bring more items into view.



#### *To set Browser palette preferences:*

- 1 Choose **File menu** ▶ **Preferences**.
- 2 Choose **Browser** from the pop-up.
- 3 Enable **Drop as Master Group** if you want any camera, light or object dragged from the **Browser** palette to be dropped into the **Perspective** window as a Master Group.

Refer to “[Working with Master Objects](#)” on page 266 for more information on master groups.

- 4 Enable **Auto Load Selected Shader** In the **Shader Editor** to automatically update the Shader Editor whenever you click on a Shader in the **Browser** palette.

- 5 Click **Ok**.

#### **Saving to the Browser Palette**



#### *To add an object, camera or light to the Browser palette:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 In the **Time Line** window, click the name of the object, camera or light you want to add to the **Browser**.
- 3 Drag the item's name from the **Time Line** window to the **Browser** palette. You must drop it under one of the named directory columns.

**Note:** You can also add a group of items. To add the entire scene, drag the Universe name from the Time Line window to the Browser.

Ray Dream Studio opens a dialog so that you can name the saved item.

- 4 Enter a name and click **OK**.

Ray Dream Studio adds the item to the **Browser** palette in the directory column where you dropped it.



### *To save a scene to the Browser: Object tab:*

- 1 Make sure the scene you want to save is open in the **Perspective** window.
- 2 Choose **Edit menu ▶ Save As**.
- 3 Click **Options**.
- 4 Enable the **Save icon preview** option.

You might want to disable the **Save cameras and lights** option.

- 5 Click **Ok**.
- 6 Use the directory tools in the **Save** dialog to locate and open a folder that's loaded into the **Browser palette: Objects** tab.

For example, the models that are loaded by default are stored in the **Ray Dream Studio:3dclip** folder.

- 7 Click **Save**.
- 8 Click the **Browser palette: Objects** tab.
- 9 Select the column name for the folder where you saved your scene.
- 10 Choose **Browser palette: Update Selected Folder**.



### *To add a shader, behavior, deformer, link or render filter to the Browser palette:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Drag the item you want to add into the **Browser** palette. You must drop it under one of the named folder columns.
  - If the item you want to add is in the **Properties** palette, you may drag it from there.
  - If the item you want to add is in a **Browser** document window, you may drag it from there.
  - You may also drag the preview from the **Shader Editor**.

Ray Dream Studio opens a dialog so that you can name the item.

- 3 Enter a name and click **OK**.

Ray Dream Studio adds the item to the **Browser** palette in the directory column where you dropped it.

Behaviors and render filters are cumulative—you can apply several of them. You might create a list of behaviors or filters that you'd like to save and apply collectively. The **Browser** palette helps you do this.



### *To add a list of behaviors or render filters to the Browser palette:*

- 1 Display the **Properties** palette: **Behaviors** tab or the **Scene Settings** palette: **Filters** tab.
- 2 Shift-click to select each behavior or filter you want to include.
- 3 Drag the last item into the **Browser** palette. You must drop it under one of the named directory columns.

Ray Dream Studio opens a dialog so that you can name the list.

- 4 Enter a name and click **OK**.

Ray Dream Studio adds the item to the **Browser** palette in the directory column where you dropped it.

### **Retrieving from the Browser Palette**

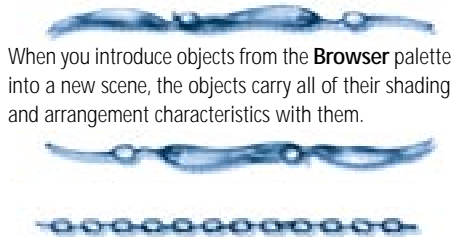


### *To use an object, camera or light from the Browser palette:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Drag the item you want from the **Browser** palette into your scene. You can drag it into the **Perspective** window or into the **Time Line** window.

If you drag an object into the **Time Line** window, it appears at the origin (X=0, Y=0, Z=0). If you drag it into the **Perspective** window, it appears at the point where you release the mouse button.

**Note:** If you double-click an object, camera or light listing in the **Browser** palette, Ray Dream Studio displays the saved **Browser** palette scene.



When you introduce objects from the **Browser** palette into a new scene, the objects carry all of their shading and arrangement characteristics with them.

#### *To use a shader, behavior (or list), deformer or link from the Browser palette:*

Drag the item you want to use from the **Browser** palette onto the object where you want to apply it. You can drag onto the object preview in the **Perspective** window or onto its listing in the **Time Line** window.

You can also drop the onto the appropriate tab on the **Properties** palette.

**Note:** You can also select the object, select the item in the **Browser** palette, then click **Apply** at the bottom of the **Browser** palette.

#### *To use a render filter (or list) from the Browser palette:*

Drag the render filter you want to use from the **Browser** palette into the **Perspective** window, or into the **Scene Settings palette: Filter** tab.

### Editing Browser Documents

Any item that appears in the **Browser** palette is saved as a separate document. All **Browser** palette items may be opened, edited and saved.

#### *To get information on a Browser palette item:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Select the item you want to find out about.
- 3 Choose **Browser palette: File menu** ▶ **Get Info**. A dialog appears providing information on the selected item.

You can use the **Name** entry box to change the name. Or add a comment as a reminder of how to use this particular item.

#### *To edit a Browser palette item:*

- 1 Display the appropriate tab in the **Browser** palette.

- 2 Double-click the item you want to edit.

- For an object, camera or light, Ray Dream Studio opens it in a scene.
- Ray Dream Studio opens all other items in a document window, which contains the tools appropriate to its type.

For example, double-clicking a shader opens a Current Shader Editor window.

#### *To create a new Browser palette document:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Choose **Browser palette: File menu** ▶ **New Document**. Ray Dream Studio opens a document window of the type you selected.

#### *To duplicate a Browser palette item:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Select the item you want to duplicate.
- 3 Choose **Browser palette: File menu** ▶ **Duplicate File**.
- 4 Ray Dream Studio creates a duplicate of the selected item and places it in the same folder.

- 5 You can now open the duplicate for editing.

### Managing the Browser Palette



#### *To create a new folder in the Browser palette:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Choose **Browser palette: File menu** ▶ **Add Folder**. Ray Dream Studio displays a dialog so you can create (or locate and open) a new folder.
- 3 Click **New** to create a new folder in the current location.
- 4 Name the folder and click **OK**.

The folder appears as a new column in the **Browser** tab you selected.



#### *To remove a folder from the Browser palette:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Click on the folder title you want to remove. Selected folders are highlighted.
- 3 Choose **Browser palette: File menu** ▶ **Remove Selected Folder**.

Ray Dream Studio removes the folder column from the **Browser** palette.

Removing a folder file does not delete files. It only removes them from display in the **Browser** palette.

If you change the contents of a **Browser** palette folder, you may need to force Ray Dream Studio to build a new list of the contents.



#### *To update listings in a folder:*

- 1 Display the appropriate tab in the **Browser** palette.
- 2 Click on the folder title you want to update. It will be highlighted.
- 3 Choose **Browser palette: File menu** ▶ **Update Selected Directory**.

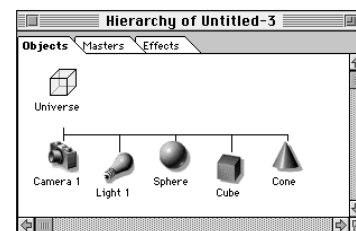
### Using the Time Line Window

As you work you'll find the **Time Line** window an invaluable tool for arranging and animating objects in your scene.

The **Time Line** window can be customized to display information specific to the type of task you're working on.

When you're modeling or arranging objects you'll need to see information on grouping and linking. For this task you can use the **Time Line** window's Hierarchy mode. The Hierarchy mode displays all objects,

groups and scene elements as icons. This mode has two views: **Vertical** and **Horizontal**.



*Time Line window can be displayed in Vertical Hierarchy mode (above) or Horizontal mode.*



#### *To display the Vertical/Horizontal mode of the Time Line:*

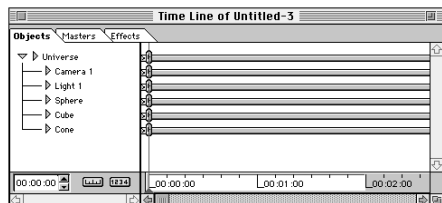
- 1 Click the **Time Line** window to make it active.
- 2 Choose **View menu** ▶ **Horizontal** or **Vertical**.



Refer to "Changing your View of the Hierarchy" on page 254 for complete instructions on using the hierarchy.



When you're creating an animation you'll need to see key events and tweeners. For this task you can use the Time Line mode of the window.



*When the Time Line window is in Time Line mode you can see the key events and tweeners in your animation.*

*To display the Time Line view of the hierarchy:*

- 1 Click the **Time Line** window.
- 2 Choose **View** menu ► **Time Line**.

For complete instructions on using the Time Line window, refer to "The Time Line Window" on page 297.

*To set the default display of the Time Line window:*

- 1 Choose **File** menu ► **Preferences**.
- 2 Choose **Hierarchy** from the pop-up.

- 3 Enable one of the display options.

## Importing 3D Objects

You can import 3D objects from other applications directly into Ray Dream Studio using the **Import** command.

3D objects are not the only items you can import into Ray Dream Studio. You can also import shapes and images.

For complete instructions on importing and exporting, refer to [Appendix A, "Using Ray Dream Studio with other Applications."](#)

## Working in a Scene

### Navigating your Scene

As you create your 3D illustration or animation, your scene can quickly become rather large. You may not be able to see the entire scene in the **Perspective** window, or you may want to enlarge areas to precisely edit objects. Ray Dream Studio provides several tools for moving around your scene.

*To move an area of the scene into the Perspective window:*

- 1 Choose the **Hand** tool.



- 2 Drag the in the direction you want to move the view of the scene.

You can also temporarily select the **Hand** tool by holding down the **Spacebar**.

*To zoom in to an area of your scene:*

- 1 Choose the **Zoom** tool.



- 2 Click on a point in your scene. to enlarge. The scene is magnified. You can also drag a marquee around an area to magnify it.

*To zoom out of an area:*

- 1 Choose the **Zoom** tool.
- 2 Hold down **Option/Alt** and click an area.

or

Choose the **Zoom Out** tool.



or

Click the zoom level pop-up at the bottom left corner of the **Perspective** window and choose a zoom level.



*To zoom into a selection of objects:*

- 1 If the **Zoom** toolbar is not displayed choose **View menu**► **Toolbars**. The **Toolbar** dialog appears.
- 2 Click **Zoom** and then click **OK**
- 3 Select one or more objects.
- 4 Click the **Zoom to selected** tool.



*To view objects in actual size:*

- 1 If the **Zoom** toolbar is not displayed choose **View menu**► **Toolbars**. The **Toolbar** dialog appears.
- 2 Click **Zoom** and then click **OK**

- 3 Click the **Zoom To Actual Size** tool.



*To view all objects:*

- 1 If the **Zoom** toolbar is not displayed choose **View menu**► **Toolbars**. The **Toolbar** dialog appears.
- 2 Click **Zoom** and then click **OK**
- 3 Click the **Zoom To All Objects** tool.



*To zoom to the working box:*

- 1 If the **Zoom** toolbar is not displayed choose **View menu**► **Toolbars**. The **Toolbar** dialog appears.
- 2 Click **Zoom** and then click **OK**
- 3 Click the **Zoom To Working Box** tool.



## Viewing your Scene

The default view of your scene is through the default camera. The camera can be sent to a number of default positions and oriented using the **Camera** tools. You can also add additional cameras to the scene.



*To choose a camera to view you scene:*

- 1 Choose **Windows menu**► **Camera Properties**. The Camera Properties dialog appears.
- 2 Choose the camera you want to use from the **Camera** pop-up.

or

Choose **View menu**► **Camera** and choose the camera you want.



*To view your scene from a preset position:*

Choose **View menu**► **Preset Position**► and choose the position you want use.



For more information, refer to [“Changing your Perspective on the Scene”](#) on page 289.





## Viewing your scene using two Perspective windows

When you have additional cameras you can view your scene from two different perspectives simultaneously.

### *To view your scene from two views simultaneously:*

- 1 Choose **Windows menu**► **New Perspective**. The **New Perspective Window** dialog appears.
- 2 Enable **Create New Camera** to create a new default camera for this **Perspective** window.

If you want to use the new **Perspective** window to view your scene from two views simultaneously, you must have at least two cameras.

- 3 Enter name for the camera and set its properties using the controls.
- 4 Choose **View menu**► **Preset Position**► and select the view you want use for this **Perspective** window.

You can also position the new camera manually. For more information, refer to [Chapter 14, “Setting Lights & Cameras.”](#)

Now, whenever you change anything in the first **Perspective** window, the second window automatically updates to show your changes.



*This is the same scene viewed using two perspective windows.*

**Note:** Each window has to be updated separately, so you will dramatically increase the redraw time of your scene by adding more **Perspective** windows. Use this feature sparingly.

## Editing your Scene’s Contents

Ray Dream Studio has several of the basic operations that you’re familiar with from other applications. You can cut, copy and paste any item in the **Perspective** window using the **Edit** commands.

### *To copy an item in the Perspective window:*

- 1 Select the object, light or camera.
  - 2 Choose **Edit menu**► **Copy**
- or

Press **Command-C/Ctrl+C**. A copy of the item is placed on the Clipboard.

### *To cut an item in the Perspective window:*

- 1 Select the object, light or camera.
- 2 Choose **Edit menu**► **Cut**

or

Press **Command-X/Ctrl+X**. The item is removed from the scene and placed on the Clipboard.

### *To paste an item in the Perspective window:*

- 1 Choose **Edit menu**► **Paste**

or

Choose **Command-V/Ctrl+V**. The object appears in the **Perspective** window.

If you have a an object selected when you paste an object, the object from the clipboard will replace the selected object.

### *To delete items in the Perspective window:*

- 1 Select the item.

- 2 Choose **Edit** menu► **Delete**. The object is deleted from the scene.



Editing items in the **Time Line** window is far more complicated and, if not done properly, can create some unpredictable results. For detailed instructions, refer to “Arranging Objects” on page 223 and Chapter 15, “Animating.”



There are many other ways you can edit the contents of your scene. You can duplicate objects, move, rotate and resize objects. All these operations are covered in “Arranging Objects” on page 223.

## Undoing Operations

You can reverse the effects of your last action by using the **Undo** command. Ray Dream Studio has multiple undo levels so that you can undo a series of operations by choosing undo several times. The number of undo levels is determined by the value you set in the Ray Dream Studio **Preferences** dialog. The maximum number of undo levels is 64.



### To set Undo levels:

- 1 Choose **File** menu► **Preferences**.
- 2 Choose **General** from the pop-up

- 3 Enter a value in the **Multiple Undo** entry box.



### To undo operations:

- 1 Choose **Edit** menu► **Undo**. Ray Dream Studio undoes the last operation.
- 2 To undo the next operation, choose **Undo** again.

There are some operations you cannot undo. In this case, the **Undo** command is replaced by **Can't Undo**.

## Redoing operations

You can repeat your last action using the **Redo** command. The command is only available after you undo an operation. You can redo multiple operations.



### To repeat an operation:

- 1 Choose **Edit** menu► **Redo**. Ray Dream Studio repeats the last action.

## Saving and Closing



### Saving your file



### To save your scene:

- 1 Choose **File** menu► **Save**.

- 2 Choose a location for your file.

- 3 Enter a name for the file in File name entry box.

- 4 Choose a file type from the **Format/Save as type** pop-up and click **Save**.



### To save your file under a different name:

- 1 Choose **File** menu► **Save As**.
- 2 Select a location for the file.
- 3 Enter a new name for the file in the File name entry box and click **Save**.

## Closing your File

When you're done editing a scene file you can close it.



### To close a file:

- 1 Choose **File** menu► **Close**.
- 2 If you have any changes, click **Yes** to save them or **No** to discard them.