Fractal Design

Poser

™

User Guide for Windows

Credits

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FRACTAL DESIGN CORPORATION

Introduction

Welcome to Poser

Poser is an easy-to-use figure creation tool. With Poser you'll produce lifelike drawings of human figures in action—dancing ballet, climbing a cliff, meditating...you name it. And you'll do it much faster than you could sketch figures by hand.

Poser is great for anyone who wants to add realistic human figures to an art project. It's a welcome companion to your favorite graphics, illustration, 3D, and multimedia applications.

Poser provides a human model in a three-dimensional workspace called the studio. The model has flexible "joints," and you can turn and pull the individual body parts to put the model into virtually any pose, natural or impossible.

Start with either a male or female model, then adjust its height and shape to create a figure of almost any description. Add a second model and pose them together.

Your view of the model comes from one of Poser's four cameras. Move the camera around the figure to view it from any angle. The Poser studio has three lights that shine on the model. The appearance of the figure can change dramatically when you move the lights around and change their colors.

While posing and shaping, you work with a preview of the figure. When you want to see a better image, render the figure. Rendering is like taking a photograph of a living model. Set rendering options to color the figure's skin and add muscle contours.

A rendering can be saved as a TIFF or BMP file, which you can print or open in most graphics applications.

You can export your Poser figures in DXF or RIB formats for use in a 3D modeling program.

Installation

Before you begin, please take a moment to complete and mail the product registration card. Registering Poser helps

Fractal Design provide you with technical support, information about software updates, special pricing, and a subscription to *Gallery,* the Fractal Design newsletter.

System requirements

- IBM PC compatible
  486 or faster recommended

- Microsoft Windows 95

- Color display
  true color recommended

- A hard disk

- 8 MB of memory (RAM)

Installing Poser

Please read the software licensing agreement before opening the envelope containing the disks. Opening the disk envelope means you've agreed to the terms of the software license.

1. Insert "Installer-Disk 1" into your disk drive.

2. Click the Start button, click Settings, then click Control Panel.

3. Double-click the Add/Remove Programs icon.

4. On the Install/Uninstall tab, click the Install button.

5. Follow the Setup instructions on the screen.

Getting started

To start Poser, click the Start button, click Programs, click Fractal Design, then click Poser.

The first time you launch Poser, the program will prompt you for your name and the serial number of your copy. You can find the serial number on the serial number card, titled "Read This First," or on the back of Disk 1.

About this User Guide

The Poser User Guide is designed to help you get exactly what you need, as you need it.

The opening section covers the essential material so you can begin to work in the program.

The Tutorial will teach you how Poser works by guiding you through Poser's features step-by-step.

The Reference section is designed to help you look up the additional information you want to learn as the basic concepts become familiar to you. Be sure to check out the back of the book for the Glossary, "Tips and Tricks" and "Using Poser in other Programs."

Throughout the User Guide, we refer to menu commands by the menu name, followed by a colon, and then the command name, for example **File: Open.**

The information found in the side-bar column, on the outside of the rule, contains useful tidbits and referrals to other sections of the User Guide. The icons represent:

"See another section for more information"

"Special note, hot tip or useful suggestion"

Because the Reference section contains technical information, some information from the front of the book has been included. You will find this useful when you need to look-up a specific feature and want to find a thorough description.
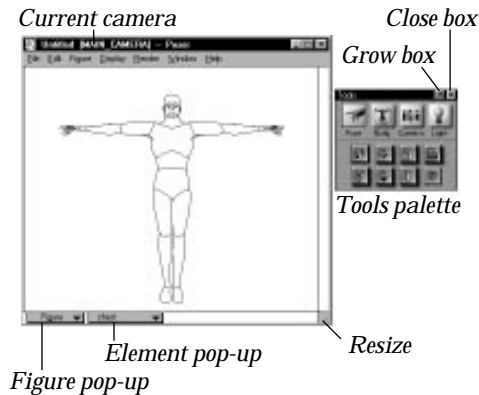
Technical support

You'll find the answers to most of your questions within the pages of this manual. If you need further assistance, however, please contact your local Distributor.

For more information...

For more information about MetaCreations products see our World Wide Web site on the internet.

www: http://www.metacreations.com

Chapter 1:
Getting into Poser

Current camera

Close box

Grow box

Tools palette

Element pop-up

Resize

Figure pop-up

When the program launches, Poser displays the main window and the Tools palette.

The main window is your view of Poser's studio—the workspace where you'll pose the model. The view in the main window comes from one of Poser's four cameras. You can switch cameras and move the Main Camera around to view your figure from any angle.

To switch cameras: Select **Display: Camera View**, and choose the camera you want—**Main, Side, Top, or Front**.

If you don't read anything else…

You'll work in Poser by positioning "elements" in the studio; these elements are the model's body, the separate body parts, cameras, and lights.

Generally speaking, you select a tool, select an element, then drag the tool in the main window to move, rotate, or resize your selection.

To make it easier for you to select what you want to move, Poser separates the four elements into program modes: Pose, Body, Camera, and Lights. As you work, you'll switch modes to control the different element types.
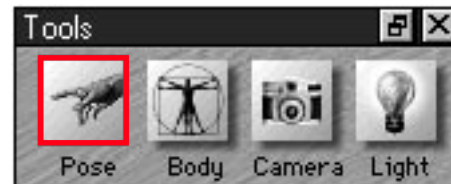
The mode icons in the Tools palette.

To change the program mode, simply click the icon for the mode you want.

The main window has a number of features and options, including different displays for the figure. To find out about these options, look at the section on the main window in Chapter 2: Basic Features.

Key	Mode
1	
2	
3	
4	

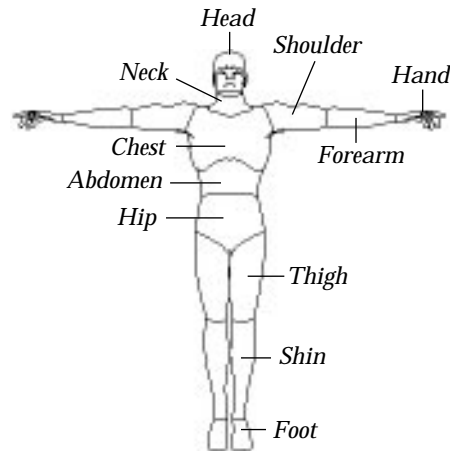When you change modes, Poser adjusts the palette, disabling the tools that don't apply.

Program modes

Pose mode

Pose mode lets you change the position or size of the individual body parts.

To select a part, simply click on it.

Head
Shoulder
Neck
Hand
Chest
Forearm
Abdomen
Hip
Thigh
Shin
Foot

Figure's right   *Figure's left*

Poser highlights the selected element on the figure and displays it's name in the pop-up at the bottom of the main window.

Use Pose mode when you want the body to be flexible—for example, to bend the arms or turn the head—or when you want to resize an individual body part, like giving the figure a shrunken head.

Body mode

Body mode freezes the posture and allows you to control the model as a single object.

Use Body mode to rotate or move the figure in the studio, for example, to face the model left, lay it on the ground, or move it into the distance.

In Body mode, the figure is the only object, so Poser selects it automatically. If you have added a second figure, click on the one you want to select it, or use the Figure pop-up at the bottom-left of the main window.

Camera mode

Camera mode allows you to adjust the view in the main window.

You can rotate the Main Camera to look at the model from any angle. The other cameras are restricted to tracking left and right, and scaling.


Light mode

Light mode allows you to color and aim the lights.

Click the button in the Tools palette for the light you want to adjust. In the main window, Poser displays an ellipse that describes that light's position.

Poser's tools

The tools available depend on the mode.

To choose a tool, simply click the icon for the tool you want.

Rotate   Translate   Scale   Lock

Twist   zTranslate   Taper   Focal Length
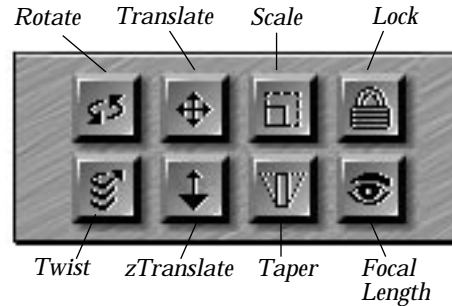
Some of the tools behave differently, depending on the mode. The tools and how to use them are described in detail in the reference chapters.

Shortcuts to the tools

You can choose a tool by touching a key.

Key	Tool
r	
t	
s	
l	
w	
z	
p	
f	

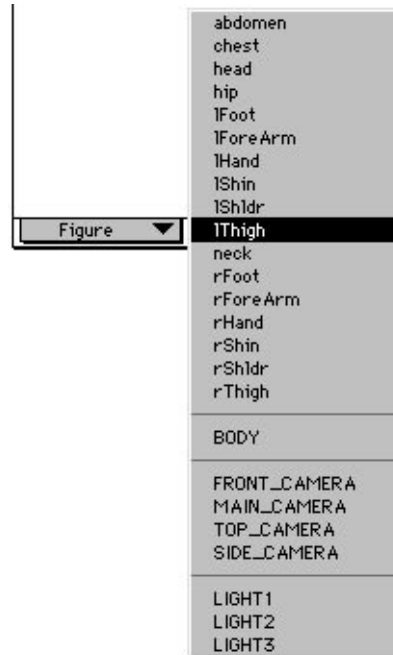## Random access to the elements

The element pop-up menu at the bottom of the main window is a shortcut to switching modes and selecting specific items. When you choose an element from the pop-up, Poser automatically switches to the correct mode.

```
                    abdomen
                    chest
                    head
                    hip
                    lFoot
                    lForeArm
                    lHand
                    lShin
                    lShldr
    Figure    ▼    lThigh
                    neck
                    rFoot
                    rForeArm
                    rHand
                    rShin
                    rShldr
                    rThigh

                    BODY

                    FRONT_CAMERA
                    MAIN_CAMERA
                    TOP_CAMERA
                    SIDE_CAMERA

                    LIGHT1
                    LIGHT2
                    LIGHT3
```

Using the element pop-up menu.

Tutorial

Getting started with the posing tools

Rotate

The Rotate tool provides the best method for adjusting the figure's pose.

Rotate is a powerful tool. It lets you move a body part in all three dimensions at once.

• Drag perpendicular to a body part to move it in the plane of the screen (up and down or left and right).

• Drag parallel to a body part to move it in or out—that is, toward you or away from you.
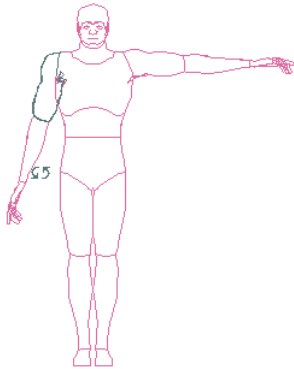
To try this, you need to be in Pose mode with the Rotate tool selected.

Click on the right shoulder to select it. Notice that the selected part is highlighted.

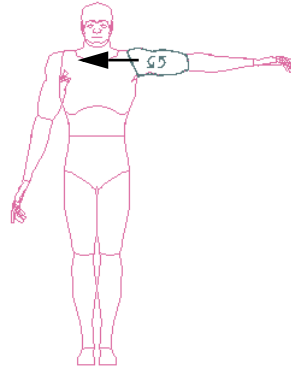Drag straight down from the shoulder, lowering the arm to the side.
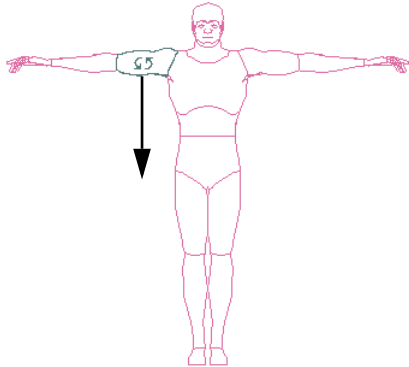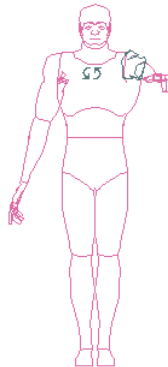
Starting to lower the shoulder.

After lowering the shoulder.

Click on the left shoulder and drag left, reaching the arm forward.

Starting to rotate the left arm forward.

Notice how the hand gets larger as the arm moves toward you.

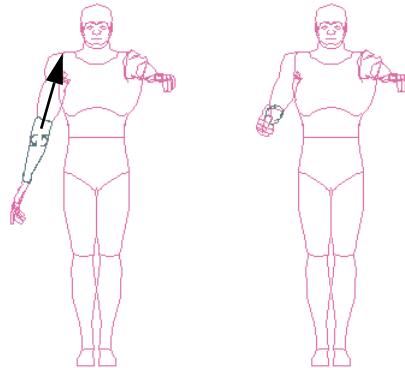*After rotating the left arm forward.*

The Rotate tool lets you move a part in any direction. For this reason, it's the most useful tool for posing. If you don't get the results you want right away, don't worry. It gets easier with a little practice.

Parallel, or perpendicular, to a body part is not always straight up or down.

- Drag parallel to the part—regardless of its angle on the screen—to rotate it toward you or away.

- Drag perpendicular to the part—regardless of its angle on the screen—to rotate it in the plane of the screen.

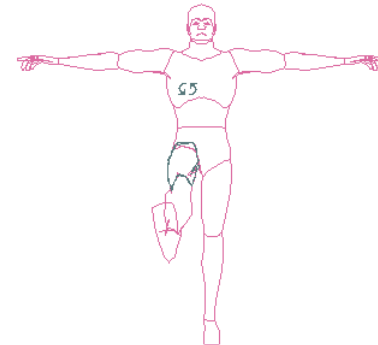Drag the forearm diagonally, toward the shoulder, to bend the arm at the elbow.

Bending the right elbow.

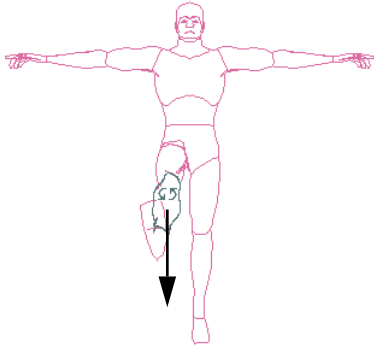Drag upward along the thigh to kick the leg forward.
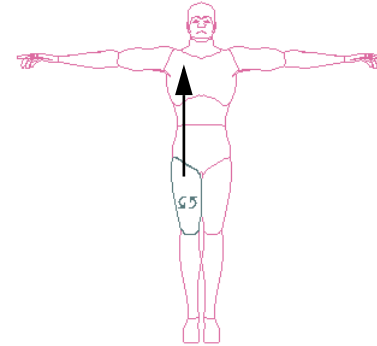
Starting to rotate the right leg forward.

After rotating the leg.

Drag down on the shin to move that part back, which bends the knee.

Starting to bend the right knee.
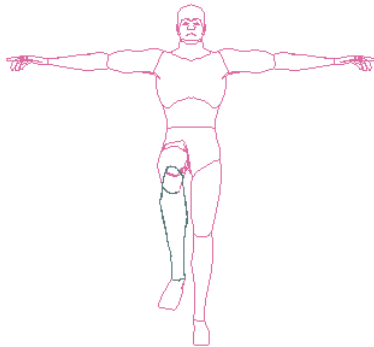
After bending the knee.

Before moving on to the next tool, you'll want to return the figure to the startup position. Choose **Figure: Restore** and select **All**.

Translate

In Pose mode, the Translate tools apply a dynamic force to the selected body part. This force follows the natural linkage of the human body, moving connected parts.

To try this, you need to be in Pose mode with the Translate tool selected.

Click on the left hand and drag straight down slowly.
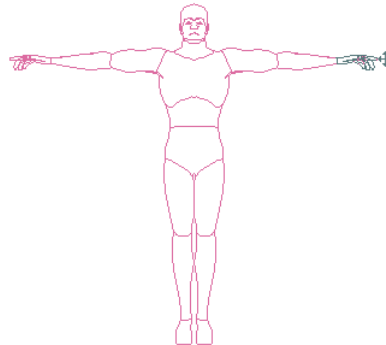
Preparing to translate.

In most cases, you'll get the best results from several small moves rather than from one big move.

Pose mode

Translate tool
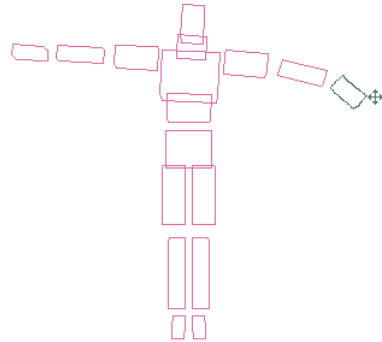
While translating, the figure is displayed in bounding boxes.

After translating.

Notice how the hand, forearm, shoulder and chest move in response to your pulling on the hand.

Now put the figure back where it started, choose **Figure: Restore** and select **Figure**.

zTranslate

Choose the zTranslate tool. Click on the right forearm and drag down.
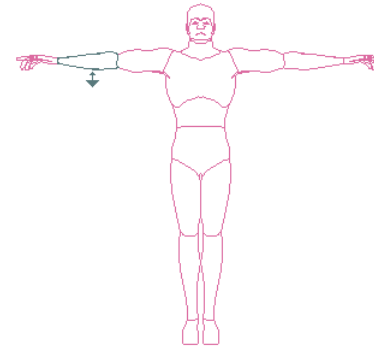
Beginning to bend the right elbow.

Notice how the arm reaches toward you; the farther you drag, the farther it reaches.
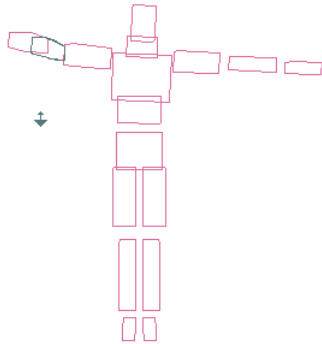
While bending the right elbow.
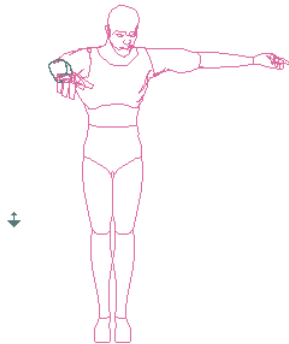
After bending the right elbow.

Sample project

This tutorial guides you through a typical Poser project. You'll learn the the overall pattern for working in Poser. You'll learn the most important tools, features, and methods of working efficiently. In this sample project you will pose a figure in a jogging position and place the figure on a background image—a jogging path.

Whose right and left?

Any descriptions of the figure refer to *the figure's* right or left. Any descriptions of operations *you perform,* like dragging, refer to *your* right or left.

Posing the legs

Start with the figure in the default pose.

1. If you've been practicing with the posing tools, return the figure to the startup position now.

    Choose **Figure: Restore** and select **All** from the pop-up menu.

2. Make sure you are in Pose mode.

3. Select the Rotate tool.

For more information on any of the tools or features used in the tutorial, see the chapters in the reference section of this manual.

Pose mode

Rotate tool

4. Drag straight up on the right thigh, moving the foot to a level just below the other knee.
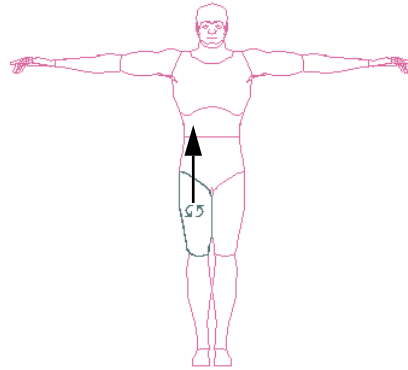
Starting to raise the right leg.
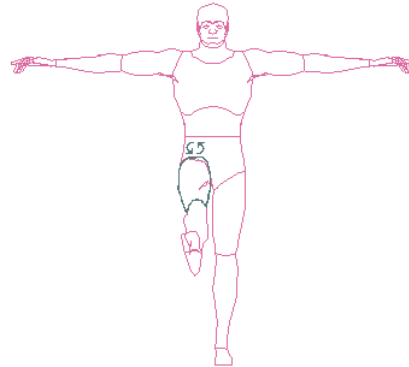
After raising the right leg.

5. Drag down—about the same distance—on the left thigh to move that leg back.
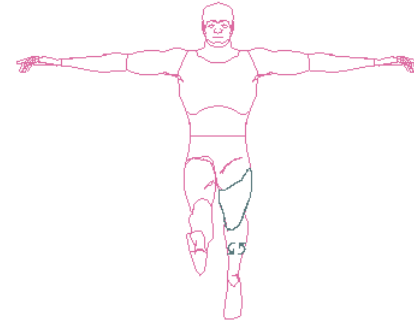
After moving the left leg back.

6. To get a good view of the opened legs, you'll want to look at the figure from the side. Choose **Display: Camera View** and select **Side Camera**.
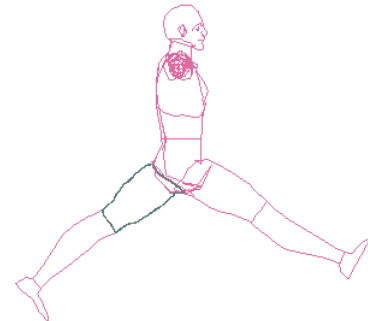
View of the figure from the side.

7. If you've been working in Outline display, now would be a good time to increase the level of detail.

Choose **Display: Hidden Line**. In this display, it's easier to see which leg is which.
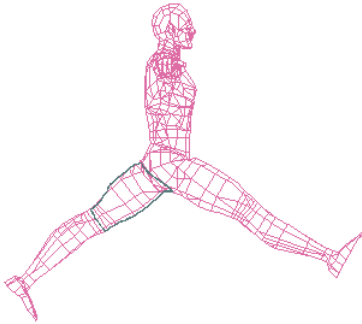
The figure in Hidden Line display.

If working in Hidden Line display has affected the performance of your computer, go back to Outline display. The figure tracks and redraws faster in the low-detail displays.

8. The rotate tool is still selected, so you can rotate the shins to bend the knees. Be sure to drag perpendicular to the shins.
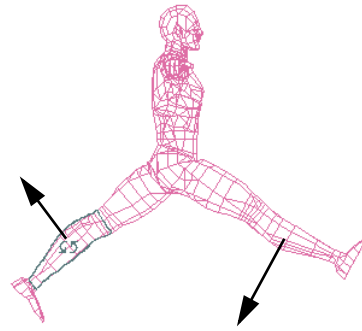
Before bending the knees.
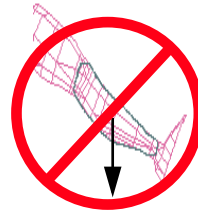
Don't drag like this. This would bend the knee away from you, and human knees don't bend well this way

There is only one Side Camera. If you want to view the figure from the opposite side, move the Main Camera to that side of the figure. For more information see Chapter 5: Camera.

After bending the knees, your figure should look something like this.
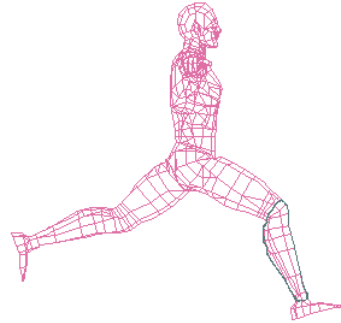
After bending the knees.

9. This would be a good time to save the file. Select **File: Save**, name it "Runner" and click **Save**.

10. When you are done rotating the legs, switch back to the Main Camera.

   Select **Display: Camera View** and choose **Main Camera**.

Posing the arms

1. Drag down on the left shoulder to lower the left arm.
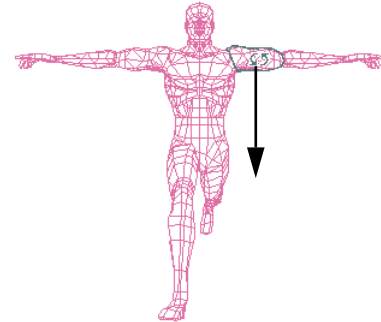
Starting to lower the left arm.
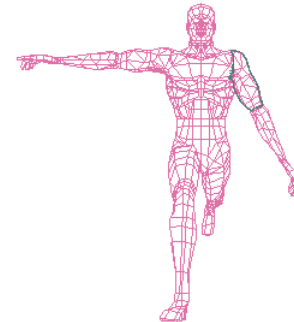
After lowering the left arm.

2. To bend the elbow, you'll use a different program feature—the Parameter Dials.

Click the grow box at the top of the Tools palette to show the Parameter Dials.

If you accidently click the close box, select, **Window: Tools Palette** to open the Tools Palette.

Grow box   *Close box*
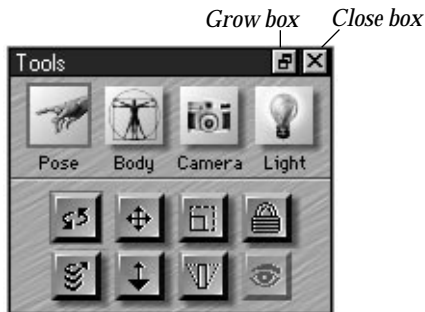
Expanding the Tools palette.

The Parameter Dials allow you to adjust elements in specific angles and dimensions. For some types of adjustments, you'll find it easier to work with the dials.
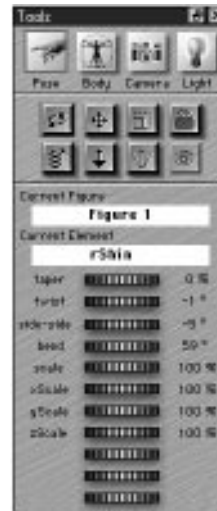
The Parameter Dials.

3. You're going to bend the left forearm, so click once on the forearm to select it.
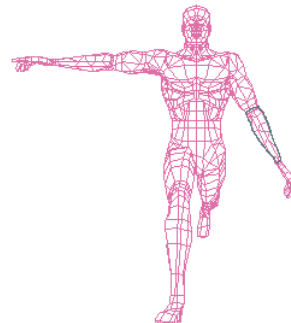
The left forearm is selected.

4. Drag the "bend" dial to the left. When the elbow is bent -90°, stop dragging.
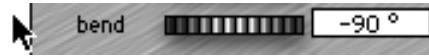
Dragging the parameter dial.

5. You can collapse the Parameter Dials now. Either click the grow box, or choose **Window: Parameter Dials**.

6. To save time, you can copy the pose of the left arm to the right arm with the Symmetry command. Choose **Figure: Symmetry** and select **Left Arm to Right Arm**.
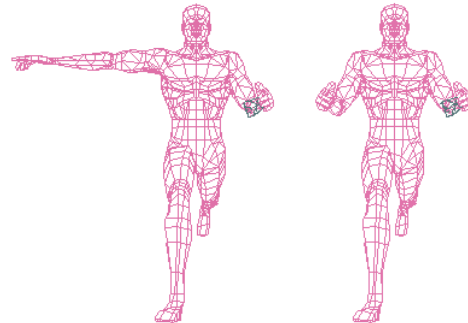
Before Symmetry   *After Symmetry*

7. Now push the right shoulder back.

Drag down, parallel with the right shoulder. Drag in a straight line.
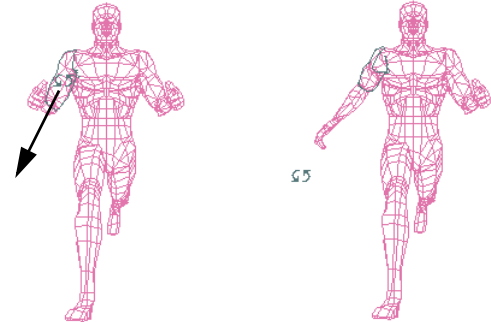
Moving the right shoulder back.

If the result is not what you expected, choose **Edit: Undo**, and try again.

8. You should be getting the hang of the Rotate tool by now. Switch the Camera View to the Top, then the Side to check the figure from other directions. Choose **Display: Camera View** and select **Top Camera** or **Side Camera**.
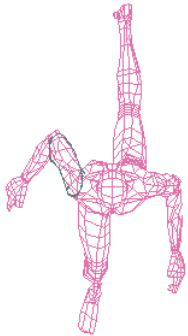
Top view of the figure.
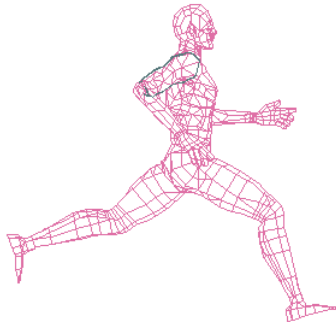
Side view of the figure.

9. Remember to save your file occasionally.

Adding some twist

1. This pose has a few minor adjustments remaining. Switch the view to the Main Camera.

2. Make sure that you're in Pose mode, and select the Twist tool.

Twist rotates a body part on its own axis. You'll use Twist to adjust the shoulders and swivel the hips a little, a natural effect in running.

3. Twist the right shoulder to turn the forearm downward. Always drag the Twist tool horizontally—regardless of the angle of the body part.
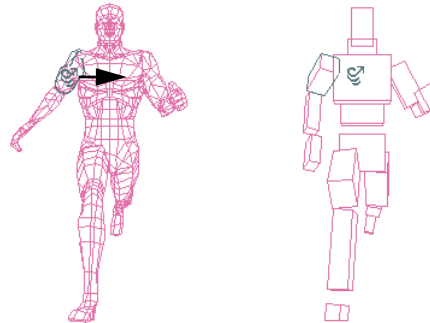
"Twisting" the right shoulder will turn the forearm downward.

Pose mode

Twist tool

4. Twist the left shoulder to bring the arm part way across the body.
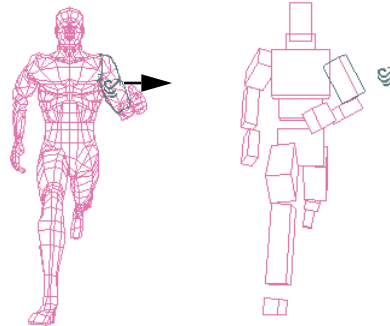
Twisting the shoulder.

5. Click on the hip to select it. Drag to the right—just a bit—to turn the hips.
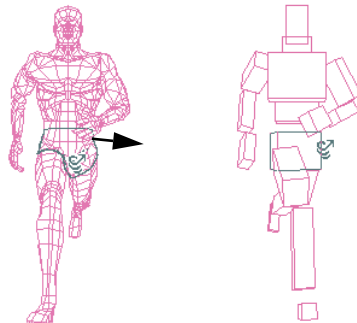
Twisting the hips.

6. When you're finished, save your work.

7. Now would be a good time to take a look at your work. Choose **Render: Smooth Render** and select **Fast**.

A Smooth Render ignores the bump and texture maps if any are currently "loaded." A Fast render is not anti-aliased.

A high quality rendering is the ultimate goal of this Poser project. For now, you're rendering to preview your work.

Poser will generate a rendering that looks something like this.

A smooth rendering of the figure using the Fast option (not anti-aliased).

Saving the pose to the Library

Now you can save the pose to the library. The library lets you save and retrieve poses with just a few mouse clicks.

1. Choose **Window: Library Palette**.

2. Click the Poses icon.
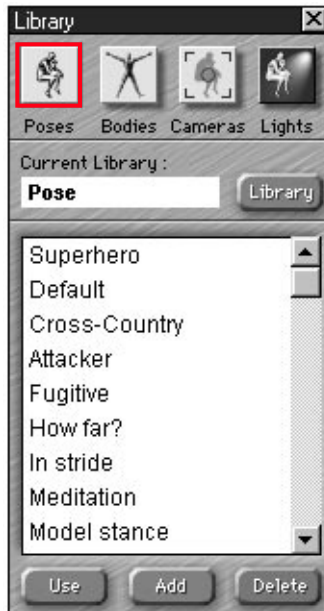
The Library Palette.

3. Click the **Add** button. Poser opens a dialog so you can name the pose. Name it Jogger, Runner, or whatever you like.

4. Go ahead, double-click the other listings and watch the figure leap into the other poses.

5. When you're done playing, double-click the listing for your pose to put the figure back where it started.

   The pose used to illustrate this tutorial is saved in the library as "Cross-Country." If you're not satisfied with the pose you've created, you might prefer to continue the tutorial with "Cross-Country."

6. You can close the Library Palette now.

Importing a background

Now you're ready for the background.

1. Choose **File: Import** and select **Background**.

2. Use the Open dialog to select the file "Path," located in the Tutorial folder in the Poser application folder.

Body Mode

Translate tool

zTranslate tool

You can hold the command key down to temporarily switch between x-y-translating and z-translating.

3. When you import the background, Poser will alert you that the aspect ratio of the background does not match that of the current window. This means that the background has a different height and width than the main window. Click **Yes** and Poser adjusts the window to match the background.

Moving the figure around in the window

1. After you've imported the background, you should be in Hidden Line or Lit Wireframe display. These display modes will help you see the figure clearly.

2. Click the Body icon to put Poser in Body mode. In Body mode, the tools affect the entire figure. You're going to put the figure on the path, to the right of center.

3. Choose the Translate tool. In the window, drag right to move the figure to the right.

4. Choose the zTranslate tool. Drag down to move the figure toward you.

The figure in Hidden Line display with the imported background.

Moving the figure toward you.

Adjusting the view of the figure to match the background

1. Now click the Camera icon to put Poser in Camera mode.

    In Camera mode, you will adjust the position of the camera so that the perspective view of the figure matches the perspective of the background, and the figure looks like it's actually jogging on the path.

2. You need to be viewing from the Main Camera. The selected camera is shown in the window title. If the window view is from one of the other cameras, switch back to the Main Camera now.

3. One of the guides may be helpful. Choose **Display: Guides** and select **Ground Plane**. Poser displays the ground plane in the window.

    Ctrl-G toggles the display of the ground plane on and off.

4. When you're displaying the ground plane, it's easier to work in Wireframe display. This lets you see the background image through the grid of the ground plane. Select **Display: Wireframe**.
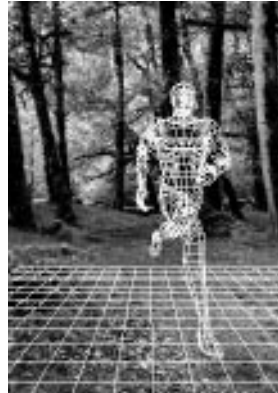
The ground plane guide in Wireframe display.

5. Choose the Rotate tool.

    When you drag in the main window, you'll be rotating the camera around the figure.

6. Now, dragging from the center of the window, try to match the slope of the ground plane to the slope of the ground. Align the lines of the ground plane with the lines of the path. You'll probably need to drag to the right, a little bit, and down.

    Your objective is to get the figure running toward you on the path. If you rotate the camera too far to the

Camera Mode

Rotate tool

Camera Mode

Translate tool

zTranslate tool

side, the figure will look like it's cutting across the path. If you rotate the camera too high, the figure will look like it has tripped and is falling down.

Rotating the camera.

7. To achieve the view you want, you might have to switch to the Translate or zTranslate tool and move the camera a little.

8. Save your work.

9. When you are finished adjusting the camera, hide the ground plane (**Ctrl**-G).

The rendered runner.

10. Render (**Ctrl**-R) to check what the pose is looking like.

   You're really just checking the pose here. The figure's skin is going to look a little weird. That's to be expected; you haven't done any work with the skin yet. That's coming up in a minute.

11. If you're not satisfied with the appearance of the figure, you might want to continue the tutorial with a prepared file. Open the sample file "Runner" located in the Tutorial folder.
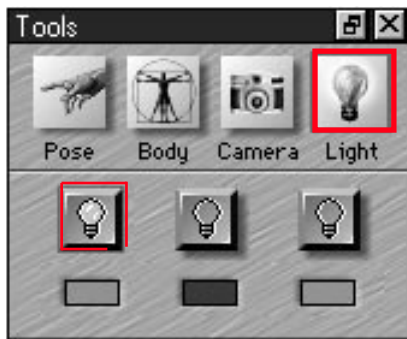
Selecting a light to control.

Adjusting the lights

Because the jogger is outdoors, you'll want to set the lights to approximate daylight.

1. It helps to use Lit WireFrame or Flat Shaded display when working with lights. These display methods give immediate feedback on changes you make to the light color and angle.

2. The background might be visually distracting when you're working with lights.

    You can temporarily hide the background by selecting **Window: Show Background**. Choosing this command toggles display of the background on and off.

3. Put Poser in Light mode by clicking the Light icon in the Tools palette.

4. The light buttons in the palette represent the three lights in the Poser studio. The color chip beneath each button shows the color of that light.

5. Click the button for the light you want to aim.

    Poser displays an ellipse that describes the light's position (the light indicator). The light shines in the direction shown by the arrows at the angle shown by the ellipse.

The figure in Flat Shaded display. The light indicator shows that this light is shining from over the right shoulder.

For more detailed information on the light indicator, see Chapter 6: Lights.

6. To change the aim of a light, drag in the main window to rotate it around the figure.

You'll see the lighting change on the figure as you move the light.

7. To change the color of a light, click the color chip.

Poser opens the Color Picker, where you can set the light's color.
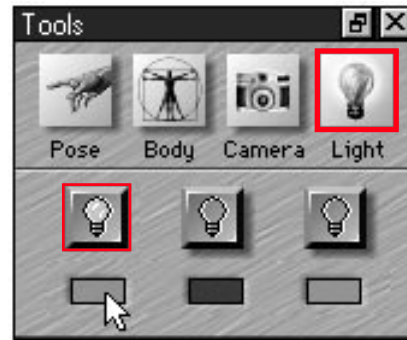
Setting the color of a light.

Daylight is essentially "white," so you'll want to choose appropriate colors.

Don't set all of the lights really bright. The average of the three lights should be near the middle of the luminance scale.

When you are done with the Color Picker, click **OK**.

8. Render the image to check your work. If the lighting is not what you want, you might want to try again.
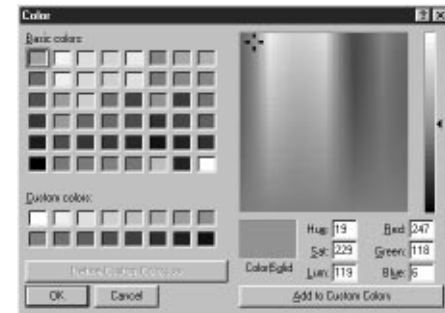
The Color Picker.

9. If you want to proceed with pre-set lights, a suitable lighting environment is saved in the library.

To use the pre-set lights: select **Window: Library Palette**. Click the Lights icon. Double-click the "Country" listing to use it.

You can close the Library Palette now.

10. When you are done setting lights, show the background (**Window: Show Background**).

11. Click the Pose mode icon to hide the indicator before proceeding.

Putting on the skin

1. You'll be using two features to shade the surface of the figure: bump map and texture map. These are powerful and flexible features. Choose **Render: Surface Material**.

2. In the Bump Map portion of the dialog, click **Load**.

3. Use the Open File dialog to select the file "Bump" located in the Tutorial folder.

   The bump map is a special image file that wraps around the figure to describe surface relief—that is, areas that are raised versus those that are depressed. "Bump" adds muscle contours, facial features, and wrinkles in the clothing.

   Clothing? You ask. Yes. Clothing is provided by the texture map. Poser doesn't have a wardrobe of loose-fitting, structured garments. It does,
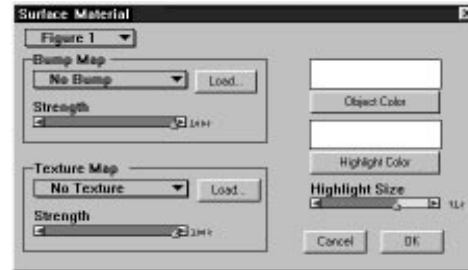
Surface Material window.

however, do a great job with skin-tight clothing.

4. In the Texture Map portion of the dialog, click **Load**.

5. Use the Open File dialog to select the file "Texture," also inside the Tutorial folder.

   The texture map is a TIFF or BMP file that wraps onto the figure to color the surface. "Texture" shades the muscle contours, and adds a pair of shorts and a tank top.

6. After you've loaded the surface maps, click **OK** to close the Surface Material dialog.

For more information about bump and texture maps, see Chapter 7: Rendering.

7. Render (**Ctrl**-**R**) to check what the figure is looking like.

You're checking the surface maps you've just applied here.

Setting rendering options

Now you're ready to produce a high-quality rendering.

Choose **Render: Render Options** to bring up the Render Options dialog.

Render Options dialog.

1. In the **Render To** panel, click the radio button for **New Window**. Leave the width and height as is. These dimensions are appropriate for this file.

2. In the **Render Over** panel, click the radio button for **Background Picture**.

3. In the **Surface Detail** panel, click the checkbox to enable **Anti-aliasing**.

4. Click the **Render Now** button to start the rendering. Rendering will take a few moments.

5. When rendering has finished, save the image. If you like, print it.

The final rendering.

Congratulations! You've just finished your first complete Poser project. There's a lot more to learn about Poser. You'll find features and methods that will make your work easier and enable you to produce more dynamic results. But each Poser project will follow an overall pattern similar to the one in this tutorial.

Chapter 2:
Basic Features

This chapter describes general features and options that you'll use over the course of a project, including the following:

- Changing the figure display and other options for the figure.

- Changing the window size and other options for the main window.

- Using the Parameter Dials—technical tools for precise or constrained movements.

- Using the Library Palette to save poses, proportions, camera positions, and lighting environments.

- A description of file operations, like Open, Save, Print, Import, and Export.

- Special features for undoing changes.

Figure options

Figure display

Poser provides a number of display options for the figure, ranging from low detail to high.

Bounding Boxes, Silhouette, and Outline display provide low detail. Lit Wireframe and Flat Shaded provide a higher level of detail. The other displays fall somewhere in between.

Bounding Boxes   *Silhouette*   *Outline*

High detail displays show depth, curvature, and lighting, which can be helpful when you're posing. On the other hand, high detail displays require far more calculations to update when

You'll want to use Lit Wireframe or Flat Shaded display when adjusting the lights. These displays show the lighting on the figure.
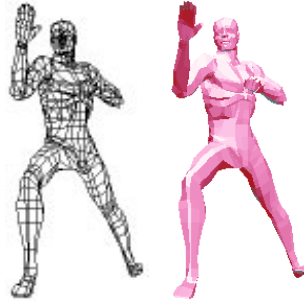
Hidden Line   Flat Shaded

changing the pose. On faster computers, the delay is negligible. On other systems, you might prefer to work in a low-detail mode to avoid delays. You can, of course, switch the figure display at any time.

To change figure display: choose the display option you want from the Display menu.

Depth Cued is a display option that changes the lightness of the figure's lines to indicate the distance of that part from the camera. Parts that are farther away fade out, as though dissolving in a fog.

By default, Poser shifts the display to bounding boxes while tracking the figure's pose. This allows you to drag and pose the figure smoothly. The angles of the bounding boxes help to demonstrate the twisting of the part, which might not be immediately apparent in other display modes.

If you don't like the display shift during posing (and you have a really fast computer) you can disable this feature. Choose **Edit: Preferences** and disable **Fast tracking**.

Adding a figure

You can add figures and pose the models together. Create a dancing couple, a pair of karate fighters, or a family of four.

To add a figure: choose **Figure: Add Figure** and select the figure type you want.

To delete a figure: select the figure, then choose **Figure: Delete Figure**.

Pasting a figure onto the background

At any point, you can paste an image of the figure onto the background. When you choose this command, the current view of the figure is "painted" onto the background.

At first glance, this command might seem to have no effect. That's because the figure itself blocks the background-pasted image. Any changes you make, however, like moving the figure or camera, reveal the background image.

To paste the figure onto the background: choose **Window: Paste onto Background**.

To clear the background: choose **Window: Clear Background**.

Hiding a figure

Hiding a figure makes it disappear temporarily from the Poser studio. This feature can help when you have two figures close together, and one keeps getting in the way when you try to select the other. For best results, paste the figure onto the background first, then hide it.

To hide a figure: select the figure, then choose **Figure: Hide Figure**.

To show a hidden figure: choose **Figure: Show All Figures**.

Main window options

Background and foreground color

You may set the window background color and the foreground color, which is used in the figure display.

The foreground color is used to draw the figure in Outline and Wireframe display modes. This is not the same as the figure's surface color, which appears in Lit Wireframe and Flat Shaded display, and in renderings.

You might want to work with a dark figure on a light background or a light figure on a dark background.

To change the window colors: choose **Edit: Preferences** and click the color swatch for the foreground (figure) or background color. Use the Color Picker to select a color. When you are done, click **OK**.

Lit Wireframe and Flat Shaded display are colored by the appearance of the figure's surface color under the lights. See Chapter 7: Rendering to learn about the figure's color. And see Chapter 6: Lights to learn about setting the color and angle of lights.

The highlight of the selected body part is created by inverting the foreground color. Most of the time this works out fine. However, if your background color is the opposite of the foreground color, for example black and white, you won't see the highlight.

Window size

If you want to change the size of the main window. Simply drag the corner or side of the window.
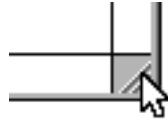
Changing the size of the main window

To set the window to a specific size: choose **Window: Window Size** and enter values in the Width and Height fields.

If you want to keep the relationship of the width to the height, enable the **Constrain aspect ratio** checkbox before closing the Window Size dialog.

Background image

You can put your Poser figure in the gym, on the beach, or at the office by compositing the rendered figure with a background image.

Importing the image as a backdrop for posing is a great feature. It helps you match the scale, perspective, and lighting of the figure to the background image.

Render the figure right onto the background to bypass compositing in an image-editing program.

To use a background image: choose **File: Import** and select **Background**. Poser provides an Open File dialog so you can select the file.

Backgrounds must be in either the TIFF or BMP file format.

If the aspect ratio of the window doesn't match that of the image, Poser will ask if you want to change the window to match the image.

To hide the background: if you've imported a background, but now want to hide it temporarily, choose **Window: Show Background** to deselect the item. If you want to clear it completely, choose **Clear Background**.

Displaying guides

Poser provides several guides to assist you while posing. Guides may help you achieve a particular perspective more easily. The guides Poser offers are a horizon line, the hip-shoulder relationship, a ground plane, vanishing lines, and head lengths.

To display a guide: choose **Display: Guides** and select the guide you want.

To hide a guide: choose **Display: Guides** again and de-select the guide.

Ground plane

The ground plane is a basic reference of the camera's perspective on the studio. As you rotate the camera, the ground plane can help you infer the camera's current position.

The figure display method determines the appearance of the ground plane. In wireframe display, the ground plane is a grid. In flat shaded display, the ground plane is a solid color.
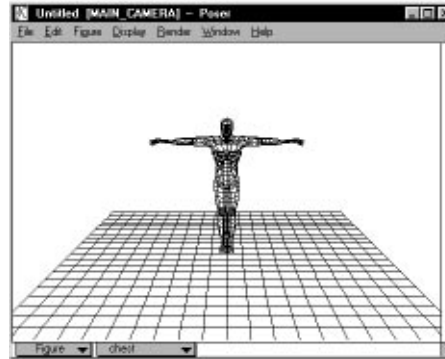
The ground plane, shown in wireframe display.

Horizon line

The horizon line provides a reference to the studio's horizontal. When you roll the camera, you can see how far you've gone by checking the horizon.

The horizon line also helps in creating perspective between two figures when one is distant. The guideline to follow is that both figures should have the same relationship to the horizon. For example; if the horizon line crosses at the center of the near figure's chest, place the distant figure so that the horizon crosses at the center of its chest.

In wireframe display, the ground plane can be used to help match the perspective of a background image.

Figures arranged in relation to the horizon line.

This arrangement contributes to the sense that all figures have their feet on the ground.

Vanishing lines

Vanishing lines are an artist's technique for achieving realistic perspective. In Poser, the vanishing lines guide provides a reference of the perspective. Vanishing lines can be helpful when matching the view of the figure with the perspective in a background image.
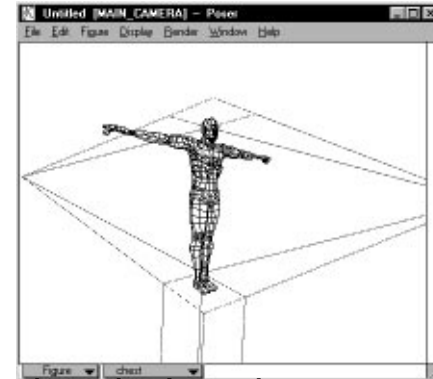
The vanishing lines guide.

Hip to shoulder relationship

The hip to shoulder relationship shows the relationship between the figure's hip and shoulders. This guide can help you see the side-to-side, bend, and twist in the hip, abdomen, and chest. To see a particular aspect, you may need to choose a different camera view.

Head lengths

The head lengths guide is a reference of the figure's height. You might want to use this guide when body shaping.

Parameter Dials—the expanded Tools Palette

Parameter Dials are available in all modes for all object types. The Parameter Dials offer a slightly more precise method of posing the model and adjusting cameras and lights. Everything you can do with the Parameter Dials is possible by dragging in the main window with the cursor tools. The dials are simply an alternate, more controlled method of working.

The Parameter Dials offer certain advantages over the manual tools:

- They allow small, subtle adjustments.

- They allow you to constrain adjustments to a single plane.

- They allow you to make changes by entering specific values.

To show the Parameter Dials, click the grow box at the top of the Tools Palette. You can also choose **Window: Parameter Dials**.

Poser expands the Tools Palette to include the Parameter Dials. The number of dials available and the specific aspects they control depends on what element is selected.

Complete descriptions of the parameter controls are in the reference chapters.

Click the grow box to display the Parameter Dials.
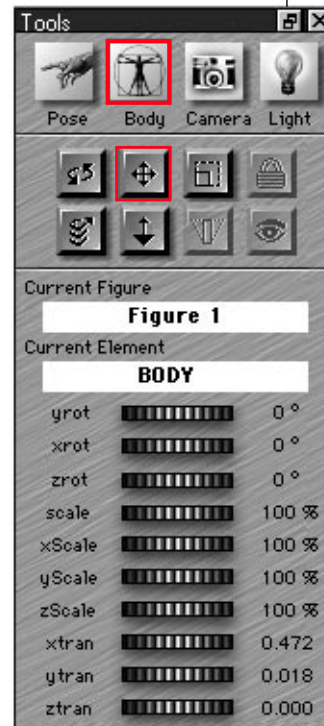
The Parameter Dials.

For more information on the Use Limits option, see Chapter 3: Posing.

Using the parameter dials

1. Select the element you wish to adjust.

   While in Pose mode, you can select any body element by clicking on the figure.

   In Body or Camera mode, the figure or current camera is automatically selected. In Light mode, click one of the light buttons in the Tools Palette.

   You may also select any element from the pop-up at the bottom of the main window.

   The current (selected) figure and element are shown above the dials. Be sure you've selected the right element before making any changes.

2. Drag the dial for the aspect you want to change. You can drag as far as you want—past the Tools Palette, across the desktop, right to the edge of the screen. Dragging to the right increases the value, dragging to the left decreases the value.

Dragging a parameter dial.

Refer to the parameters sections of the reference chapters for detailed descriptions of the controls.

Setting parameters numerically

Sometimes you'll want to adjust an object by an exact amount. For example, rotating the Main Camera 180° puts it on the opposite side of the figure. Or setting the body scale to 200% doubles the model's size.
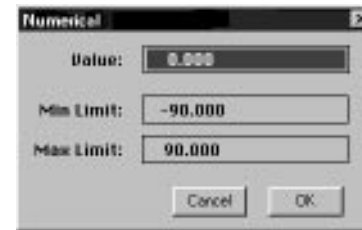
The dialog for setting parameters numerically.

To set a parameter dial numerically:
Double-click the dial for the aspect you wish to change. Poser opens a dialog displaying the current value. Enter a new value and click **OK** to close the window.

The Min and Max Limits are used for the **Figure: Use Limits** option, which constrains movements between these maximum and minimum values.

A library of poses, bodies, cameras, and lights

Poser's Library Palette lets you store pose, body, camera, and light settings in library files. With just a few mouse clicks, you can retrieve the settings and apply them to the current figure.

The Library can save you a lot of time. Build a warehouse of your poses, bodies, camera settings, and lighting environments to make future projects easier. For example, if you were illustrating a story and one character appears repeatedly—shape its body just once, store it in the library, then retrieve it whenever you need it.

Create new library files to organize your saved settings. For example, you might create one library file for ballet poses, and create another for karate poses.

Using the Library Palette

The Library Palette is where you save and retrieve your poses, bodies, camera settings, and lights. To Open the Library Palette, choose **Window: Library Palette**.

Click the icon for the library category you want: Poses, Bodies, Cameras, or Lights.
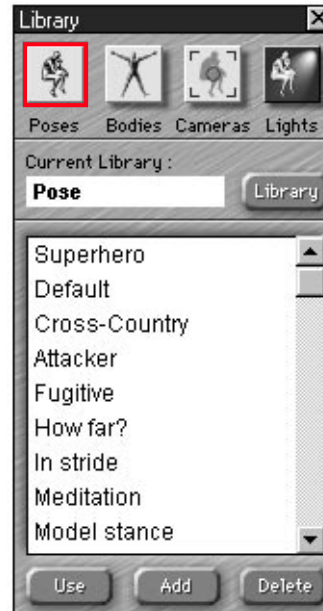
The Libray palette.

Each category has its own default library file. You may create as many additional library files as you like. Only one library file is open at a time. This file is identified as the Current Library.

To use a setting: click on the listing you want, then click the Use button. You may also double-click the listing to select and use it immediately.

If you are working with more than one figure, select the figure you want to change before using a setting from the library.

To add a setting to the library: After you've set the figure's pose, its body shape, the camera, or the lighting environment, select the library category you want by clicking the appropriate icon. If necessary, choose the library file where you want to put the setting. Now just click the **Add** button in the Library Palette. Poser opens a dialog so you can name the setting. This is the entry that will appear in the window.

To remove a setting from the library, click once on the setting to select it; then click the **Delete** button.

To choose a different library file: click the **Library** button. Poser opens a standard Open File dialog so you can select the library file you want.

To create a new library file: click the **Library** button. Click the **New** button in the dialog. Name the library file and select a destination folder.

For easy retrieval, save library files in the Poser application folder.

File operations

Poser works with two document types: bitmap files in TIFF or BMP format, and 3D files in Poser, DXF and RIB formats.

Bitmap files are used for imported backgrounds, and to export the onscreen display to most painting, illustration and photo-retouching programs.

Poser files contain the three-dimensional posed model, camera, and lighting information. This file format is unique to Poser. For moving your Poser models to 3D applications like Ray Dream Designer, 3D Studio, or Pixar Renderman, Poser can export in the DXF and RIB file formats.

New
New creates a fresh Poser file.

Open
Open will open a saved Poser file.

Close
Close will shut the foremost window. If you haven't saved it, Poser will alert you.

Save

Save writes the contents of the window to a file.

In the main window, **File: Save** writes to a Poser file, saving the pose, body shaping, camera and lighting information. If you rendered to the main window and you want to save the rendering: choose **File: Export** and select **TIFF** or **BMP**.

If you rendered to a new window, save the render window by selecting **File: Save**.

Save As

Save As creates a new file of the current document. To leave the last saved version of the document untouched, be sure to Save As to a new name.

Revert

Revert restores the last-saved version of the document, effectively undoing recent, unsaved changes.

Print

Print sends the contents of the front window to your selected printer.

When printing, Poser always prints to the full page size.

When in Wireframe display with a black background, Poser automatically inverts the colors. This prevents printing a huge black background.

Import

Import allows you to bring the contents of other files into the current document. You may import a TIFF or BMP file as a background, or import figures from a saved Poser document. In both cases, Poser provides an Open dialog, so you can select the file you want to import.

If you're importing a figure, you'll select the Poser file that contains the figure you want. If that file contains more than one figure, Poser will import all of them.

*You don't always have to save or export a rendering. You can Copy (**Ctrl-C**) the display in the main window to the clipboard, then Paste the image into other applications and documents.*

Importing a background is covered in the section "Main window options," earlier in this chapter.

Although Restore is found under the Figure menu, it allows you to restore an Object, the Figure, Lights, Camera or All.

Export

You can export the display in the main window to a TIFF or BMP file at any time, from any display mode. You might do this to save a wireframe image of the figure.

The exported image includes the highlighted body part and any guides currently displayed. If you don't want the highlight or guides, put Poser in Body or Camera mode and hide the guides before exporting.

Export also allows you to save the contents of a Poser file in other formats.

The DXF and RIB formats include the figure's 3D geometry. You can use these formats to transfer the posed figure to a 3D graphics program.

Restoring figures, parts, and lights to the default

At some point, you might get a figure in an awkward position, and you'll decide you want to start over. You could Revert the file, but this might scratch other changes that were good. Poser's Restore feature is a great safety net. It lets you restore the default settings for a body part, figure, camera, or the lights.

To Restore a single body part or a single light: first, select the item you want to reset. If you've been moving or shaping that part, it's probably still selected. Then choose **Figure: Restore** and select **Element**.

To restore the entire figure, the current camera, or all lights: choose **Figure: Restore** and select what you want restored—**Figure**, **Lights**, **Camera**, or **All**.

Restoring the lights resets their colors and positions. Restoring the camera resets the current camera's scale, position, and focal length. Restoring **All** resets all figures, cameras, and lights.

Changing the default

The default settings are what Poser uses to set up a new document. As you work, however, you may achieve a position that you'd prefer over Poser's default. You can put the document's current settings into the default by choosing Memorize from the Figure menu. The current settings become your new fall-back point. This applies to the current file only.

Chapter 3:
Posing

CONTORTIONIST
WANTED
—
Several positions to fill.
Hours flexible.   Inquire within...

Posing is the process of bending, twisting, and pulling the figure into new and fantastic positions.

There are two aspects of a pose: how the body parts twist and bend, and where the body is in the studio. The distinction is important because you must change modes to adjust either aspect.

• Use Pose mode to bend, twist, and turn individual body parts. For example, turn the head to the left, bend the leg at the knee, or turn the hand palm up.

• Use Body mode to orient the figure—as a whole. Turn the figure to the left, lay it down, move it back or closer.

The Tools Palette in Pose mode.

Posing the figure

The easiest way to pose the figure is to choose one of the posing tools, click on a body part to select it, and drag the mouse to move the part. How the part moves will depend on which tool you're using and the direction you drag.

Remember, one body part is selected at a time. This part is highlighted on the figure and listed at the bottom of the main window. It's a good idea to confirm which part is selected before using a tool.

If you are not satisfied with the result of a change, choose **Edit: Undo**.

When posing, it helps to get different views of the figure. Switch cameras to see and adjust the pose from different directions.

As you create poses, add them to the library. Later, retrieve a pose from the Library and use it as the starting point for a new one.

Posing tools

Rotate

Rotate bends a single body part at the joint. Rotate is the most important tool for posing. It works in three dimensions, so you can make a lot of progress in only a few moves.

The direction you drag determines how the part moves in each of the three dimensions.

- Drag perpendicular to the part to move it side-to-side or up and down (in the x and y dimensions).
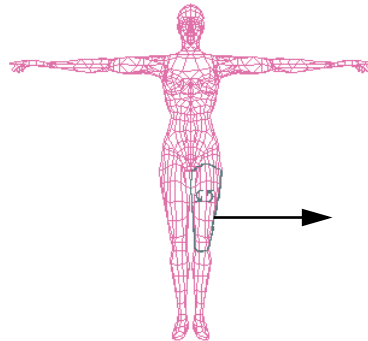
Moving the leg out to the side.
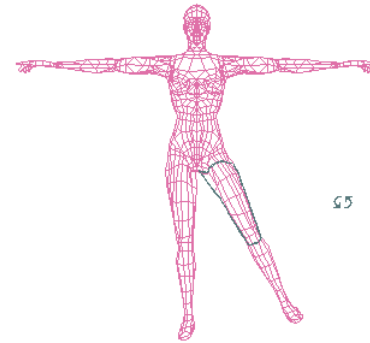
After moving the leg out to the side.

- Drag parallel to the part to move it toward or away from you (in the z dimension).
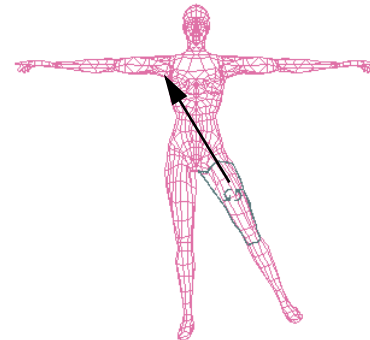
Lifting the leg up.
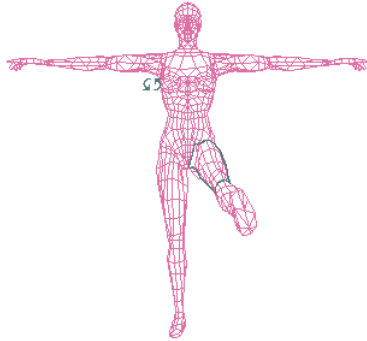
After lifting the leg up.

Rotating is easiest when looking at the bending part from the side. For example, to pose a soccer player kicking a ball, it's easier to bend the legs when he's running across your view, not toward you.

Front view   *Side view*

For this reason, you'll probably switch cameras several times as you pose different parts of the figure.

Twist

Twist rotates a body part along its own axis. Drag laterally when twisting, regardless of the part's angle.

The axis of the head, neck, and trunk is in line with the spine. The axis of a part in an arm or leg is in line with its length.

Twist the head to turn it to the side.

Twist the forearm to turn the palm up.

Many of the human body's joints don't allow for much twist. The forearm can twist nearly 180° , but the hand can hardly twist at all. Keep this in mind as you pose the figure.

About translation

In Pose mode, translation moves multiple body parts, pulling them along in a chain.

To visualize this, think of a person lying relaxed. If you were to take hold of the hand and pull up, you'd lift the arm off the floor. Pull higher, and you'd lift the shoulder, then the chest.

This is how the translate tools work in Poser. Drag any part, and connected parts follow. Not only do the parts move, but they bend and twist as would a human body experiencing a similar force.

Starting here...
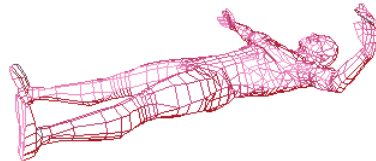
Dragging the hand up...
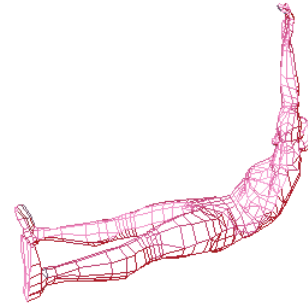
Continuing to drag, lifting the arm, the shoulder, and starting to lift the body.

Translate

Translate moves the selected part vertically or laterally (in the x and y dimensions), depending on how you drag.

zTranslate

zTranslate moves the selected part in the z dimension. Drag down to pull the part toward you. Drag up to push the part away.

Hold down the **Ctrl** key to toggle between the Translate and zTranslate tools.

Lock

A lock, placed on a body part, ends the chain of parts affected by the translation tools.

The translation effect begins with the part you're dragging and progresses through the chain of body parts to the Fixed Point. You can break the chain of movement at any point by placing a lock on a body part.

By default, Poser puts a lock on the hips. You can place locks on different parts to modify translation effects. For example, if you don't want to move the chest, lock it. Now, translating the hand will affect only the forearm and shoulder.

To add a lock, select the Lock tool and click on the part you want locked. Poser displays a lock icon at that point.

To remove a lock, select the Lock tool and click on the lock you want removed.

Other posing features

Fixed Point

The Fixed Point defines the root of the figure—a single body part that won't move as you pose the figure. By changing the Fixed Point, you can achieve vastly different results from the Rotate and Translate tools. For example, if you put the Fixed Point in the right hand, then try to rotate the right forearm, the entire body rotates around the right hand.

If you're working with a background and you've carefully positioned a part, you might want to set that part as the Fixed Point. This will keep the alignment between the part and the background, regardless of what other posing you do. For example, you're posing a rock climber on the face of a cliff and you get his left foot exactly on a narrow ledge. Set that foot as the Fixed Point. No matter what other posing you do, the climber won't lose his footing and fall off the cliff.

To change the Fixed Point: choose **Figure: Fixed Point** and select the part you want.

Locks are used only for translating; they do not freeze a body part from moving. To freeze a body part, make it the fixed point. Select the part and choose Figure: Fixed Point.

Use Limits

Use Limits is an option that tries to keep body parts within a natural range of motion.

What is considered "natural" differs among individuals, and what Poser suggests might not look right to you. So think of the default limits as a rough guideline. Use Limits becomes more effective when you customize the range of motion by setting the maximum and minimum yourself.

In some cases, Use Limits might prevent you from posing a part where you want it. For this reason, most artists work with this feature turned off.

To turn Use Limits on or off: select **Figure: Use Limits**. Use Limits is on when the menu item has a check beside it.
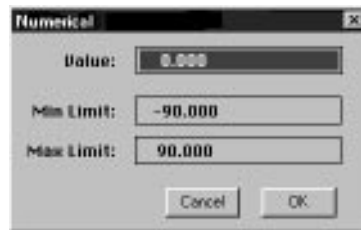
When Use Limits is turned on, you can set the Min and Max Limits.

To change the range of motion allowed by Use Limits: select the body part whose range you want to adjust (either by clicking on the figure or from the pop-up at the bottom of the main window). Double-click the parameter dial for twist, side-side, bend, or turn. In the dialog, change the Max and Min values. When you are done, click **OK**.

Posing parameters for individual parts

To show the Parameter Dials, click the grow box (next to the close box) at the top of the Tools Palette. Remember to select the part you want to adjust before dragging a dial.

Twist

Twist rotates a body part along its own axis. Twist the head and neck to turn the head. Twist the hip to start a "walking" pose. Used in the chest and abdomen, Twist shows the model has a supple spine. Twist is also useful in the shoulder and forearm, where it turns the hand palm up.

Bend ▐▐▐▐▐▐▐▐▐▐

Bend rotates the part on its major axis. All parts—except the shoulder and hand—bend forward and back. The shoulder and hand bend up and down.

Side-to-Side ▐▐▐▐▐▐▐▐▐▐

Side-to-Side rotates the part perpendicular to its major axis. All the parts on the spine allow some side-to-side motion. The thigh has plenty of side-to-side motion, but the knee has very little.

Turn ▐▐▐▐▐▐▐▐▐▐

Turn is for the feet only. It rotates them outward or inward. Turning both feet in makes the model pigeon-toed.

Front-to-Back ▐▐▐▐▐▐▐▐▐▐

Front-to-Back is for the shoulders only. It rotates them forward or back, perpendicular to their major axis.

Setting hand position

Poser provides five standard hand positions: Taut, Relaxed, Fist, Pointing, and Flat.

To set a hand position: choose **Figure: Right Hand** or **Left Hand** and select the position you want.

Taut

Relaxed

Fist

Flat

Pointing

Taper, Scale, xScale, yScale, and zScale affect the part's proportions. These controls are described in Chapter 4: Body Shaping.

Poser does not allow individual control of the thumb and fingers.

Symmetry

The Symmetry command allows you to copy pose characteristics from one side of the body to the other. This is a great time saver. Pose one arm or leg, then use symmetry to immediately put the other arm or leg in a matching pose.

Before Symmetry   After Symmetry

You can apply symmetry for both the arm and the leg (Left to Right or Right to Left). You can apply it to just the arm or just the leg. Or you can use it to straighten the torso.

To apply symmetry: choose **Figure: Symmetry** and select the operation you want.

Moving and turning the entire body

When you want to move or rotate the body as a unit, put Poser in Body mode. The body is automatically selected.
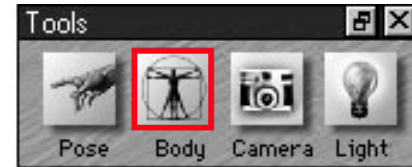
The Tools Palette in Body mode.

If you have added a second figure, select the one you want to change. Either click on the figure or use the pop-up in the bottom-left of the main window.

To move or rotate the body: choose the Rotate tool or either of the translate tools and drag in the main window. How the figure moves will depend on which tool you've chosen and how you drag.

If you are not satisfied with the result of a change, choose **Edit: Undo**.

Body posing tools

Rotate

Rotate turns the figure in three dimensions.

It takes a little imagination to understand how a two-dimensional mouse rotates a figure in three dimensions. Imagine the figure enclosed in a glass trackball. Now use the mouse to drag the front of the trackball to rotate it in the direction you want to turn the figure. The location on the trackball where you begin dragging makes a huge difference in the direction the figure turns.

With the figure in this pose, drag with the Rotate tool as shown by the arrows.

Roll the trackball to the right.
The figure leans right.

Roll the trackball toward you.
The figure leans toward you.

Drag diagonally to compound the rotation.
The figure moves in three dimensions.

A figure is in the center of the studio when its xTrans and zTrans parameter values are both at zero.

Twist

Twist rotates the figure around its own axis. Drag laterally, regardless of which way the figure is leaning.

When the figure is standing, Twist spins it around.

If the figure is lying down, Twist rolls it over, from its stomach to its back.

Translate

Translate moves the figure laterally or vertically in the studio (in the x and y dimensions).

Translating moves the figure around the studio.

Drag in the direction you want to move the figure.

Generally, you'll want to leave the figure in the center of the studio. However, if you've rotated the figure to the edge of the window, you might want to move it back to the center. You'd also move a figure if you were working with more than one and wanted to place them relative to one another.

zTranslate

zTranslate moves the figure toward or away from the camera (in the z dimension).

Drag down to move the figure toward you. Drag up to move it away.

zTranslate moves the figure toward or away from the camera.

Moving the figure toward you makes it appear larger in the window, and vice-versa.

You can toggle between the Translate and zTranslate tools by holding down the **Ctrl** key.

Drop to Floor

Poser lets you put the figure in any position, including mid-air leaps. By simply bending both legs up, the feet are lifted off of the ground. There's nothing particularly wrong with having your figure in the air. But if a floating figure doesn't correspond to your sense of reality—or match your plans for the image—you can impose gravity on the figure with the **Drop to Floor** command.

Drop to Floor, in the Figure menu, moves the body to contact its lowest point with the floor.

To see the floor, choose Guides from the Display menu and select Ground Plane.

Posing parameters for the body

General use of the Parameter Dials is described in the Basic Features chapter. If you are working with more than one figure, remember to select the one you want to move before dragging a dial.

xRot

xRot rotates the figure around the x axis (at the figure's hip). Drag the dial to the right to lean the figure toward you.

yRot

yRot rotates the figure around the y (vertical) axis. This works like the Twist tool in Body mode. Drag the dial to the right to rotate the figure counter-clockwise.

zRot

zRot rotates the figure around the z axis. Drag the dial to the right to lean the figure to the right.

xTrans

xTrans moves the figure horizontally (in the x dimension). Drag the dial to the right to move the figure in that direction.

For more information on the Ground Plane and the other guides, look at the section "Main window options" in Chapter 2: Basic Features.

Scale, xScale, yScale, and zScale affect the body's proportions. These tools are described in Chapter 4: Body Shaping.

yTrans

yTrans moves the figure vertically (in the y dimension). Drag the dial to the right to move the figure up in the window.

zTrans

zTrans moves the figure toward or away from you (in the z dimension). Drag the dial to the right to move the figure toward you.

Adding props

Occasionally the exact pose of the human body is influenced by, or depends upon, some inanimate object—a cane, basketball, stairs, or a block to sit on. Poser provides several props that you may use when posing.

To add a prop: choose **Display: Add Prop** and select the prop you want.

To delete a prop: select the prop, then choose **Display: Delete Prop**.

Adding props helps to add meaning to some poses.

Moving or resizing a prop

All of the Translate, Rotate, and scale tools available for the body parts (except Taper) work equally well on props. You must be in Pose mode to maneuver or resize a prop.

Chapter 4:
Body Shaping

Human bodies come in all shapes and sizes. Starting with a male or female model, you can adjust its proportions to create a body of any description, from lifelike to absurd.

Poser lets you shape the body any way you like.

Bodies exist in three dimensions: width, height, and depth. You shape the Poser model by changing the scale of the body, or its parts, in one, two, or all three dimensions.

Scaling all three dimensions equally maintains the proportions of the body. The figure looks the same, it's just bigger or smaller. By scaling in just one or two dimensions, you can change the actual shape of the body. For example, by

increasing the height scale, you can stretch the figure taller. Or by increasing just the width and depth, you could make the figure stout—even rotund.

You can create exaggerated body types.

Working this way, with the body and each of its parts, a myriad of body shapes is possible. As you create new bodies, save them to the bodies library. You'll find the library is the easiest way to stockpile and retrieve body shapes.

As far as Poser is concerned, the body's shape is independent of its pose— a stout man can sit in the Lotus position just as well as a slim woman. In life, however, our bodies don't share the same degree of flexibility. You might keep this in mind when creating poses for an extreme body shape.

Poser does not allow shaping of the facial features. You can, however, make subtle adjustments in the appearance of the features by applying a custom bump map and texture map for the rendering. To learn more about bump maps and texture maps, see Chapter 7: Rendering.

General characteristics

Figure type

The first body characteristic is gender. You may choose to work with a male or female figure.

To change the figure type: choose **Figure: Figure Type** and select the type you want.

The Stick Figure, Skeleton and Mannequin are the other figure types available. You might want to use these for creating poses, which you could save to the library and later apply to a full-bodied figure.

Figure Height

Poser provides several figure heights as starting points. You can modify any of these toward the body shape you want.

To set figure height: choose **Figure: Figure Height** and select the height you want.

Shaping body parts individually—Pose mode
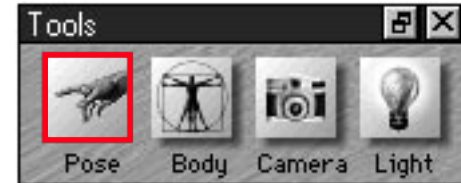
The Tools Palette in Pose mode.

Shaping individual parts can significantly change the appearance of the body. Enlarge the abdomen to give the model a big belly. Stretch the head wider to give the model a broad face. You can even amputate a limb by scaling each of its parts down to .001%.

Shaping is easiest when the figure is in the default pose—with arms out, facing the camera. In this pose, you can clearly see the proportions of the separate elements and the effects of your changes. After shaping the body in the default pose, save the body to the library or simply go ahead and pose the figure.

To shape individual body parts, you must be in Pose mode. The easiest way to shape a part is to choose the Scale or Taper tool, click on the element you wish to adjust,

and simply drag it. For more precise control of the scale in each dimension, use the Parameter Dials.

Body part shaping tools

Scale

Drag in (toward the selected element) to reduce the scale. Drag out (away from the element) to increase the scale.

- You will scale the three dimensions to varying degrees, dependent on how you drag. Drag laterally to scale width and depth (x and z). Drag vertically to scale height (y dimension).

- To keep scaling uniform (proportional in all three dimensions), hold down the Shift key as you drag.

Taper

Taper adjusts the scale of one end of an element only—the other end does not change.

Taper affects the end of the element that is distant from the center of the body.

Drag to the right to increase the taper. Increasing the taper shrinks the end of the element farther from the center of the body. Drag to the left to decrease the taper. This "flares" the end of the element. You might want to flare the figure's chest to broaden its shoulders.

Shaping parameters for individual parts

Make sure you're in Pose mode and you've selected the part you want to adjust before proceeding.

Taper

Taper adjusts the scale of one end of an element only—the other end does not change. Drag to the right to increase taper. The end of the element farther from the center of the body shrinks. Drag to the left to decrease the taper. The end of the element farther from the center of the body swells.

Scale

Scale adjusts all three dimensions proportionally. Drag the dial to the right to increase the scale.

Taper is available only in Pose mode.

xScale

xScale adjusts the width scale (x dimension). Drag the dial to the right to increase the scale in this dimension.

yScale

yScale adjusts the height scale (y dimension).

zScale

zScale adjusts the depth scale (z dimension).

Symmetry

Symmetry copies the shape and pose of one limb to the other. This will save you a lot of time and effort. Shape one arm or leg, then use Symmetry to give the other side the exact same proportions.

To apply Symmetry: choose **Figure: Symmetry** and select the type of symmetry you want—**Left to Right** or **Right to Left**, for the arms, legs, or both.

Scaling the body as a whole—Body mode
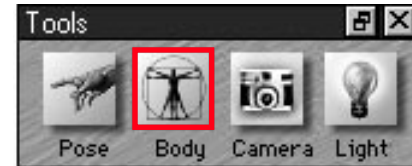
The Tools Palette in Body mode.

Scaling the body simply changes its size. The easiest way to scale the figure is to select the body (put Poser in Body mode), get the scaling tool, and drag in the main window. If you have more than one figure, select the figure you wish to scale.

Scale

Drag the Scale tool toward the figure to reduce its scale. Drag away from the figure to increase its scale.

• You will scale the three dimensions to varying degrees, dependent on how you drag. Drag laterally to scale width and depth (x and z). Drag vertically to scale height (y dimension).

- To keep scaling uniform (proportional in all three dimensions), hold down the **Shift** key as you drag.

If the result is not what you expected, choose **Edit: Undo**.

For more precise control of the scale in each dimension, use the Parameter Dials.

Body size—uniform scaling

If you are posing a single figure, uniform scaling of the body is not necessary. If you have a single figure and want it larger or smaller in the window, scale the camera. If you're using the Main Camera, you could also zTranslate the camera closer to or away from the figure.

The size of a figure is significant only in relation to the size of another figure alongside it.

- If you want one figure smaller to show that it is in the distance, simply use the zTranslate tool to move it back.

- If you want the figure a certain size in the final rendering, set the Rendering Options to render at a specific resolution.

If you were illustrating The Odyssey*, you'd want to scale Polyphemus the Cyclops much larger than Odysseus and his men.*

Body scaling parameters

The Parameter Dials for body scaling are particularly useful. The values show the scale in that dimension as a percentage. The normal scale of a Poser model is 100%.

Scale

Scale adjusts all three dimensions proportionally. Drag the dial to the right to increase the scale.

xScale
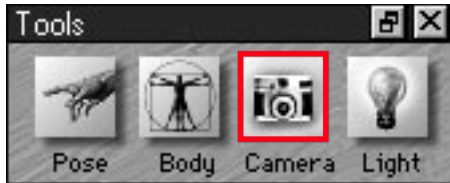
xScale adjusts the figure's width (x dimension).

yScale

yScale adjusts the figure's height (y dimension).

zScale

zScale adjusts the figure's depth (z dimension).

Chapter 5:
Camera

The Tools Palette in Camera mode.

Poser has four cameras in the studio: Main, Front, Side, and Top. At any time, one of these cameras provides the view in the main window.

The four cameras aim at the studio from different directions, so by switching cameras, you can see the studio—and the figures—from an entirely different viewpoint.

View through the front camera.

View through the top camera.

View through the side camera.

View through the main camera.

The Front, Top, and Side cameras display orthographic projections. In an orthographic projection, all objects appear flat. This is contrary to the main camera which provides a perspective view. In a perspective view, the scale of objects diminishes as their distance from the camera increases.

Viewing the studio from different angles is a huge help as you work. An arm that reaches straight toward you in a front view reaches horizontally in a side view. Posing this arm might be difficult in the front view, but it will be much easier in the side view.

To switch between cameras: choose **Display: Camera View** and select the camera you want.

What's different about the cameras?

The Main Camera offers features not available for the other cameras. The Main Camera provides a perspective view and can rotate to view the studio from any angle. As your project nears completion, you'll adjust the Main Camera to set the precise view for the final rendering.

The Front, Top and Side cameras, which don't rotate, display non-perspective, "flat" views of the studio. You should use these cameras for reference and when posing the figures.

Using the Camera Library

The Camera Library is a great feature. It lets you save camera positions, then jump to them with just a few mouse clicks.

The default Camera Library provides several positions. Add your own custom positions to expand the library.

Remember—camera positions are in reference to the studio, not the figure.

Changing the view

The Main Camera can rotate and move anywhere—even below the floor. The other cameras move laterally and vertically, so that you can bring a figure to the center of the field of view. You cannot Rotate or zTranslate (move in or out) the Front, Top, or Side camera. You can scale them, however.

The easiest way to adjust a camera is to select one of the camera tools and simply drag in the main window. The direction you drag determines the effect of the tool.

Camera adjustment tools

Rotate (Main Camera only)

The Rotate tool moves the Main Camera around the center of the studio. Rotate works in three dimensions.

Drag up to look up from the floor. Drag down to look down from the ceiling. Drag laterally to achieve side angles. In all cases, the camera continues to point at the center of the studio.

Twist *(Main Camera only)*

Twist rotates the Main Camera around the center of the studio like a planet in orbit around the sun.

Drag laterally to orbit the camera around the studio. As it moves, the camera continues to point at the center of the studio.

If you moved a figure away from the center of the studio, it might "travel" out of the field of view. Use Translate to bring it back.

Translate

The Translate tool moves the camera vertically or horizontally to change the framing of the studio in the window.

Drag up or down to raise and lower the camera. Drag laterally to slide the camera to the left or right.

zTranslate *(Main Camera only)*

The zTranslate tool moves the Main Camera in or out from the center of the studio.

Drag down to move the camera toward the center of the studio. Don't go too far, or you'll go right past the figures! Drag up to move the camera away from the studio.

Scale

The Scale tool increases or decreases the apparent size of the figure in the window.

Scaling the camera is like zooming in and out with a telephoto lens.

Drag right to increase the camera scale (zoom in). If you zoom in, the figure will appear larger. If you zoom in far enough, the window won't be able to show all of

At first glance, it may seem that zTranslate has the same effect as scaling; this is not the case. zTranslate moves the camera through the studio. It changes the point of view. Scale, on the other hand, maintains the point of view and increases the size of everything in the window.

the studio, and it might seem that the figures have disappeared.

Drag left to decrease the camera scale (zoom out). If you zoom out, the figures appear smaller.

Focal length *(Main Camera only)*

Drag left to decrease the focal length of the Main Camera.

Decreasing the focal length increases the sense of perspective. The effect is similar to a photographer using a fish-eye lens. Vanishing lines converge more sharply, and elements near the camera appear to "reach" toward you. The result can be dramatic.

Drag right to increase the focal length. This "flattens" the sense of perspective. The distance between objects appears to be less.

Display the vanishing lines guide to see how changing the focal length changes the perspective on the studio.

Camera parameters

Focal Length, Pitch, Yaw and Roll are controls that are available for the Main Camera only.

Focal Length

Focal Length changes the perspective of the view by adjusting the Main Camera's lens. Drag the dial left to decrease the focal length, which increases the sense of perspective. Drag the dial to the right to increase the focal length and flatten the image.

Pitch

Pitch tilts the Main Camera forward or back. With the camera at a low pitch (-30°), the view looks up at the studio— the camera is near, or beneath, the floor. With the camera at a high pitch (45°), the view looks down at the studio—the camera is up near the rafters.

Yaw

Yaw orbits the Main Camera around the studio. The camera continues to point at the center of the studio as it orbits.

Roll ▦▦▦▦▦

Roll tips the Main Camera to the left or right. Drag the dial in the direction you want to tip. If you continue to drag, the camera will roll all the way around and return to the starting point.

Scale ▦▦▦▦▦

Scale adjusts the dimensions of the studio in the window. Scaling the Camera is like zooming in and out with a telephoto lens. Drag the dial to the right to zoom in. Drag the dial to the left to zoom out.

xScale ▦▦▦▦▦

xScale changes the camera's horizontal scale to distort the appearance of the figure in the window. Drag the dial to the right to increase the xScale. Drag the dial to the left to decrease the xScale.

yScale ▦▦▦▦▦

yScale changes the camera's vertical scale to distort the appearance of the figure in the window. Drag the dial to the right to increase the yScale. Drag the dial to the left to decrease the xScale.

zScale ▦▦▦▦▦

zScale changes the camera's depth scale to distort the appearance of the figure in the window. Drag the dial to the right to increase the zScale. Drag the dial to the left to decrease the zScale.

xTrans ▦▦▦▦▦

xTrans moves the camera laterally. Drag the dial to the right to move the camera to the right.

yTrans ▦▦▦▦▦

yTrans moves the camera vertically. Drag the dial to the left to move the camera up.

zTrans ▦▦▦▦▦

zTrans moves the Main Camera in and out. Drag the dial to the right to move the Camera toward the studio. Drag the dial to the left to move away.

At first glance, rotating the camera to the opposite side of the figure appears to have the same effect as rotating the figure 180° ; this is not the case. Rotating the figure changes its pose. The lighting that had been on the figure's left is now on its right. Rotating the camera does not change the pose. The lighting on the figure stays the same.

Changing the scale in only one dimension distorts the figure's appearance.

Chapter 6:
Lights

Poser has three lights in the studio. These lights illuminate your figure in renderings and in Lit Wireframe and Flat Shaded display. In renderings, lighting adds color to the figure, reveals curvature of the form, and enhances the muscle contours. Good lighting is essential to getting the right look in renderings.

Poser lights are *distant lights*. They shine into the studio in the same way the sun shines on the Earth. If you have multiple figures, the lights shine equally on each figure. No figure can be outside of a light's range or be lit differently from another.

Each light has two aspects you may set— position and color. In most cases, the position of the light will help you decide its color.

Traditional artists often place the brightest light above the figure and to the left (from the artist's point of view). Strong single-source lighting allows shading to develop on oblique and distant surfaces. This shading contributes significantly to the depth and curvature of the figure.
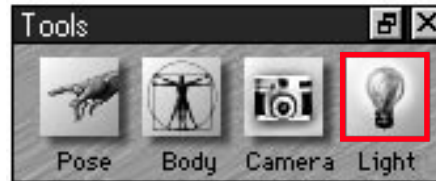
The Tools Palette in Light mode.

If you set the lights in a way that you want to use again, save the lighting environment to the lights library, where you can easily retrieve it.

Aiming lights

The three lights in Poser's studio always shine into the studio. When you aim a light, you're actually setting the angle *from which* the light shines.

You'll probably want to finish posing the figure before aiming the lights. If you were to set the lights, then re-pose the figure, its appearance under the lights would change. For example, by rotating the figure 180°, the light that was behind the figure would now be in front. What had been well lit might now be shaded, and you'd have to move the lights again.

Lighting effects are not visible in basic wireframe or the low detail figure displays. When aiming lights, it helps to use Lit Wireframe or Flat Shaded display. These display options give immediate feedback on how the light illuminates the figure.

If you are creating a figure to match a background image, remember to position and color the lights to match the lighting in the background.

Aiming by hand

Select Light mode, then click the button for the light you want to aim.
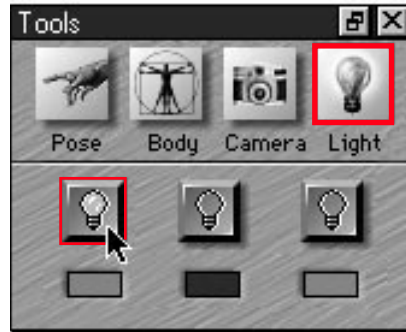
Selecting one of the lights.

In Light mode, the light indicator describes the current selected light.

In the main window, Poser displays a light indicator to describe the light's position.

By looking at this light indicator, you can see the position of the light. In some cases, it helps to view the indicator from a different perspective. Switch the window view to the Top or Side camera to get a different view of the indicator ellipse.

To understand the light indicator: visualize it as the equatorial stripe of a transparent globe. The light aims toward the center of the globe from a point on the equator, shown by the arrows. When viewed from an oblique angle, the stripe appears as an ellipse, with the near side lit and the far side darkened. Knowing which side of the indicator ellipse is near and which is far helps show whether the light is in front of the figure or behind it.

The light is not actually on the edge of the **indicator** line. If it were, you could move the figure to one side and out of the circle of light. *The **indicator** merely represents a larger globe* that encompasses the entire studio.

When you're ready to move the light, visualize the transparent globe and simply drag its near surface to put the arrows where you want the light.

You may start dragging anywhere in the main window and continue dragging beyond it, all the way to the edge of the screen.

Light aiming parameters

The Parameter Dials allow you to rotate the light in a specific plane or to a numerically defined position.

Before using the Parameter Dials, select the light you wish to adjust. You may either click the button in the Tools Palette or select the light from the pop-up at the bottom of the main window.

The xrot, yrot, and zrot dials orbit the light around the x, y, and z axes, respectively.

The following diagrams should help you visualize the effect of each dial. In each case, the figure is in the default position.

xRot

90°

180° — 0°

-90°

yRot

90°

180° — 0°

-90°
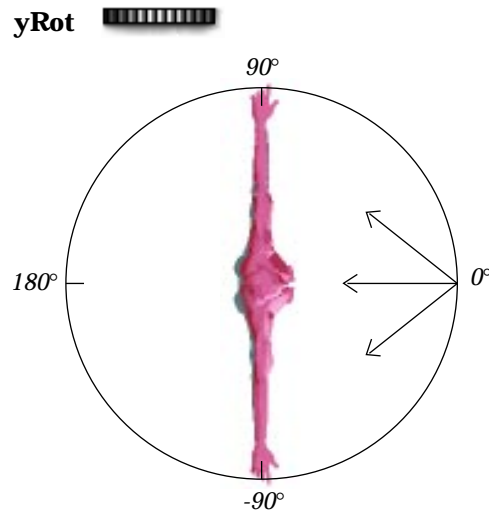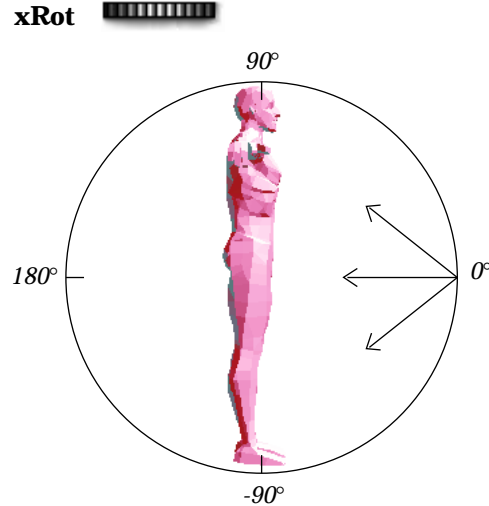
Shortcut—if you select a light from the pop-up on the main window, Poser automatically selects Light mode.

When xrot and yrot are set to 0° , the light aims directly at the front of the figure.
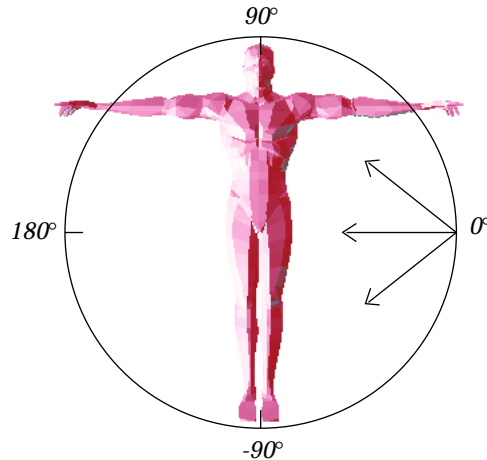
zRot ▮▮▮▮▮▮▮▮▮▮▮

To set the light's position numerically, double-click the dial for the axis you want to rotate around. Enter a value between zero and ± 180° , and click OK.

Color

The color of the lights contributes to the color of the figure in renderings. For example, posing a blue figure under red lights renders it purple; while posing the same blue figure under yellow lights renders it green.

If you don't want the lighting to influence the color of the figure, simply set the lights to white or gray.
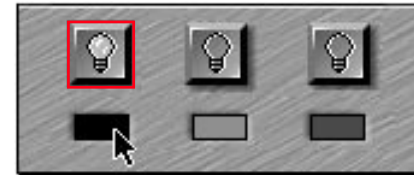
Setting the color of a light.

Coloring a light

Click the Light icon on the Tool Palette to put Poser in Light mode.

Click the color chip for the light you want. Poser opens the Color Picker. The easiest way to use the Color Picker is to simply click on the color you want.
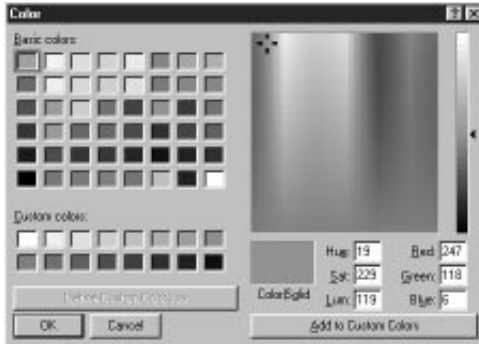
Coloring a light with the Color Picker.

To set the light's brightness: drag the luminance slider to the intensity level you want.

To turn off a light: drag the luminance slider to the bottom of the scale, turning the light's color to black.

You may also set the light's color & brightness by entering values in the text fields.
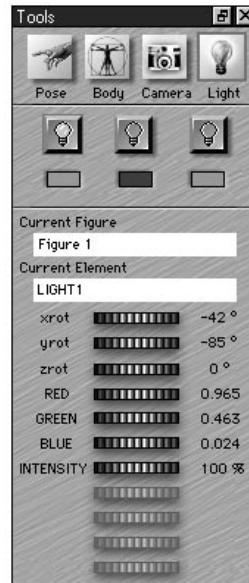
The light parameters.

Light color parameters

The Red, Green, and Blue Parameter Dials adjust the levels of these color components.

Drag the Intensity dial to adjust the brightness. Drag the dial to the right to increase the level, or drag left to decrease it.

Chapter 7:
Rendering

While posing and shaping, you're working with a preview of the model. When you want to see a better image, make a rendering. A rendering is an image of the Poser figure, just like a photograph is an image of a living model. It takes Poser a few moments to generate a rendering.

During the course of a Poser project, you'll want to render a number of times—whenever you want to check the progress of your pose, body shape, camera, surface material, or lighting changes.

A rendering in progress.

Renderings show more detail, so you'll see things in a rendering that aren't otherwise apparent. Based on these results, you'll go back to posing, body shaping, or whatever, to adjust anything that needs improvement. You'll probably go back and forth—making changes, then rendering to check them—quite a few times.

These "check" renderings are typically displayed in the main window. You won't save them. They're a by-product of the work process.

Finally, when you've made all the changes you care to, you'll generate a high-quality rendering that you *will* save—either by exporting the main window as a TIFF or BMP file or by rendering to a new window.

Poser provides a number of options for controlling the rendering process. You'll set these features in the Render Options and Surface Material windows. The Surface Material window includes features for applying skin color, muscles, and coloring.

The texture map and bump map are characteristics of the surface material, which is covered later in this chapter.

Render commands

You can render your figure at any time. From the Render menu, choose either Render or one of the two predefined renders—Smooth Render or Muscle Render.

Render

The Render command uses all of the current settings in the Render Options and Surface Material windows. The features provided in these windows are described later in this chapter.

Predefined render commands

The Smooth and Muscle Render commands are shortcuts to setting features in the Render Options and Surface Material windows.

These commands are designed for preview "check" renderings. For complete control over rendering, you'll want to set surface and rendering options and use the Render command.

Both predefined render commands have "Fast" and "Clean" modes.

• Fast creates an aliased rendering.

• Clean creates an anti-aliased rendering.

Anti-aliasing the image takes longer, so if you're in a hurry, choose Fast.

Smooth Render

Smooth Render does not apply any bump or texture maps during rendering. This is the fastest way to see your figures fully rendered.
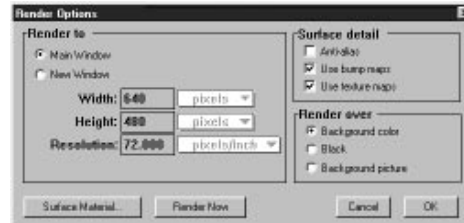

A smooth rendering.

Muscle Render

Muscle Render applies the muscular structure.

A muscle rendering.

Rendering options

The Render Options window.

The Render Options window allows you to control the size and attributes of the final output rendering.

Render Options include image size, background color, anti-aliasing, and whether to apply the texture or bump map, if either has been "loaded."

The following sections describe the individual features.

Render to

By default, renderings are displayed in the main window. This is what you'll want when rendering to check your work. Poser clears the image from the window as soon as you make an adjustment. This saves on memory and keeps your desktop from getting cluttered with windows.
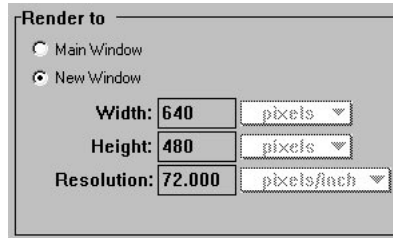
Renderings include guides, if they are displayed. If you don't want to show the guides, hide them before rendering.

When you want renderings to go to a separate window, click the New Window radio button. Future renderings of this file are displayed in separate windows.

You can Render to a specific size and resolution.

Image size

When you render to a new window, you may set that window to any size.

If you've imported a background image, Poser automatically sets the new window to the dimensions of the background. This is really handy when you're planning to composite the figure with the background.

To render at a particular size: click the radio button for **New Window** and enter the size you want.

You may specify the render size either in pixels or in inches. Use the pop-up to select the units you want.

When you enter the height or width for the rendering, Poser adjusts the other value to maintain the aspect ratio of the window.

Renderings are always at the aspect ratio of the main window. If you want a different aspect ratio, resize the main window.

"Render over" in the Rendering Options dialog.

Render over

By default, Poser will render to the main window over the background color or imported image. When you render to a new window, you may want to specify the background. Click the radio button for the background you want.

Background color: the figure is rendered over the current background color. You can change the background color by choosing **Edit: Preferences**.

Black: black is the best option when you are planning to composite the figure with an image in another application. The pixels on the edge of the figure are anti-aliased darker with a black background. This is usually what you'll want.

Background Picture: this option is available only when you've imported a background image. In this case, Poser composites the rendering of the figure with the imported background image.

"Surface detail" in the Rendering options dialog.

Aliased　　　*Anti-aliased*
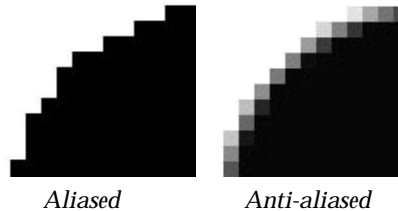
Surface detail

The Surface detail panel provides checkboxes for controlling rendering features. Disabling these features allows the rendering engine to work more quickly by skipping detail. In the final rendering, however, you'll want all these features turned on.

• The **Anti-alias** checkbox lets you control whether anti-aliasing is used in the rendering. Anti-aliasing reduces the appearance of jagged edges by blending the pixels along the edge of one area with the pixels along the edge of the adjacent area. This creates a softer, smoother edge.

• The **Use Bump Map**, and **Use Texture Map** checkboxes control whether these surface material features—if either is loaded—are used in the rendering.
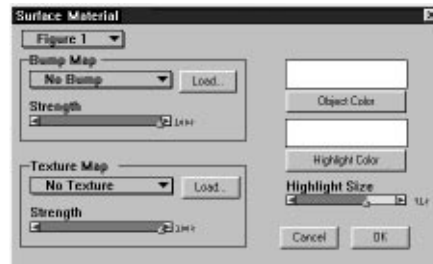
Surface material

Poser provides several features for customizing the surface of the figure, including bump maps, texture maps, and surface color. Set these features through the Surface Material dialog, available from the Render menu.

The Surface Material dialog can also be opened by clicking the Surface Material button in the Rendering Options dialog.

The surface material dialog.

If you have added a second figure, use the pop-up in the top-left corner to select the figure you want to work with before proceeding.

The male muscle bump map image.

Bump map

A bump map is a 3D technique for adding surface relief to an object. The bump map is a special image, wrapped around the object, that works with the studio lighting to give the appearance of "terrain" on an otherwise smooth object.

Poser's default bump map provides contours for the human musculature. If you prefer, you can create a custom bump map.

To load the default bump map: in the Bump Map panel of the Surface Material dialog, use the pop-up to select either **Male or Female Muscle Bump**.

The **Bump Strength slider** adjusts the level of surface relief. The range is from -100% to 100%. Negative values invert the bump—what was raised becomes depressed.

To clear the bump map: use the Bump Map pop-up to select **No Bump**.

Creating a custom bump map

To create a custom bump map, you paint a grayscale TIFF or BMP file in an image-editing program, like Fractal Design Painter® or Adobe Photoshop™. Male and female templates are provided in the "Maps" folder.

You will be painting the surface "terrain." Keep in mind the darker you paint, the more depression you will create on the surface of the figure. Use 50% gray for medium depressions and solid black for deep indentations. Save your document as a TIFF or BMP file. Poser will automatically convert the TIFF or BMP into a bump map allowing you to save it under a new name.

You are certainly not restricted to depicting muscles in the bump map. You can add wrinkles to clothing, buckles, or blemishes. In fact, you may use any type of image. Create a bump map with scales to mutate the figure into—yikes!—the Lizard Man.

When creating a custom bump map, consider the following suggestions:

• Use an 8-bit, gray scale image. The brightness of the map's pixels is the only factor used, and an 8-bit image requires less memory.

• Bump maps do not require a 1:1 ratio to the final resolution. In fact, the resolution of the template works well for renderings up to 1500 pixels. Increasing the dimensions does not necessarily improve definition in the final rendering. It does, however, require more memory to load, which may make the bump map impossible to load on some systems.

• If you do increase the image dimensions, be sure to maintain the proportions. Keeping this aspect ratio is crucial for Poser to wrap the image onto the figure.

To load a custom bump map: in the Bump Map panel of the Surface Material dialog, click the **Load** button. Poser provides a standard Open File dialog,

Poser will prompt you to convert a TIFF or BMP into a bump the first time it is loaded. In future renderings, load the converted bump map, not your original TIFF or BMP file.
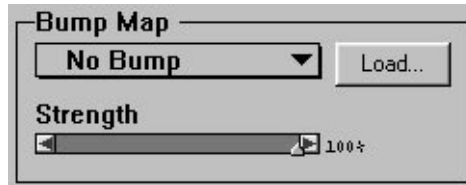
Loading a custom bump map.

which you can use to select a bump map (.BUM) or TIFF or BMP file.

If you select a TIFF or BMP file, Poser will ask if you want to convert it to a bump map. Conversion takes a little while, the status bar on the main window displays the progress.

Texture map

A texture map is a 3D technique that wraps an image around an object to paint the surface. A real-world parallel to using a texture map would be to rip a picture out of a magazine and physically wrap it around an object, like a baseball or drinking glass.
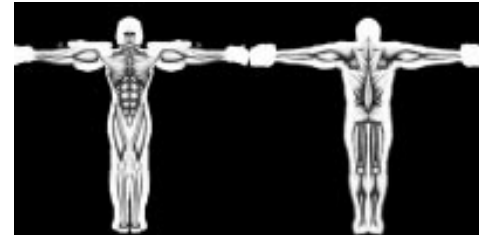
The male muscular texture map image.

Poser's default texture map provides shading to enhance the appearance of the muscles sculpted by the default bump map, but you can create a custom texture map to render skintight clothes or any other feature to your figure.

To load the default texture map: in the Texture Map panel of the Surface Material dialog, use the pop-up to select **Male or Female Muscle Texture map**.

To load a custom texture map: in the Texture Map panel of the Surface Material window, click the **Load** button. Poser provides a standard Open File dialog, which you can use to select your custom texture map.

The **Texture Strength slider** adjusts the intensity of the texture map. You can lighten the texture map by setting the slider lower.

To clear the texture map: use the Texture Map pop-up to select **No Texture**.

Creating a custom texture map

To create a custom texture map, you need to paint a TIFF or BMP file in an image-editing program like Fractal Design Painter or Adobe Photoshop. For precise wrapping of the texture map to the figure, start with the **Female** or **Male** template, which is provided in the "Maps" folder.

When you design your custom texture map, you are "painting" the surface of your poser model. Make a texture or pattern, or paint a skintight super-suit for a comic book hero.

A custom texture map.

The bump map and the texture map do not have to be the same, you can use a texture with any bump map. This figure was rendered using the above custom texture map and the male muscular bump map.

• Usually, 8-bit color is all you need for a texture map. Images with a color depth of 16 or 24 bits require more memory, which may make them difficult to load on some systems.

- You probably won't need to increase the dimensions of the template image. This template size is good for most uses.

- If you do increase the dimensions, be sure to maintain the proportions. Keeping this aspect ratio helps Poser wrap the image onto the figure.

If precise wrapping is not important, you don't have to start with the texture map template. You can use any TIFF or BMP image. Try a scanned photo of beach sand to create the Sand Man. Use a wood grain or marble texture to create a statue.

When you have modified the texture map or created a new one, save it as a TIFF or BMP file. Put it in the folder with the Poser application for easy loading.

To load a custom texture map: In the Texture Map panel of the Surface Material dialog, click the Load button. Poser provides a standard Open File dialog, which you can use to select a TIFF or BMP file to use as a texture map.

Color & highlight

The color of the figure's "skin" in a rendering is determined by the lighting environment and three surface material factors: object color, highlight color, and the texture map.

Object color

The object color is the surface color of the figure. If there is no texture map, the object color is the only surface color of the figure—not considering the effect of colored lights. When a texture map is loaded, the object color influences the appearance of the texture map by coloring it. If you don't want the texture map affected by the object color, set the object color to white.

You can change the appearance of the figure from daylight to midnight by simply darkening the object color. Set it to gray or deep blue to give the rendered figure the look of a character lurking in the shadows.

To set the object color: click the **Object Color** button in the Surface Materials dialog. Poser opens the Color Picker. When you've chosen a color, click **OK**.

The texture map vs. the object color

When a texture map is loaded, the object color is used as a multiplier on the texture map. What does this mean? The complete answer is rather technical. The result, however, is quite simple. The object color influences the texture map in a rendering as though some of its pigment was washed over the texture map image. How much of the pigment depends on the brightness of the object color—the lighter the object color, the less pigment is used. Therefore, when the object color is white, it has no effect on the texture map whatsoever. When the object color is near black, it obliterates the texture map; this effect is only apparent in renderings.

Highlights

Highlights are bright areas appearing where the light is reflected directly toward the eye—or camera. As Poser renders the figure, it determines where highlights should occur and adds the highlight color to the base color at these points.

In daylight and under most room lights, highlights are white. To complement the lighting environment you've set, you might select a color similar to your main light.

Setting highlight size.

To select the highlight color: click the **Highlight** button. Poser opens the Color Picker. When you've chosen a color, click **OK**.

You can control the size of the highlights by moving the Highlight Size slider. The default value is 70%. Higher settings increase the size of the highlight. At 100%, the highlights overwhelm the figure. At zero, no highlights appear.

Appendix A:
Tips and Tricks

Working with multiple figures

Occasionally you'll want to create an image with two or more figures in it. Poser allows you to work with multiple figures, however, adding a second figure increases demand on your computer and it's memory. The following sections suggest ways of getting more out of Poser with less effort.

Alternatives

If your computer is too slow to work with more than one figure, you have a few options.

- You might pose and render figures separately, then composite the images in an image-editing program.

- You could also render one figure, then use that rendered image as a background for rendering the second figure.

- You could render to the main window, then select **Window: Paste onto Background** to paint the rendered figure onto the background. Now you can move, re-shape, and re-pose the

Two figures posed together.

figure, then render again. This procedure creates two figures out of one.

This last option is the preferred method. Pasting the rendered figure onto the background creates a background image. All of the features provided for working with a background are available.

When two figures are close

You might add a second figure to create a dancing couple, a pair of wrestlers, or a man carrying a child piggyback.

In these cases, the poses of the figures are interdependent, and you'll probably need to switch back and forth between figures—posing one, then the other—to achieve dynamic harmony.

When the figures are close—even overlapping—you might try to select one figure, but get the other one.

To get around this, select one of the figures and choose **Window: Paste onto Background**, then choose **Figure: Hide Figure**. You can still see the figure's image, but the model is gone so you cannot select it. When you want the model back, choose **Figure: Show All Figures**. You'll want to clear the background at this time too.

Creating life-like poses

Before you begin a pose, consider the natural actions of the human body. For example, when walking, most people swing their arms with each step. The arms swing forward in opposition to the foot that steps, which keeps the body balanced. The arms don't swing independently of the trunk, but are propelled by a slightly twisting spine, which alternately places one shoulder forward.

Thinking along these lines, dissect the pose you envision to see which body elements must be adjusted—and in which directions; then begin posing.

Some artists think it's a good idea to start posing at the center of the body. This is because angular changes in the trunk (hip, abdomen, and chest) affect the positions of the extremities. If you were to pose the arms, then twist the chest, you'd find the arms had "moved," and you might need to go back and re-pose them.

Other artists prefer to start with the most obvious adjustments first; for example if you were creating a figure waving goodbye, you might start by posing the waving arm first.

Custom Bump maps and Texture maps

When using custom bump and texture maps, Poser must read the entire file into memory. For this reason, try to keep the file size as small as possible.

The resolution of the Woman or Man template is sufficient for most cases. However, you may want to increase the resolution of the template if you want to add maps with more intricate detail. When you resize the template in your favorite graphics program, be sure to increase the height and width by the same percentage.

Bump maps should be created or converted to 8-bit (256 levels of) grayscale before they are loaded in the Surface Materials dialog. If you have plenty of system memory, you can use 24-bit bump and texture maps.

As you paint your bump map, use an airbrush tool or another brush that creates smooth edges. The smoother the transitions you have in your custom map, the smoother the appearance of your rendered figure. Hard edges will create blocky forms on your rendered figure.

You have a few options for creating custom texture maps, you can use an image or you can paint your own. If you use a rectangular area of an image as your custom texture map, the actual mapping is only a portion of the whole map. The features of the texture can look enlarged on the figure. If you create your custom texture map by painting on the template, you will have a better idea of how the actual map will look when rendered.

You may attempt to create facial features in your custom texture map. In this case, you will want to resize the template to get a higher resolution.

Before you spend too much time designing, make a quick placement test by blocking-in prominent features–eyes, nose, mouth, etc. Blocking-in features will prevent you from creating features and finding out they are distorted when they are applied. You will probably make a test render and adjust your block-in several times.

All bump maps and texture maps must be saved as TIFF or BMP files.

Distortion occurs when you misunderstand where you are placing features in your design, for example, the large size of the head in the template covers the face, as well as the area from the eyebrows to the top of the scalp.

Amputating parts

You might want to remove a portions of the body. You can do this by selecting the part and scaling it down to nothing. Start with the extremities and move inward. To remove an arm, for example, start with the hand, then the forearm, then the shoulder. Select each part, then open the Parameter Dials, double-click the scale dial and enter a value of .001 percent. The arm will effectively disappear.

Floating parts

You may want to remove the body, leaving one or two parts in view. If you wanted to have just a head, for example, you would select Body Mode and use the Parameter Dials to scale the entire body down to .001 percent. Then select Pose Mode and choose the head from the pop-up menu at the bottom left hand corner of the window. Use the Parameter Dials to scale the head up to 1,000,000 percent. The head will appear to float bodiless.

If you wanted to make a Halloween poster with a headless person carrying their head, you would make the headless person using the amputating parts method, and you would create a second figure to be "the head" using the floating parts method.

Multiple parts on one figure

You can create figures with two heads or multiple arms and legs. First, pose one figure and save the pose to the Pose Library. Add a second figure and select the saved pose from the Pose Library. The second figure moves into the exact position as the first. It appears there is only one figure because both figures are occupying the same space. Then you can move certain parts of one of the figures into a new position.

For example, to make a figure with two heads, use the element pop-up in the bottom-left of the main window to select Figure 1. Use the Parameter Dials to move Figure 1's head off to the side. Now select Figure 2 and use the Parameter Dials to move Figure 2's head to the opposite side. When you render the image, it will look like one figure with two heads, one head leaning to the right and one head leaning to the left.

Appendix B:
Using Poser with Other Programs

Poser figures can be brought into most popular graphics programs or 3D modeling programs. There are different operations you may want to perform on the figure once in another program. Some of these operations are outlined in this appendix using examples from Fractal Design Painter® and Ray Dream Designer®.

Using Poser with Fractal Design Painter

Tracing a Poser figure

Poser is essential to illustrators because it accurately "blocks-in" the human figure with proper proportions and perspective. Poser can make the difference between an illustration that looks crude and an illustration that is believable.

To trace Poser figures in Painter, open your exported Poser file in Painter and resize it, if necessary, to the desired dimensions and resolution. **Clone** the image and delete the contents of the clone file. Now activate **Tracing Paper**, you will see the ghost image of the Poser

figure appear. You can trace the figure with any variety of Painter's mark making tools including Pencil, Chalk, Water Color or Brush. Toggle between tracing paper on and tracing paper off to see your developing tracing.

If you were using Poser for simulation purposes, you could use tracing paper to trace over the figure and create clothing. Once you drew a shirt or dress, for example, you could float it and use opacity for an interesting compositing effect. Sample clothing from photographs or scanned images, make hats, shoes and jewelry. You could even make floaters of eyes and lips and ears and scale them to fit your Poser figure.

Cloning a Poser figure

Another method of recreating a Poser figure in Painter is cloning. Open an exported Poser file or use a Poser figure that has already been composited to a background in Painter. Select **File: Clone**, notice the clone does not retain the mask or selection information. If you're using Painter and you want to clone a Poser figure before removing it

from it's background, be sure to save its path to the **Paths Palette** before cloning. Don't resize or crop the file so you can open the path in register.

Once the clone is established you could choose any cloning brush and stroke over the image. It helps to use tracing paper to determine what direction to brush the strokes. For an enhanced effect, choose the **Artists** brush with the **Impressionist** variant. Open the **Advanced Controls: Sliders** palette and move the **Angle** slider to the Source position. Select the **Use Clone Color** checkbox on the Colors Palette. Turn the brush size down to get more detail out of the cloning process. Now you can choose **Effects: Esoterica: Auto Clone** and watch while Painter clones your figure.

Creating figure shadows

If you're using Painter, once you have a floater, you can use the automatic dropshadow feature to generate dropshadows. Adjusting the **Opacity** in the dialog will make the shadow darker or lighter. Adjusting the **Thinness** will make a stout shadow or a tall shadow. You could also manually use Poser's mask to generate a selection, feather it, float it, fill it black and adjust the opacity. Then

You can even composite two different Poser figures into one.

you could use the **Distort** effect to shape the shadow to resemble a short shadow at high noon or a tall shadow at late afternoon.

Compositing figures

Compositing is the process of copying the rendered figure and pasting it into another image. Poser makes it easy to do this by providing a mask as part of the image data. The mask is a precise silhouette of the figure, which can be used

to select and copy the figure—without getting any of the background.

Poser renderings save 32-bits of data per pixel. The first 24 bits are for color—8 bits each for red, green, and blue. The final 8 bits is called the Alpha channel, and this is where the mask is kept.

Although Poser will let you create a rendered figure against a background, Painter allows you to place a figure into the background, for example behind a tree or sitting in a car.

If you want your figure to interact with your background, you should pose the figure against the background in Poser. Save your Painter background as a TIFF or BMP file, with the dimensions set to pixels and resolution set to 72. Launch Poser and choose **File: Import Background**. Poser will ask you if you want the window to match the dimensions of the file you are importing, click **Yes**. You will see your Painter background appear in Poser's studio. Now you can pose the figure to accurately interact with the background. If you would like a clearer view of your figure, you can choose to hide the background by selecting **Window: Show Background**.

There are a few ways to bring a Poser file into Painter: open an exported TIFF file or copy and paste between applications. Either method will retain the figure's mask information.

When you open a TIFF file in Painter, you can view the mask by selecting the View Mask button from the **Visibility Buttons**. To obtain an automatic selection, choose the View Selection button. Once the selection is activated you can save it to the **Paths Palette** or click on the figure with the **Floater Adjuster** tool to make a floater. Click and drag the floater into the **Floater Library** to store it for retrieving into other Painter files.

If you copied and pasted a Poser figure into Painter, the figure is pasted as a floater in the default masking setting "Masking Disabled." With the floater active, click the Mask Outside button from the **Objects: F. List** palette to make the background, "outside the figure," disappear.

When you are using Painter to remove the Poser figure from its Poser background, you should create the figure on a solid color background in Poser. The background color would be similar to the

In Painter: the selected floater with the appropriate mask buttons chosen.

figure, or use black. Because of Anti-aliasing, the color of the background appears along the edge of the figure. If you intend to cut the Poser figure out of its background, you wouldn't want to save a dark colored figure on a white background; there would be a white pixel edge around the figure that will take time to retouch and remove.

If you would like your Poser figure to interact with a Painter background, for example stand behind a person in the background, you will need to generate a mask for your background first and bring in the figure as a floater. Begin by painting

on your background with a **Masking** tool to completely cover the element with red mask. You can also use the **Lasso** tool to define masked areas. Now, when you bring the floater into position, click on the background mask's Masked Inside button located on the **F. List** palette. Remarkably, your Poser figure will be mortised by the red mask portion, bringing the background element in front of your Poser figure.

Retouching figures

Smoothing corners
Poser renderings may appear to have "corners" at certain points on the figure—especially in the perimeter. This effect increases with the size of the rendering. You can correct these problem areas in Painter.

If you are going to leave your Poser figure on the solid color background you made in Poser, you can smooth corners with the **Airbrush** tool. Depending on the size of your figure, the **Thin Stroke** or **Fat Stroke** variant is a good choice. With the **Dropper** tool selected, click on the background to sample it as the current color. Now, airbrush along the edges to smooth them and hide defects.

If you are going to composite your Poser figure into a multi-colored background, you will need to float the image for compositing and use **Masking** brushes to smooth the edges. Once the figure is floated, be sure it is highlighted on the **F. List** palette. Use the Masking brush with the current color set to white. As you brush along the edges, you will notice them "disappear" to reveal whatever is underneath the floater.

Smoothing transitions

There may be places on the figure where differently colored regions abut sharply, leaving a faint seam on the figure. This occurs particularly where the "rear" and "front" images of the surface maps meet. You can blend between the colors to create a more natural transition.

To smooth color transitions, use the **Water** tool with the **Just Add Water** variant. Set your brush opacity on the **Controls** palette accordingly and rub along the seam to make it disappear.

If you are using a pressure sensitive tablet and you set brush opacity to 100%, don't press too hard or the definition of the figure will get distorted. You can effectively brush out the texture and

bump map with the **Water** tool if you are not careful; this can also create an interesting effect.

Animating Poser Figures

The easiest way to animate a Poser figure in Painter is to have Painter and Poser open at the same time.

Set up your Painter movie file with the approximate number of frames you intend to create. You can always add frames to the movie file later. Be sure to place the movie file window in a position where it is visible from Poser (don't place it in the same position as your Poser window or it will be covered up). This allows you to view the last frame you created while you are posing the next frame. You could also paste the previous frame into the background in Poser, but this may hinder your view of the current frame in the foreground of the Poser window.

The most important aspect of animating a Poser figure is determining how it will move in reference to the other parts of the figure. For example if you want the figure to walk, you will want to set the foot as the **Fixed Point** and use the **Translate** tool and the **Parameter Dials** to bend

the calf at the knee. The body will move with the motion of the leg and you can concentrate on the torso and other leg. Pose them into shape and then remove the **Fixed Point** to adjust the ankle. You will find the **Parameter Dials** especially useful to steadily turn the head or accurately bend limbs. The **Translate** tool helps you to move the body as it actually moves. Turn **Limit Joints** on to prevent "un-natural" movement.

Don't forget to save each frame in Poser before you copy and paste it into Painter. If you save each time, you could quickly reset the animation to the last frame if you made a mistake. Once the Poser image is pasted in Painter, be sure to **Drop** the floater in the correct frame. Play the animation each time to check the movement. When you are done, you can export to an AVI movie.

Using Poser with 3D programs

You've posed the figure and shaped its body. Now you want to move the figure to a 3D program.

You might want to do this to add the figure to a 3D scene you've created, to apply special surfaces to the figure, or to take advantage of a more advanced rendering engine. For example, you could add a figure to a 3D museum and put the figure on a pedestal as a statue. Then shade the statue and pedestal with marble, and light it so that the statue casts a shadow on the wall.

You can move a figure from Poser to most 3D programs by first exporting the figure as a DXF file, then importing that file (as an object) into the 3D program.

If you intend to use Pixar's Renderman, export the file as a RIB file.

The following description uses Ray Dream Designer™. The procedure is similar in other 3D programs.

1. Open the Poser file with the figure you want to move.

2. Choose **File: Export** and select **DXF**. Poser opens a dialog to let you name the file and choose a destination folder.

3. In Designer, open the scene where you want to add the figure.

4. Choose **File: Open**, and use the dialog to select the **DXF** file you exported.

   When you select a DXF file to open, Designer displays a dialog of options for importing. These settings let you tell the program how to interpret the DXF data. Different settings can lead to radically different results. The following settings should be appropriate for most uses:

• Enable the option, **"Group all 3DFACE in a single object."** This groups all of the polygons into a single unit.

• The option to **Smooth Surfaces** (angles under 30°) is a good thing. You want this on. Unfortunately, increasing the value beyond 30°, won't necessarily smooth the figure.

DXF options.

• **1 DXF unit equals:** Set this to 7 or 8 feet. This should bring the figure in at about the right scale for most uses. You can scale it in the scene, if necessary. Internally, the default Poser model is 1 unit high.

5. Once the figure has been imported, click once to select the figure, then open the **Object Properties: Shading** window.

• Change the **Mapping Mode** from **Spherical** to **Box** mapping (second from left).

• Change the **Used Face** to use the **Front Face** (third from left) as the mapping coordinate.
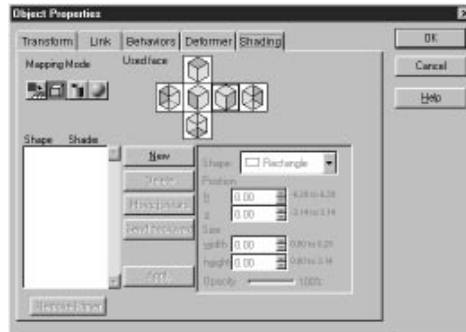
In Ray Dream Designer 4: Shading settings.

While Ray Dream Designer and other 3D programs are capable of wrapping the figure with bump and texture maps, these programs will not automatically align the features of the bump and texture maps with the correct areas of the body. Poser alone understands the correspondence of the "elbow" in the map with the elbow on the figure and wraps the map accordingly.

Because of the inexact nature of DXF objects, texture mapping of detailed images, like text or a photograph, will not be as clean as the same image wrapped onto an object created in the 3D program.

For these reasons, you'll get better detail on the figure when rendering it within Poser. You can, of course, composite your rendered figure with a rendering from your 3D program.

Glossary

Aliasing

The appearance of jagged, stair-stepped edges in an image. To reduce this unwanted effect, anti-aliasing is used.

Anti-aliasing

Anti-aliasing reduces the appearance of jagged edges by blending the pixels along the edge of one area with the pixels along the edge of the adjacent area. This creates a softer, smoother edge.

Aspect ratio

The ratio of an image's width to its height.

Bump map

A bump map is a 3D technique for adding surface relief to an object. The bump map is a special image, wrapped around the object, that works with the studio lighting to give the appearance of "terrain" on an otherwise smooth object.

Color depth

The amount of information used to define the colors of the pixels in an image. Higher color depth is better. The colors are smoother. Usually expressed as the number of bits used or as the number of colors that number of bits can define. For example, 24-bit color is capable of "Millions" of colors.

Compositing

The process of pasting one image into another. Compositing rendered figures onto background images is one of the popular uses for Poser figures.

Element

Any object that you may control in Poser. The body is an element, as are each of its parts, and any added props. Each camera is an element, as is each light.

Jagged edges

See Aliasing

Mask

The mask is a precise silhouette of the figure that can be used to select and copy the figure. The mask is placed in the Alpha channel, where programs like Fractal Design Painter and Adobe Photoshop know to look for it.

Orthographic projection

In an orthographic projection, all objects appear at the same scale, regardless of distance from the view point. This is contrary to natural perspective, where the scale of objects diminishes as their distance from the camera increases.

Perspective

Perspective describes the appearance of scale diminishing as distance increases. For example, Perspective makes parallel lines, like railroad tracks, appear to converge at some distant point on the horizon. Because the appearance of perspective changes, depending on where you're standing, perspective can also refer to the point of view.

Red, Green, Blue

A color model that defines colors by adding varying amounts of Red, Green, and Blue light. Shades of gray result when the values of the three components are equal. When all three values are zero, the color is black. When all three are at their maximum, the color is white. This is the system the computer monitor uses.

Rendering

The process of applying the lighting and surface characteristics to the figure and displaying the result as an image. The resultant image is called a rendering.

Resolution

The dimensions of an image in pixels. The resolution determines an image's size on a particular output device. An image 4 inches wide on the screen (at 72 dpi) will print only 1 inch wide on a 300 dpi printer. Resolution also refers to the density of pixels in an image, where it is expressed as dots-per-inch (dpi).

Texture map

A texture map is a 3D technique that wraps an image around an object to paint the surface. A real world parallel to using a texture map would be to rip a picture out of a magazine and physically wrap it around an object, like a baseball or drinking glass.

x axis

The x axis runs horizontally, parallel to the monitor screen. For a visual reference, look at the line running across the bottom of the window. The x axis is parallel to this line, running through the point of rotation.

y axis

The y axis runs vertically. For a visual reference, look at the line running up the side of the window. The y axis is parallel to this line, running through the point of rotation.

z axis

The z axis runs perpendicular to the monitor screen. If you look squarely at the monitor and focus on the point of rotation, the z axis lies along your line of sight.

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