1

Overview of Expression

Even if you are experienced with vector-based graphics applications, this chapter will familiarize you with Expression's interface and basic functions. If you are anxious to get started, you can skip this chapter and use it as a pictorial reference for tools and palettes. The tutorial in Chapter 2 can be used to acquaint you with most of Expression's tools and techniques.

Starting Expression

The first time you start Expression, you are asked for your serial number.

The serial number is located on the “Read This First” card and the Registration card.

To start Expression on a Macintosh:

1. Double-click the **Expression** icon. The Expression tools and palettes appear.
2. Choose the **New File** button from the **Standard** toolbar to open a new document. You can also choose **File menu▸ New**.

Choose the New File button.

To start Expression in Windows:

1. Choose **Start menu▸ Programs▸ Fractal Design Expression▸ Fractal Design Expression** or double-click the **Expression** icon. The Expression tools and palettes appear.
2. Choose the **New File** button from the **Standard** toolbar to open a new document. You can also choose **File menu▸ New**.

Choose the New File button.

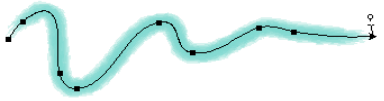
How an Expression Image is Made

Like most drawing software programs, Expression’s objects are comprised of *paths*. A path is a sequence of points (nodes) connected together as lines or curves. Expression allows an arbitrary mixture of straight-lines, Bézier curves and B-Spline curves linked together to form a path.

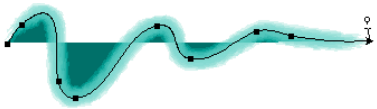
Each path is assigned a *stroke* and a *fill*. Stroke refers to the outline or edge of an object. Picking a stroke in Expression is similar to picking up an artist’s brush.

Fill refers to the inside color or pattern. Expression combines the stylistic expressiveness of paint, brush strokes and other traditional artists’ tools with the flexibility, speed, edibility and resolution independence of an advanced, vector based drawing application.

Vector path.



Vector path with stroke.



Vector path with stroke and fill.

Most drawing programs are limited to the attributes which can be assigned to strokes and fills. Expression removes this limitation. With Expression, you can designate any vector picture as a stroke. This *Skeletal Stroke*™ technology can be applied to boxes, text, freeform shapes, lines—anything you can create in Expression.

Expression uses three types of Skeletal Strokes:

- Natural-Media strokes
- Graphic Element strokes
- Multi-view strokes

Natural-Media Strokes

These strokes mimic traditional artist tools such as paint brushes, pencils and pens.

Natural-Media stroke.

Graphic Element Strokes

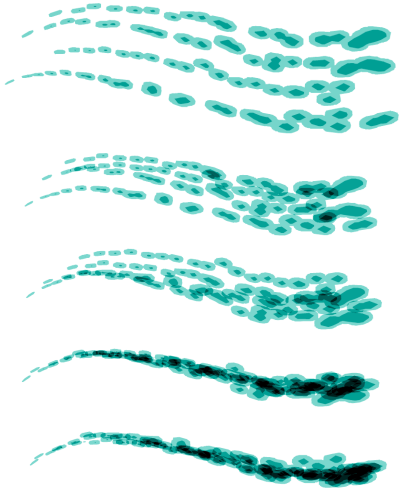
These strokes contain vector drawings and objects. You can create a stroke out of any vector graphic.

Graphic Element stroke.

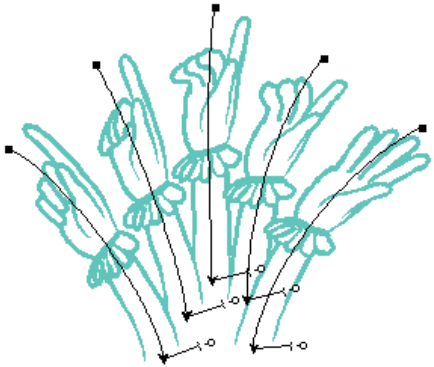
Multi-View Strokes

Multi-view strokes incorporate both Natural-Media and graphic elements and consist of two or more related pictures. Expression automatically creates additional views in between those you start with, allowing you to quickly create related but non-identical images.

As you can see in the examples, Expression creates in between views showing varying degrees of each element. Each time you apply a Multi-view stroke, you can specify which view is displayed or let Expression create them randomly. Multi-view strokes can also be saved as animations (QuickTime for Macintosh or AVI for Windows).



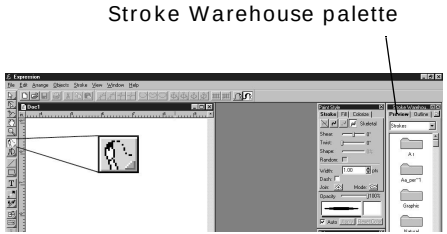
Multi-view stroke of Natural-Media.



Multi-view stroke of a Graphic Element.

Dip Right In!

Since we know you are anxious to get started, we'll introduce you to Expression at its most basic— creating a path and assigning a stroke.



Expression interface.

Try this:

1. Choose **File menu▸ New** to open a new document.
2. Scroll through the **Stroke Warehouse** palette to preview the hundreds of pre-designed stokes available in Expression.
3. Click on a stroke to select it.

Select a stroke from the Stroke Warehouse palette.

4. Choose the **Freehand** tool from the **Tools** toolbar.

Choose the Freehand tool.

5. Using the Freehand tool, draw a path. The stroke you selected is applied to the path you created!

That's all there is to it. Take some time to experiment with some of the other drawing tools.

Expression's Interface

Expression's interface consists of several types of toolbars and palettes. Some of the toolbars and palettes open automatically when you launch Expression. You can hide, display or move any or all of the toolbars and palettes on your workspace to meet your particular working style. Each of the toolbars is explained later in this chapter. First we will show you how to select and arrange toolbars in the Expression workspace.

The Toolbars

When you launch Expression some toolbars are displayed along the top and left side of the window.

Moving and Resizing Toolbars

To change the location of a toolbar, click-drag in the gray toolbar frame area. Drag the toolbar to the middle of the window to let the toolbar float or drag a floating toolbar to the top, bottom, left, or right edge of the screen to dock the toolbar.

Moving your toolbars

The floating toolbars can be resized by dragging at the corners. Reposition a floating toolbar by dragging its title bar.

Resizing your toolbars.

Displaying Toolbars

Expression allows you to customize your workspace by displaying the tools you use the most and hiding those you use less frequently.

To select which toolbars are displayed:

1. Choose **Window menu▸ Toolbars**. The Toolbars dialog appears. Toolbars currently displayed on your workspace have a check mark in front of their name.

The Toolbars dialog.

2. Click to select or deselect the toolbars you want to display.
3. Click **OK**. All selected toolbars appear on the workspace. You can resize and move toolbars as needed.

The Standard Toolbar

The **Standard** toolbar contains buttons for basic File menu commands. Choose **Window menu▸ Toolbars: Standard** to toggle the Standard toolbar on and off. The Standard toolbar contains the following buttons:

The Standard toolbar.

New File

Creates a new Expression document.

Open File

Opens the standard Open dialog, allowing you to open an existing Expression document or graphics file. To limit file type to a specific file format, select the preferred type from the **Format** or **Files of Type** field.

Save File

Saves the current document to hard drive, floppy diskette, or other selected media.

Print

Displays the standard Print dialog, allowing you to print the current document.

Cut

Removes selected object(s) from the workspace and saves the selection to the Clipboard until another selection is cut or copied.

Copy

Copies selected object(s) to the Clipboard and saves the selection until another selection is cut or copied.

Paste

Inserts information previously stored in the Clipboard into the document.

The Composition Toolbar

The **Composition** toolbar contains buttons that allow you to edit your document by clicking rather than using command keystrokes. Choose **Window menu▸ Toolbars: Composition** to toggle the Composition toolbar on and off. The Composition toolbar contains the following buttons:

The Composition toolbar.

Select All

Selects all objects in the current document.

Deselect All

Deselects all objects in the current document.

Delete Selection

Deletes all selected objects. The objects are not stored in the Clipboard. However, you can use Expression's Undo function to return the deleted selection.

Up One

Moves the currently selected object up one level in the stack order of the current layer.

Down One

Moves the currently selected object down one level in the stack order of the current layer.

To Top

Moves the currently selected object to the top level of the stack on the current layer.

To Bottom

Moves the currently selected object to the bottom level of the stack on the current layer.

➔ **Note:** Objects on the top draw last and therefore are not obscured by any other objects. Objects on top appear to be in front of any other objects on the same layer.

Tools Toolbar

The **Tools** toolbar contains tools for basic object drawing and manipulation. Choose **Window menu▸ Toolbars: Tools** to toggle the Tools toolbar on and off. For more information regarding the Tools toolbar see ➤Chapter 6, "Arranging and Editing Objects."

The Tools toolbar contains the following tools:

The Tools toolbar.

Selection Tools

The Selection tools.

The Object Selection and Group Selection tools allow you to select individual objects or groups of objects.

Object Selection Tool

Selects objects or groups of objects.

Group Selection Tool

Selects an individual object within a group. Clicking again on the object selects the entire group.

Node Tools

The Node tools.

The Node Selection and Convert Node tools are used to select and edit points within an object. Nodes are vector points used to define a path.

Node Selection Tool

Selects points on a path.

Convert Node Tool

Converts the characteristics of points from corner to curve or vice-versa.

Path Tools

The Path tools.

The Add Node, Delete Node, Split Path, Reverse Path and Change Start Point tools are used to alter the path of a selected object. In order to use these tools the path must be selected.

Add Node Tool

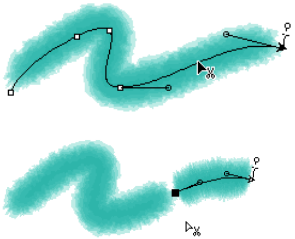
Adds a new point along a selected path.

Delete Node Tool

Removes a point from selected path.

Split Path Tool

Cuts the path into two segments.



Splitting a path, before and after.

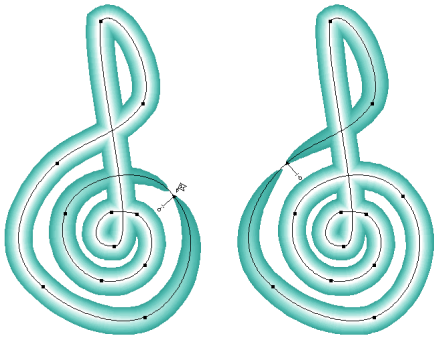
Reverse Path Tool

Reverses the direction of the path and its Skeletal Stroke, if any.

Reverse path, before and after.

Change Start Point Tool

Relocates the starting point for the path, moving the starting point of any Skeletal Stroke to the new location.



Change Start Point, before and after.

Grabber Tool

Provides an alternative way to scroll an image. Click in the workspace and drag to move the page.

Magnifier Tool

Allows you to magnify areas of an image when you are performing detailed work, or reduce your workspace to get an overall view of an image. Click to zoom in, or hold the **Option**/**Alt** key and click to zoom out. You can also drag a marquee to zoom into a specific area.

Classic Drawing Tools

The Classic Drawing tools

These tools are used to draw freeform shapes. After creating paths, you can use the Path tools (described above) to edit any path. For additional information regarding the drawing tools, see ➤Chapter 3, “Creating Paths.”

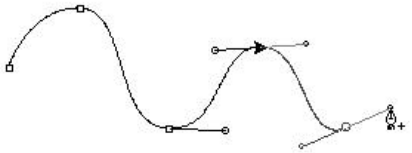
Freehand Tool

Creates shape paths by drawing freehand lines.

Freehand path.

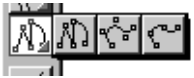
Pen Tool

Creates shape paths using standard Bézier points.



Pen path.

Supplemental Drawing Tools



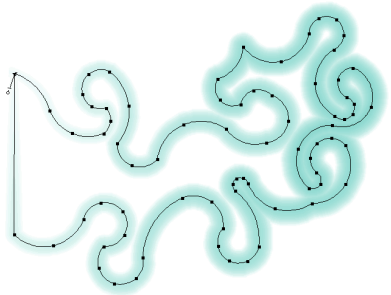
The Supplemental Drawing tools.

Expression's Polyline, B-Spline and Smoothed Polyline tools provide additional ways of creating paths. These are especially useful for creating stylized artwork.

For more information regarding these tools, see ➤"Drawing Tools" in Chapter 3, "Creating Paths."

Polyline Tool

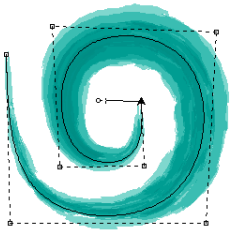
Draws straight line and circular arc line segments.



Polyline path.

B-Spline Tool

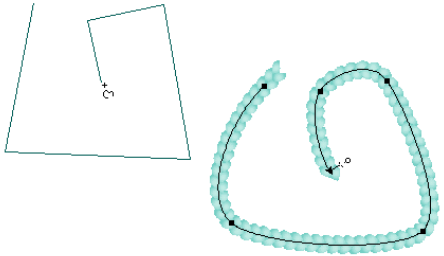
Draws smooth curves based on straight line control polygon.



B-Spline path.

Smoothed Polyline Tool

Draws curved line segments.



Smoothed Polyline path.

Line Tool

Draws straight lines. Hold down the **Shift** key to constrain your line to 45° increments. For information on setting the angle of constraint, see ➤"Setting Preferences," later in this chapter.

Line object.

Shape Object Tools

The Shape Object tools.

These tools are used to draw rectangles, squares, ellipses (ovals) and circles.

Rectangle Tool

Creates rectangles and squares. Hold down the **Shift** key to constrain the object to a square.

Ellipse Tool

Creates ellipses or circles. Hold down the **Shift** key to constrain the object to a circle.

Text Tool

Creates text objects. Text objects can be applied to a path. Each letter can be assigned a distinct stroke and fill. Text can be converted to a path so you can edit the shape of each letter. For more information on working with text, see ➤Chapter 3, "Creating Paths."

Gradient Tool

Controls the direction and rate of change for a gradient stroke or fill.

Objects containing gradients.

Dropper Tools

The Dropper tools

These tools allow you to quickly copy color or stroke and fill attributes from one part of your artwork to another.

Color Dropper Tool

Picks up color from one object, or area of an object, so you can drop the color onto another object or area.

Attribute Dropper Tool

Picks up the stroke and fill attributes from one object, so you can drop the attributes onto another object.

Transformation Tools

The Transformation tools.

These tools are used to transform selected objects by rotating, scaling, mirroring, shearing, or applying perspective. For more information regarding the Transformation Tools, see ➤"Transforming Objects" in Chapter 6, "Arranging and Editing Objects."

Rotation Tool

Allows you to rotate selection. Click to set the center of rotation, then click-drag to rotate selection.

Scale Tool

Allows you to change the size of selected object. Click to set the anchor for the scaling, then click-drag to scale selection.

Mirror Tool

Allows you to create a mirror image of the selected object. Click to set the center for the reflection, then click-drag to mirror the selection.

Shear Tool

Allows you to shear or skew the selected object. Click to set the center for the shear, then click-drag to skew the selection. For more information regarding the Shear tool, see ➤"Shearing Objects" in Chapter 6, "Arranging and Editing Objects."

Perspective Tool

Allows you to apply a perspective effect to any selected object(s). This tool has two modes. In the first mode, an object is framed in preparation for applying perspective. In the second mode, drag the corners of the frame to apply perspective.

When the perspective tool is first selected, it is in the framing mode. Drag the four small corner handles to set the perspective frame. Then click once off the object to switch to perspective mode; The handles become larger. Drag the handles to apply perspective.

Before and after perspective.

Definition Tools

The Definition tools.

These tools are used to define Skeletal Strokes as well as Patterns to use as fills. For more information regarding these tools, see ➤"Creating and Editing Skeletal Strokes" and ➤"Applying Pattern Fills" in Chapter 5, "Applying Strokes and Fills."

Stroke Definition Box

Opens the Stroke Definition window, allowing you to create a Skeletal Stroke. Choose the Stroke Definition Box tool and drag a marquee around the artwork you wish to use as a Skeletal Stroke. The Stroke Definition window opens. To complete the stroke, click the **Define** button at the bottom of the window. Give your stroke a name.

Pattern Definition Box

Allows you to define a new pattern from any artwork in the current document. Choose the Pattern Definition Box tool and drag a marquee around the artwork you wish to use as a Pattern. The artwork within the marquee is repeated as a pattern. To complete the pattern, click the **Define** button at the bottom of the window. Give your pattern a name. If you decide you don't want to define the pattern press the **Delete/Backspace** key while the pattern box is selected.

Anchor Tool/Repeat Tool

The Anchor/Repeat tools.

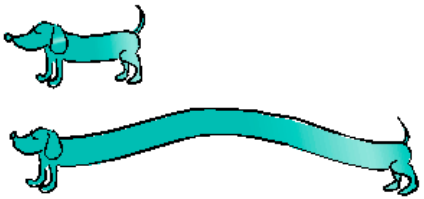
These tools are used to control the behavior of particular parts of a Skeletal Stroke and are available only when the Stroke Definition window is active. As a Skeletal Stroke is applied to a path it can be useful to have certain parts maintain their original proportions, while other parts of the same stroke are stretched along the path. Likewise, it can be useful to specify that certain parts should repeat along the path, rather than stretch.

For more information regarding these tools, see ➤"Using Anchoring" and ➤"Repeating Elements of a Stroke" in Chapter 5, "Applying Strokes and Fills."

Anchor Tool

Allows you to anchor selected points so they remain a constant proportion when a Skeletal Stroke is applied to a path. This is used when you want specific parts of a Skeletal Stroke to maintain their original proportions. For example, the dog stroke

below is defined with the head and tail parts anchored to the beginning and ending points of the stroke. The section between the two anchored areas can stretch on any long path but the tail and head remain the same.

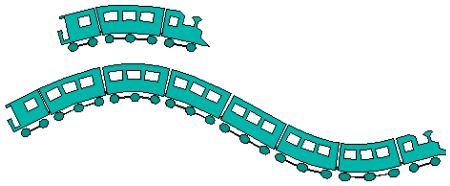


Anchoring parts of a stroke.

To use this feature you must first use the **Stroke Definition Box** tool to select artwork that will be used as a stroke.

Repeat Tool

Allows you to define selected objects to repeat rather than distort as Skeletal Stroke is applied to path. For example, you might create a train with an engine, a passenger car and a caboose. Anchor the engine to the beginning point and the caboose to the ending point. Then define the passenger car as repeating. The length of path to which you apply such a stroke determines how many passenger cars are contained in your train.



Repeating parts of a stroke.

The Actions Toolbar

The **Actions** toolbar includes controls for the behavior of node tangent handles as well as the Ellipse Closure controls, Anchor and Repeat controls and the Pressure Sensitivity buttons. Choose **Window menu▸ Toolbars: Actions** to toggle the Actions toolbar on or off. The Actions toolbar contains the following buttons:

The Actions toolbar

Node Continuity Controls

The Node Continuity controls.

A pair of tangent handles is attached to each Bézier node on a path. The position of the tangent handles controls the shape of the path between nodes. Nodes that are corner points have their tangent handles retracted so you can not see them.

The Node Continuity buttons determine how selected nodes and handles are controlled when editing. Select a node then click the preferred Node Continuity button. For more information regarding Node Continuity see ➤"Selecting and Moving Points" in Chapter 6, "Arranging and Editing Objects."

Symmetrical

Positions the tangent handles so they are opposite each other and equidistant from the node.

Smooth

Positions the tangent handles so they are opposite each other. In this case, changing the distance from the node of one handle does not change the distance of the other.

Angle Locked

Positions the tangent handles so they are locked in relation to each other. Moving one handle causes the other handle to move the same angular distance and direction.

Unconstrained

Allows tangent handles to move independently of each other.

Unconstrained tangent handles.

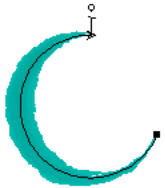
Ellipse Closure Controls

The Ellipse Closure controls.

These buttons allow you to control how an open ellipse is closed. Expression's ellipse is a special case object. After creating an ellipse you can drag its single point with the Select Node tool to open it up, then use one of the following buttons to complete the shape. For additional information regarding the Ellipse Closure Controls, see ➤"Editing Ellipses" in Chapter 6, "Arranging and Editing Objects."

Open Arc

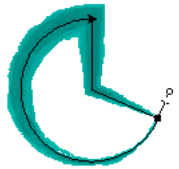
Allows you to create an open ellipse line segment.



Ellipse as an arc.

Pie

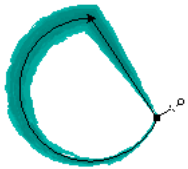
Allows you to create an ellipse line segment closed by a pair of straight lines. These lines connect with each other in the center of the ellipse.



Ellipse with pie line segments.

Add Chord

Allows you to create an ellipse line segment with a flat side. The ellipse is closed by a straight line segment from beginning point to ending point.



Ellipse with a chord line segment.

Anchor Controls

The Anchor controls.

These tools are only available if the Anchor tool has been used to select anchor points in the Stroke Definition window. Use the Anchor Control tools to control the behavior of anchored points.

Within the Stroke Definition window, use the Anchor tool to drag a *marquee* to select the points you want to anchor. Then, click the Anchor Control that describes the type of anchor you wish to apply to the selected nodes. For additional information regarding Anchor Controls, see ➤"Using Anchoring" in Chapter 5, "Applying Strokes and Fills."

Anchor at Start

Constrains selected points to the start of the Skeletal Stroke as it is applied to a path.

Anchor at End

Constrains selected points to the end of the Skeletal Stroke as it is applied to a path.

Anchor at Fixed Point

Constrains selected points to a specific part of the Skeletal Stroke as it is applied to a path.

Free Anchor

Removes anchor constraint from selected point.

Repeating Control

The Repeating Control tools.

These tools are only available if the Repeat tool has been used to select objects to repeat in the Stroke Definition window. Use the Repeating Control tools to control the behavior of repeating objects.

Within the Stroke Definition window, use the Repeat tool to select the objects you want to repeat. Then, click the Make Repeating button to make the selected objects repeating or click the Make Non-repeating button to remove the repeating function from the selected objects. For additional information regarding Repeating Controls, ➤"Repeating Elements of a Stroke" in Chapter 5, "Applying Strokes and Fills."

Make Repeating

Repeats the selected objects within the stroke based on length of path.

Make Non-repeating

Removes the repeating function from the selected objects.

Pressure Sensitivity Controls

The Pressure Sensitivity Controls

These buttons toggle pressure sensitivity on or off. These functions are only available when a pressure sensitive drawing tablet is used instead of a mouse.

Pressure sensitivity applies only to the Freehand tool.

Disable Pressure Sensitivity

Allows a pressure sensitive graphics tablet to behave just as a mouse device.

Enable Pressure Sensitivity

Allows you to vary the width of a Skeletal Stroke based on the amount of pressure applied when using a pressure sensitive graphics tablet. Strokes appear thin where light pressure is applied, and thicker where heavy pressure is applied.

Miscellaneous Toolbar

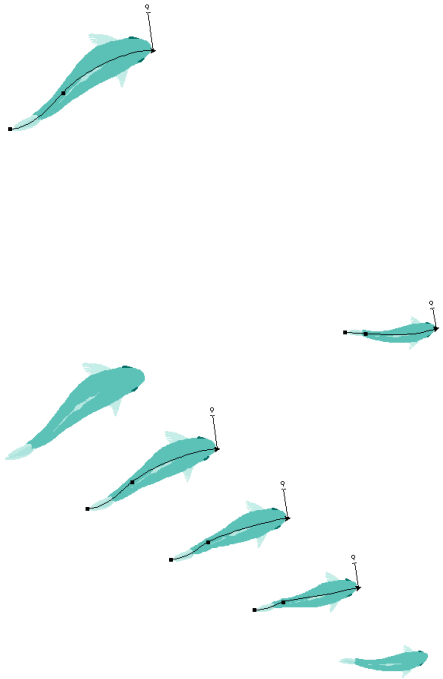
The Miscellaneous Toolbar controls Blending and Boolean operations (also known as pathfinder operations to Adobe Illustrator users).

Choose **Window menu▸ Toolbars: Miscellaneous** to toggle the Miscellaneous toolbar on or off. For additional information regarding Blending Paths ➤"Blending Paths" in Chapter 3, "Creating Paths." For more information regarding Boolean Operations, see ➤"Using Boolean Operations" in Chapter 3, "Creating Paths." The Miscellaneous toolbar contains the following buttons:

The Miscellaneous toolbar.

Blend Paths

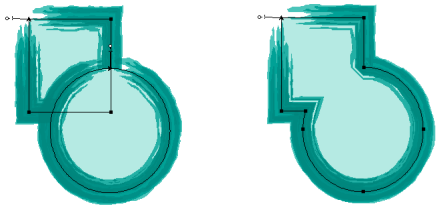
Creates a series of new paths based on two selected paths.



Blend Paths, before and after.

Union

Creates a new path based on the outline of all selected source paths as if they were merged into one object. Paths inside are ignored.



Union, before and after.

Front-Back

Creates a new path that contains areas in the front path that are not overlapped by areas in the back path.

Front-Back, before and after.

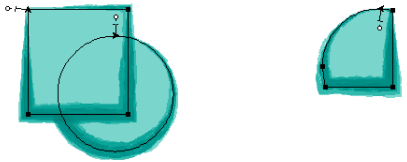
Back-Front

Creates a new path that contains areas in the back path that are not overlapped by areas of the front path.

Back-Front, before and after.

Intersection

Creates a new path that contains areas where the selected source paths overlap. Areas and paths that do not overlap are ignored.

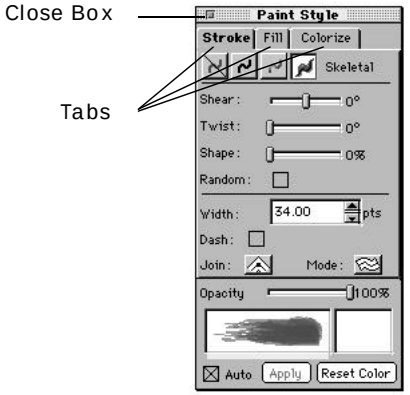


Intersection, before and after.

The Palettes

Expression uses a variety of palettes to control specific functions. Most of these functions are not available elsewhere in Expression. You will find that certain palettes are so crucial to your work that you will always want them open.

Some palettes include tabs that open additional layers of the palette. Clicking a tab brings specific information forward so you can select options relating to the particular function listed on the tab.



A palette with tabs.

Use the close button in the title bar to hide unused palettes. The title bar also contains the name of each palette. Drag the title bar to move the palette on the screen.

Displaying Palettes

The Window menu contains the name of each palette available in Expression. To open a palette, choose a palette name from the Window menu. A check mark appears next to open palettes.

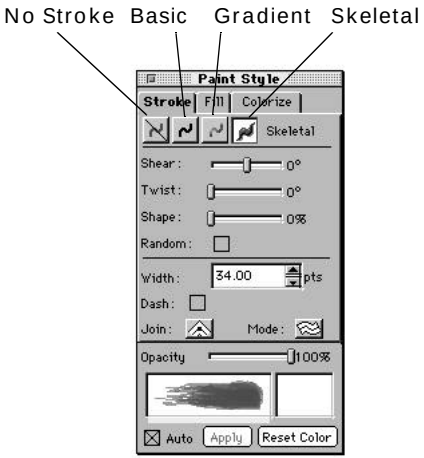
Check marks appear next to open palettes.

Rather than describe each palette in depth here, we will refer you the chapter that explains each palette in detail.

Paint Style Palette

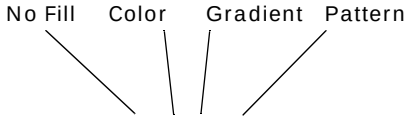
This palette controls how your path is displayed including stroke, fill and color. Use the Paint Style palette to assign the stroke and fill you prefer.

Your stroke may be none, Basic (a fixed width with solid color), Gradient (a fixed width with gradient color) or a Skeletal Stroke. Use the **Stroke** tab to select the style of stroke you prefer.



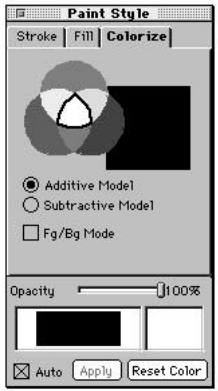
Select a stroke style.

Your fill may be none, a plain color, a gradient or a pattern. Use the **Fill** tab to select the style of fill you prefer. For more information regarding stroke and fill see ➤Chapter 5, "Applying Strokes and Fills."



Select a fill style.

The **Colorize** tab of the Paint Style palette gives you several ways of controlling the colors used in your strokes. Changes made in this area affect all selected objects and any new path you draw while the same Skeletal Stroke is selected. For more information regarding Colorize, see ➤"Colorizing Objects" in Chapter 4, "Using Color."

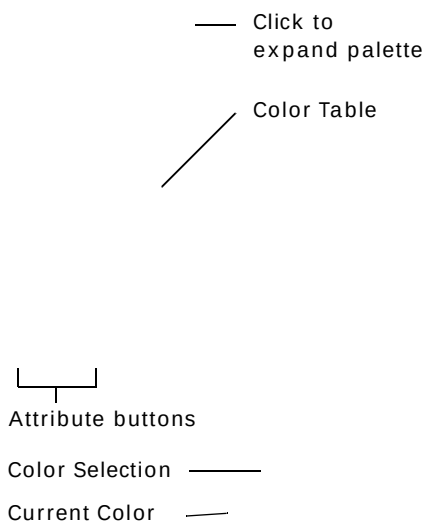


Use the Colorize tab to adjust the colors within a Skeletal Stroke.

Color Palette

This palette controls the use of colors. When you set the stroke and/or the fill to plain color or a gradient, you can then use the Color palette to select colors.

Select a color model, then enter a color value (RGB and CMYK) or click on the color wheel to see the range of colors available in the Value Picker (HSL). For specific information regarding color and gradients see ➤"The Color Palette" in Chapter 4, "Using Color."



The Color palette.

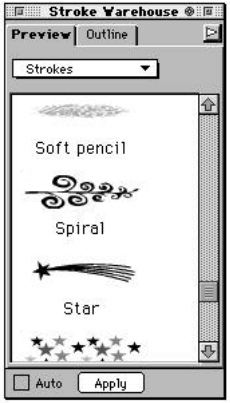
Custom Color Palette

This palette contains a list of custom colors which you can apply to any document. For more information regarding custom color, see ➤"Using Custom Colors" in Chapter 4, "Using Color."

The Custom Color palette.

Stroke Warehouse Palette

This palette contains a selection of pre-designed Natural-Media, Graphic Element, and Multi-view strokes. Each stroke can be thought of as a customized brush. Strokes can be applied to any path in Expression. For more information about the Stroke Warehouse palette see ➤Chapter 5, "Applying Strokes and Fills."



The Stroke Warehouse palette.

Panner Palette

Use this palette to quickly reposition your page so you can draw in a manner that is comfortable for you. Click the side arrows to rotate the page clockwise or counter-clockwise. Click the plus or minus button to move the page forward or backward.

The Panner palette, Windows and Macintosh versions.

Font Palette

Use this palette to select the font and other attributes for Text objects. For more information regarding Text, see ➤"Creating Text" in Chapter 3, "Creating Paths."

The Font palette.

Transformation Palette

Use this palette to translate (move), rotate, shear, mirror or scale objects. Use the small arrows to the right or left of the tabs to display additional tabs as you need them. Click **Apply** to apply your changes to any selected object. Use the **Duplicate** button instead of the **Apply** button to create a duplicate of the selected object as you transform it, leaving your original object untouched. For more information on transformation, see ➤"Arranging Objects" in Chapter 6, "Arranging and Editing Objects."

The Transformation palette.

Alignment Palette

Use this palette to align, distribute or stack objects. For more information on Alignment, see ➤"Aligning Objects" in Chapter 6, "Arranging and Editing Objects."

The Alignment palette.

Layers Palette

Use this palette to add, delete, select, name, lock/unlock or hide/show layers. For more information on Layers, see ➤"Layering Objects" in Chapter 6, "Arranging and Editing Objects."

The Layers palette.

Gradient Editor Palette

This palette can be used to add, delete and edit gradients. For more information on gradients, see ➤"Using Gradients" in Chapter 4, "Using Color."

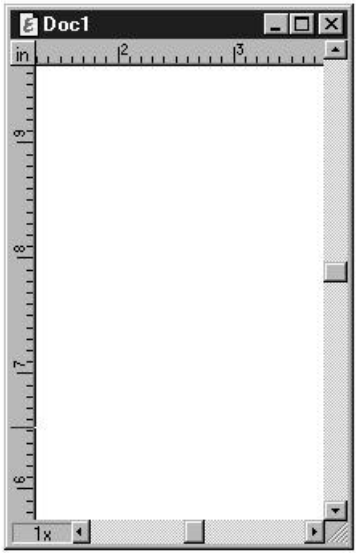
The Gradient Editor palette.

Getting Acquainted with Expression's Workspace

This section outlines how to customize the workspace to match your own style of work. You'll learn how to use Grids and Rulers and how to set your preferences.

Creating a New Document

To create a new document choose **File menu▸ New** or **Command/Ctrl+N** or click the **New File** button on the **Standard** toolbar.

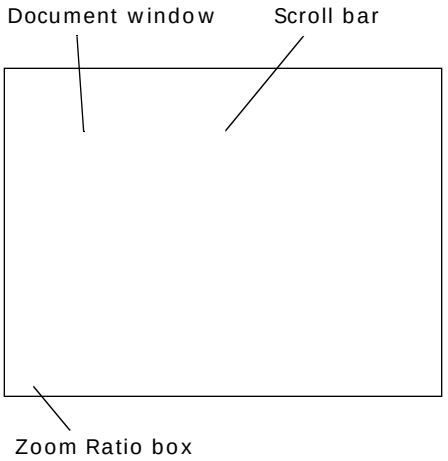


New Expression document.

Workspace

Use the scroll bars on the right and bottom of the document to move the page. The workspace is larger than the page that prints so be careful to keep your artwork inside the page outline if you want it to be part of your printed document.

Use the remainder of the space as a desktop or drawing board. For example, you might work off the page when creating new strokes. Then work on the page when applying the stroke to a path as part of your image.



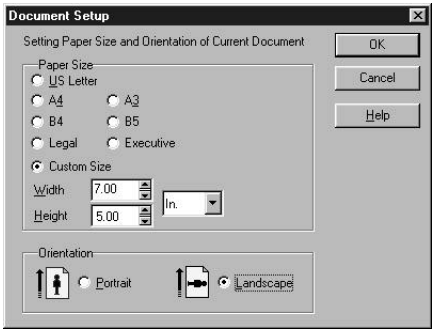
The Expression workspace.

Sizing Your Workspace

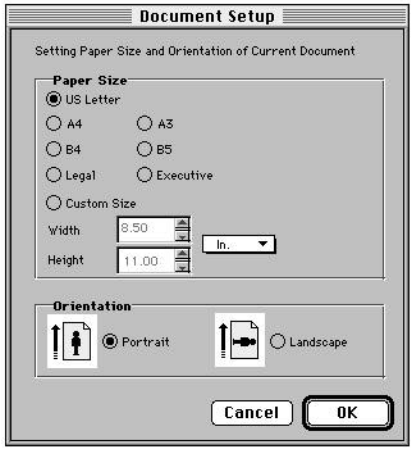
After you create a new document, you can set the size of your page, page orientation and unit of measurement to accommodate the size of the drawing you are going to create.

To adjust the size of your workspace:

1. Choose **File menu▸ Document Setup**. The Document Setup dialog appears.



Windows Document Setup dialog.



Macintosh Document Setup dialog.

2. Click on the pop-up next to the Width and Height controls to display and select a unit of measurement.

3. Select or enter the size for your page and the orientation of the page.

4. Click **OK**. The size of the workspace in the current document changes to reflect your selections.

Rulers

The document window includes rulers on the top and left side. As you move the cursor around the window a line on each ruler indicates the cursor position. You can change the rulers from the default inches to pica or points by clicking the small box at the upper left corner. You can toggle the rulers by choosing **View menu▸ Show Rulers**.

You can also scroll the view by placing the cursor on the vertical or horizontal ruler. When the cursor changes to a hand, drag to scroll the view.

Click to change the ruler measurements.

Grid and Node Constraints

Expression provides you with a grid to aid in arranging objects. To toggle the grid on or off choose **View menu▸ Show Grid**.

For information on setting the size of the grid see ➤"Setting Preferences," later in this chapter.

When **View menu▸ Snap to Grid** is active, all drawing and editing tools (except the Freehand tool) are influenced by the grid. When you click or drag near a grid line or intersection, the cursor snaps to the grid. The snap is stronger at grid intersections than along grid lines.

Expression also provides a snap to node constraint by using **View menu▸ Snap to Nodes**. When you click or drag near an existing node (point), the cursor snaps to the node.

The Status Bar

At the lower left corner of the Expression window is the Status Bar. The Status Bar displays information regarding the Snap To Grid or Snap to Node functions and the size of the Grid as set in the Preferences dialog View tab.

Choose **Window menu▸ Toolbars: Status** to toggle on/off the Status Bar at the bottom of the main Expression window.

The Expression status bar.

Multiple Windows

You may have multiple document windows open while you are working in Expression. The Window menu provides a list of currently open Expression documents. If you have multiple documents open, choose the name of a document from the Window menu to bring the document to the foreground and make it the active document.

The Window menu also allows you to control how multiple windows are displayed. These functions are only available on the Windows platform.

Choose **Window menu▸ Cascade** to arrange open windows starting in the upper left corner with each additional window positioned slightly to the right and lower so you can see the title bar of each window.

Choose **Window menu▸ Tile** to arrange open windows as tiles.

Choose **Window menu▸ Arrange Icons** to arrange open minimized windows along the bottom of the screen.

Navigating Your Document

You can navigate through a document or image by changing the level of magnification (zooming in or out), scrolling to a different part of the image, or rotating the page. By navigation, we mean moving around a document, changing views, or moving the page.

Zooming In and Out

By default Expression opens a document at 100% view, but you can change the view to suit your needs. The Zoom Ratio box in the lower left corner of the document displays the current zoom ratio. Click-hold to choose another zoom ratio.

The View menu also offers you a variety of ways of changing the zoom ratio:

Zoom in Enlarges the document window to the next largest zoom ratio.

Zoom out Reduces the document window to the next smallest zoom ratio.

Zoom on Selection Magnifies and centers the current selection to fill the document window.

View All Reduces the page to view all objects in the document window.

Actual Size Enlarges or reduces the document window to 100% size.

Center View Centers the printable page in the document window.

You can also zoom in and out with the Magnifier tool.

To zoom in:

1. Choose the **Magnifier** tool from the **Tools** toolbar. The cursor changes to a magnifier. The plus sign (+) on the magnifier indicates that you are increasing magnification—zooming in.

Click with the Magnifier to view an image close-up.

2. Click the image. With each click, the image is magnified. The ratio of the magnification appears in the Status Bar at the bottom of the window.

To zoom out:

1. Choose the **Magnifier** tool from the **Tools** toolbar. The cursor changes to a magnifier.
2. Hold down the **Option/Alt** key. The plus sign (+) on the Magnifier tool turns to a minus sign (-).
3. While holding down the **Option/Alt** key, click the image. The magnification ratio appears in the Status Bar at the bottom of the window.

To magnify a specific area:

1. Choose the **Magnifier** tool from the Tools toolbar. Move the cursor to the drawing window and drag a rectangle around the area you want to magnify.

   The area inside the rectangle is magnified to the closest magnification level that fills the screen.

Using the Grabber Tool

The Grabber tool gives you a quick way to scroll an image.

To scroll by using the Grabber tool:

1. Choose the **Grabber** tool from the Tools toolbar. The cursor changes to the hand cursor.
2. Drag in the document window to pan or move your image.

To use the **Grabber** tool while another tool is selected, hold down the **Spacebar**.

Changing Your View

In addition to controlling the Grid, Rulers, Snap To and Zoom Ratio the View menu controls the display quality for your paths.

Path Shows the path only.

The Path view displays only the paths.

Wireframe Shows the path plus an outline of any stroke applied to the path.

The Wireframe view displays the path plus outlines representing strokes.

Preview Shows the path plus the stroke and/or fill as applied to the path.

The Preview view displays the document as it would be printed.

Creating a New View

The View menu can also be used to open up an additional window showing a different view of the document you are currently editing. This can be very useful when working on a complex image, as you can set each view window to its own zoom ratio.

To open an additional view:

1. Choose **View menu▸ New View**. An additional view window displays the name of the current document in the title bar, followed by a number defining which view it represents. Actions performed in one view window are immediately shown in any additional views of the same document.

New View displays an additional window for working on the same document.

Setting Preferences

Expression's preferences enable you to customize Expression to the way you like to work. There are four tabs to take you to the specific areas you can customize.

To set Expression Preferences:

1. Choose **File menu▸ Preferences**. The Preferences dialog appears.

Preferences dialog.

2. Click the tab for the area you would like to edit, then make your changes.

3. Click **OK**.

Options Tab

This tab controls settings for various options including Tools, Objects, Arrangement and Miscellaneous.

Tools

Drawing tools: append to path When this option is enabled (the default), all drawing tools (except the Freehand tool) can be used to append points to an existing path. Just position the cursor over the endpoint of an existing path before starting to draw. A tilde (~) is added to the cursor, indicating that it is ready to append points to the existing path.

When this option is disabled, none of the drawing tools append points to existing paths. Clicking on the endpoint of an existing path creates a new path starting at that point. By holding down the **Shift** key, you can force any drawing tool to append points to an existing path.

Freehand Tool: Tightness of fit Controls the precision with which the path follows the movement of the mouse or stylus pen when using the Freehand tool. If the setting is too high every minor waver is captured, possibly resulting in a line that is quite irregular. If the setting is too low the resulting path may be less precise than you intended.

In most cases the default setting should give you acceptable results.

Color Dropper: resets primaries This preference determines what happens when you use the Color Dropper tool to drop color onto an object whose colors have already been adjusted using the Foreground/Background color swatches or the Colorize controls.

When this preference is enabled (the default), using the color dropper automatically resets the Colorize or Foreground/Background information. This ensures that the color you're dropping is the color you actually see on the object.

When the preference is disabled, the color you drop may not be the color you see on the object. For example, suppose you have a grayscale stroke with the foreground color set to red, so your entire stroke appears in reds of varying shades. Then suppose you use the color dropper to drop black into an area of your stroke which is currently medium red. The spot where you drop the color will not appear black, but instead will appear full red. This is because the red foreground color transforms all black regions within the stroke into red.

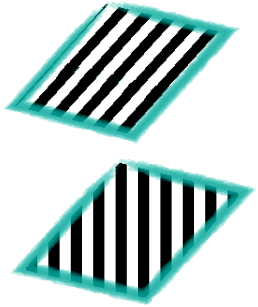
For more information regarding colors, see ➤Chapter 4, "Using Color."

Objects

Quick (area) select Determines whether clicking on a fill area selects an object or whether you need to click on the path itself in order to select an object.

Transform patterns Controls the way a pattern is handled when an object containing a pattern is transformed (rotated, skewed, scaled). When this option is enabled, the pattern is applied to the object *before* the transformation and therefore transforms with the object. When this option is disabled the object is transformed and *then* the pattern is reapplied and not affected by the transformation.

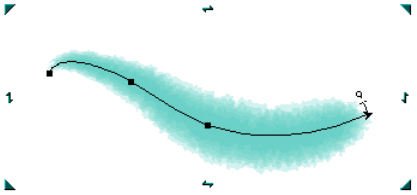
Original object with pattern before transform.



Object after skew with Transform patterns ON, then OFF.

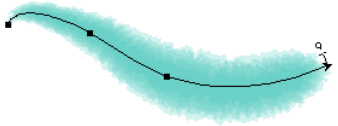
Path operations: keep originals Toggles on/off to keep or discard original objects after performing a Boolean operation. For information regarding Boolean operations, see ➤"Using Boolean Operations" in Chapter 3, "Creating Paths."

Show resize handles Toggles on/off the on-screen resize handles that appear around selected objects. When on (default), resize handles are displayed at the corners of the bounding box and the transform handles appear on the top, bottom and sides.



Object selected with resize handles.

When off, the path itself appears in color but no handles appear.



Object selected without resize handles.

Arrangement

Angular constraint steps Sets the angle of constraint when holding down the **Shift** key while moving or rotating an object.

Nudge increment Sets the increment applied when you use the keyboard arrow keys to move an object.

Stack: Gap Size Sets the size of the gap (in points) between objects when using the Stack function.

Miscellaneous

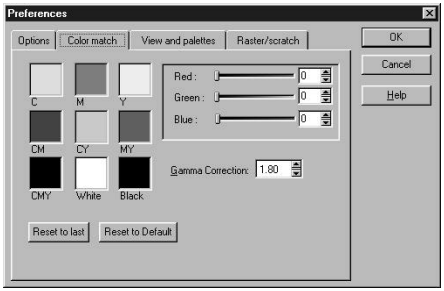
No fill with Skeletal strokes When this option is enabled, choosing a Skeletal Stroke automatically removes any fill which has been applied. If you want to fill an object which has a Skeletal Stroke applied, you can choose the stroke first, then apply a fill.

When this option is disabled, the Skeletal Stroke uses whatever fill is active in the Paint Style palette. In most cases you probably do not want a fill with a Skeletal Stroke.

Undo levels Sets number of Undo levels. Higher levels of Undo use up more RAM.

Color Match Tab

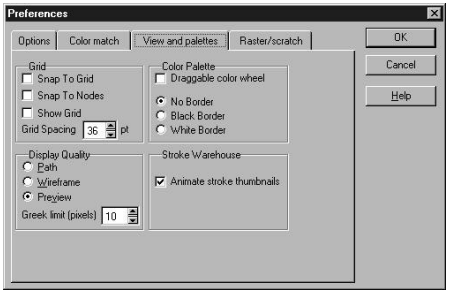
Use the Color Match tab to calibrate your monitor for the best match possible when printing to a color printer. For more information on Color Match, see ➤"Setting Color Calibration" in Chapter 4, "Using Color."



Preferences dialog, Color Match tab.

View and Palettes Tab

This tab provides you options for the view displayed in your workspace and options for some of the palettes. These settings are applied when creating a new document.



Preferences dialog, View and palettes tab.

Grid

Snap to Grid This option determines whether or not the Snap to Grid function is enabled when a new document is created.

Snap to Nodes When this function is enabled Expression automatically moves to the closest node on a selected path when you perform any action that applies to a node.

Show Grid Toggles on/off a non-printing grid that is useful for precise placement of points and objects. This option determines whether or not the Show Grid function is enabled when a new document is created.

Grid Spacing Sets the spacing/size for the grid in the workspace.

Color Palette

Draggable Color Wheel When this option is enabled, drag to rotate the Color Wheel. The color touching the point of the Value Picker triangle or diamond is the active color. When this option is disabled the Color Wheel is stationary and you click the desired color to make it active. The Value Picker reflects the current color selection.

Color Palette Border Sets the display for the Color palette with no border between colors in the Color Table, with black border between colors or with white border between colors. To display the Color Table in the Color palette you must expand the Color palette. For more information on expanding the color palette, see ➤"Color Palette," earlier in this chapter.

No border

Black border

White border

Display Quality

Display Quality Determines the view Expression defaults to when a new document is created. You can choose from Path, Wireframe or Preview views. For additional information regarding display quality, see ➤"Changing Your View," earlier in this chapter.

Greek limit (pts) Sets the minimum size for a font to be displayed on screen. Fonts smaller than this size display as gray lines rather than actual text.

Stroke Warehouse

Animated stroke thumbnails Toggles on/off the animation of stroke thumbnails in the Stroke Warehouse list. When this option is enabled, the Stroke Warehouse palette displays the currently selected stroke as an animation demonstrating how the stroke may appear when applied to a path. This is particularly useful for Multi-view strokes. For more information regarding Multi-view strokes, see ➤"Creating Multi-view Strokes" in Chapter 5, "Applying Strokes and Fills."

Raster/Scratch Tab

This tab provides you the option for selecting a scratch disk and plug-in directory.

Preferences dialog, Raster/Scratch tab.

Scratch Disk

Use Select a disk that has plenty of free space. The scratch disk is used only when rasterizing. It should only be necessary when you do not have enough RAM to keep the entire rasterized image in memory.

Plug-Ins

Set Directory The only plug-ins Expression uses are file format input/output filters. By default, Expression looks for these plug-ins in its own plug-ins directory. The only time it is necessary to change this directory is if you have other PhotoShop-compatible file format filters in another directory and want to use those instead of the filters supplied with Expression.

Opening and Saving Documents

Expression can open and use most vector-based artwork. It can also save in most popular formats, both vector, such as Adobe Illustrator or CorelDRAW! and bitmap such as Adobe Photoshop, TIFF (TIF) and BMP.

Vector or Bitmap

Computer graphics are either vector or bitmap. A vector graphic is defined by placing nodes (or vector points), then using a mathematical formula to describe the line that connects the points. Vector artwork is also referred to as *outline*.

The advantage of vector art is that it is *resolution* independent and can easily be resized at any time, still printing out beautifully on a Postscript printer. Drawing packages such as Adobe Illustrator, Macromedia FreeHand and CorelDRAW! are examples of vector-based graphics programs.

Vector images at different resolutions.

Bitmap images at different resolutions.

Bitmap artwork is defined pixel by pixel or dot by dot. Bitmaps have no outline, therefore, resizing such an image may result in stairstepped edges.

Bitmaps have a real advantage when creating a textured look or for photographic quality images. Bitmaps can show subtle color changes and blends such as shadows. Graphics created by scanning, or by paint programs such as Fractal Design Painter and Adobe Photoshop, are examples of bitmap artwork.

You can export artwork from Expression in either vector or bitmap format. If you want to place or edit your image in another application, while still retaining resolution independence, you should choose a vector format. If you want to refine it or generate color separations in a painting or image editing application, you should choose a bitmap format.

If your image contains transparent objects, you will need to save it in bitmap format (rasterized), since other vector-based applications and printers do not support transparency.

Always save a copy of your work in the Expression format (*.xpr). This will save your art in a vector format.

Setting Bitmap Resolution

When you save a file as a bitmap you can select the size and resolution of the file. Multi-view strokes saved as movies also have the same options.

Resolution, in general, refers to the number of dots per inch (*dpi*) that make up an image. When you select a resolution, there are three kinds of resolution to consider:

- The monitor's resolution, measured in *pixels*. Expression is preset to 72 pixels per inch. The resolution of your monitor may be different.
- The document's resolution. You can assign the resolution when an image is scanned or an image is rasterized (saved as a bitmap) in Expression.
- The output device's resolution, measured in dpi. Output device resolutions vary depending on the printer.

The default resolution setting is screen resolution or 72 dpi. The image on-screen at 100% is the size it will be when it's output. On most printers, 72 dpi bitmap renders a coarse image, so you may want to choose a higher resolution value.

If you are using a personal laser printer, set your bitmap Width and Height in inches, centimeters, points or picas. Set resolution to the dpi your printer supports. Your file

will be output correctly at the best resolution for your laser printer and at the proper size.

If you are using a commercial printer or a more sophisticated output device, the dimensions should always be set to the actual size it will appear in the printed piece. It's a good idea to check with your service bureau if you have questions about output device resolution.

Opening Existing Documents

Artwork created in other software applications can be brought into Expression for continued editing. You might use imported artwork as the basis for a path, a Skeletal Stroke or a Pattern. You can use Expression to work with images already existing in the following formats:

Vector

- Adobe Illustrator 5.5 and earlier (*.ai)
- CorelDRAW! 3, 4, 5 and 6 (*.cdr)
- Computer Graphics Metafile (Windows) (*.cgm)
- Vector PICT (Mac)
- WMF (Windows)
- Fractal Design Expression (*.xpr)

To open or import an existing image:

1. Choose **File menu▸ Open**. The standard Open dialog appears.

The Open dialog.

2. Select the format or file type so you can limit the available files or select **All Files**.
3. Select the file you want to open then click **Open**. Expression opens a new document with the selected artwork.

Opening Clipboard Images

You can also use the Clipboard to bring artwork from another application into Expression. Expression supports the following formats through the Clipboard:

- Vector PICT (Macintosh)
- WMF (Windows)
- Fractal Design Expression
- Text

To open or import an existing image through the Clipboard:

1. Copy the artwork from its current file by selecting it and using the **Edit menu▸ Copy** or **Command/Ctrl+C**. This places a copy of the image into the Clipboard.

2. Paste the Clipboard image into the Expression document by using the **Edit menu▸ Paste** function or **Command/Ctrl+V**.

Saving Documents

You can save your Expression artwork in several different ways:

- Expression format for use in Expression in a future session.
- Vector artwork for placement into a vector-based application such as Adobe Illustrator or CorelDRAW!.
- Bitmap artwork for placement into a bitmap application such as Fractal Design Painter or Adobe Photoshop.
- Movie format (Multi-view strokes only) for viewing an animation.

It is a good idea to always save your document in the Expression format (*.xpr). If you only save your art in a bitmap format, it will be harder for you to make changes to individual paths.

Saving as Vector

Your Expression artwork can be saved in the following vector-based formats:

- Fractal Design Expression
- Adobe Illustrator (*.ai)
- Computer Graphics Metafile (Windows) (*.cgm)
- CorelDRAW! Exchange (*.cmx)
- Vector-based PICT (Macintosh)
- WMF (Windows)
- EPS (This type of file stores only printer information. Expression EPS files cannot be edited.)

To save as vector:

1. Choose **File menu▸ Save**.

2. If this is the first time you are saving the document you are prompted to select a file format, name and location.

If the file has been saved previously, choosing **File menu▸ Save** replaces the last saved version with the current version.

To save and rename a document or to save and select a different format:

1. Choose **File menu▸ Save As**.

2. Select the file format you prefer.

3. Assign a name to your file and select a directory in which to save it.

4. Click **Save**.

Saving as Bitmap

Expression allows you to save your artwork in the following bitmap formats:

- Adobe Photoshop 2.5
- TIFF/TIF
- Targa (Windows)
- PCX (Windows)
- PhotoPaint (Windows)
- Bitmap PICT (Macintosh)
- BMP
- JPEG (without LZW compression)

Anti-Aliasing

Anti-aliasing is a process used to make color images appear smoother when the image includes curved and diagonal areas with high contrast. Without anti-aliasing the curves and diagonal lines may appear to be stairstepped.

With and without anti-aliasing

With the Anti-Alias option enabled, Expression modifies areas with stairstepping, changing some pixels to intermediate colors. For example, if your image is a red and yellow beachball on a blue background, individual pixels along the edge of the ball are changed to shades of orange and green, fooling the human eye into "seeing" a smoother curve.

Unless you are working on a project which specifically requires that images not be anti-aliased, such as multimedia cast members, there is no reason to disable the Anti-aliasing option. Anti-aliasing does not significantly increase the time required to rasterize an image.

To save as bitmap:

1. Choose **File menu▸ Save Bitmap**.
2. Select or deselect **Keep Proportions**.
3. Set **Width** and **Height** in inches, centimeters or points.
4. Set the **Resolution** of the bitmap. For more information on setting resolution, see ➤"Setting Bitmap Resolution," earlier in this chapter.
5. Select or deselect **Anti-Alias** as needed. For information on anti-aliasing, see the introduction to this section.
6. Click **OK**.
7. Select a directory in which to save the bitmap file. Set the file format and name the bitmap file.
8. Click **Save**. Converting vector artwork into raster artwork will take some time. Expression displays a progression bar to let you know how much of the conversion has been completed.

   High-resolution bitmap images require large amounts of disk space. If you have trouble saving a large bitmap, make sure you have sufficient free space on your hard disk.

Saving Multi-view Strokes As Movies

A Multi-view stroke can be rasterized, then saved as an animation or as a series of bitmapped still images. The animation can then be used in another application as a movie. For more information on Multi-view strokes, see ➤Chapter 5, "Applying Strokes and Fills."

Multi-view Strokes

When rasterizing Multi-view strokes the goal is to produce a sequence of bitmaps to make up an animation. To achieve this, more parameters are required. Based on the number of frames per second (fps) and the duration of the movie, Expression can rasterize the appropriate number of bitmaps.

You must be in the Stroke Definition window and have open a Skeletal Stroke with two or more views.

Movie files can take up several megabytes of hard drive space, since they are essentially sequences of many images (potentially hundreds). The following factors contribute to the size of a movie: frame size (height x width), frame rate (frames per second), duration (in seconds), and compression settings.

Not only do large movies take up a lot of space on your hard disk; they also tend to play very sluggishly on all but the fastest computers. You should experiment with the variables listed above to determine which settings produce movies that play smoothly on your computer and take up reasonable amounts of storage space. Below are some general guidelines which may help you. For more detailed information, consult the documentation that came with your multimedia authoring or video production software or hardware.

For video to be exported to tape and played back on television: 640 x 480 pixels, 30 fps, save as sequenced images, QuickTime, or AVI with no compression (most video production software and hardware solutions provide their own compression).

For multimedia productions to be played on a typical desktop computer: 320x240 pixels, 15 fps, save as QuickTime or AVI with moderate compression.

For web animation: Lower resolution, a small, fixed number of frames, save as sequenced JPEG images with compression. If you require GIF images, you will need to convert to GIF in another application.

To save an animation:

1. Open a Multi-view stroke by double-clicking it in the **Stroke Warehouse** palette. The Stroke Definition window appears.
2. Choose **File menu▸ Save Stroke as Movie**.
3. Select or deselect **Keep Proportions**.
4. Set **Width** and **Height** in inches, centimeters or points.
5. Set the **Resolution** of the bitmap. For information on setting resolution, see the guidelines in the introduction to this section.
6. Select or deselect **Anti-Alias**. For information on anti-aliasing, see ➤"Anti-Aliasing" earlier in this chapter.
7. Set the **Movie Length** and **Frames per Second**.
8. Click **OK**.
9. Select file destination and name the file.
10. Click the **Options** button to set compression settings, if desired.
11. Click **Save**. The status area indicates progress as the movie is rasterized.

A movie player is required to view your movie. Macintosh documents are saved as QuickTime movies. Windows documents are saved as AVI movies.

Undoing Operations

Multiple Undo allows you to undo and redo actions within Expression. This gives you the freedom to experiment freely without fear of making mistakes.

The number of undos is set in the Preferences found under **File menu▸ Preferences▸ Options**. The default setting is ten levels. For more information on setting your preferences, see ➤"Options Tab" earlier in this chapter.

To Undo an action:

1. Choose **Edit menu▸ Undo** or **Command/Ctrl+Z**.

To Redo an action:

1. Choose **Edit menu▸ Redo** or **Command/Ctrl+Y**.

It is a good habit to save your file frequently so you can choose **File menu▸ Revert to Saved** if you don't like the changes.

Reverting to the Last Saved Version

Occasionally you will find it useful to revert to the last saved version of your file. This is especially useful if you have experimented with changes but decide you don't want to keep the changes after all. You can also use the Undo/Redo function but there are some functions which can not be undone. If you save your file just before such an action you can revert to the last version saved if you decide you don't like the changes.

To revert to last saved version:

1. Choose **File menu▸ Revert to Saved**. Expression asks you to confirm that you want to revert to the last saved file.

2. Click **Revert** and Expression replaces the document with the last version saved on disk.

Closing Documents and Quitting

You can quit and close Expression documents the way you do in other programs.

To end a work session:

1. Close a document by choosing **File menu▸ Close** or **Command/Ctrl+W** or clicking the close box in the upper left corner of the document (Macintosh) or the upper right corner of the document (Windows).

   If you have any unsaved changes, a dialog asks if you want to save changes. Click **Yes** to save your changes or **No** to discard them.

2. Exit Expression by choosing **File menu▸ Quit** (Macintosh) or **File menu▸ Exit** (Windows) or **Command/Ctrl+Q**.