DENEBA CANVAS 7™

User's Guide

Mac™ OS and Windows®

Evaluation Version

DENEBA

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CHAPTER 1

INTRODUCTION

Welcome to Canvas 7, a completely integrated environment for illustration, page layout, imaging, presentations, and web publishing.

Canvas lets you work with vector objects, images, type, and imported graphics without having to switch to other applications. Whether you are a beginner or an experienced designer, the tools and features in Canvas can make you more productive.

Canvas provides a complete solution for home, small business, school, and corporate users:

- An array of tools for illustration, layout, editing, proofing, and final output, so you can take projects from start to finish in Canvas.
- A flexible interface, including a Toolbar you can configure with commands, tools, and styles; a Docking bar to store palettes; and customizable keyboard shortcuts.
- A cross-platform solution that lets you share Canvas documents across Mac OS and Windows platforms, and supports all standard file formats.

About the documentation

Please take a few minutes to read the following information about the Canvas documentation.

✔Tip
Throughout this book you'll find tips for working efficiently and exploring creative possibilities. Items labeled "Important" provide information to help you avoid problems.

This book, the *Canvas User's Guide*, describes the commands, tools, and features of Canvas for Mac OS and Windows operating systems.

Certain terms and abbreviations are used in this manual to describe procedures. In most cases, Canvas works exactly the same under Mac OS and Windows. The documentation points out functional differences when necessary.

Mac OS refers to the Mac OS operating system. When a procedure applies to Mac OS only, the instructions say "(Mac)".

Windows refers to 32-bit Windows, including Windows 98 and Windows NT. When a procedure applies to Windows only, the instructions say "(Windows)".

Keyboard keys

This manual uses standard names and abbreviations for keyboard keys; your keyboard might use different labels.

Key name	Description
Alt	The Alternate key, usually labeled “Alt” on Windows keyboards
Command	The key labeled “Command” or marked with a propeller symbol on Mac keyboards
Ctrl	The key labeled “Control” or “Ctrl” on Mac and Windows keyboards
Option	The key labeled “Option” on Mac keyboards
Shift	The key used to type uppercase characters
Enter	The key labeled “Enter” on Mac keyboards. This key has a different function than the “Return” key
Return	On Mac keyboards, the key labeled “Return.” On Windows keyboards, the key labeled “Return” or “Enter.”

Choosing commands

When a procedure tells you to choose a command, the instruction is written:

Choose Edit > Paste

This tells you to open the Edit menu and choose the Paste command. You can use a keyboard shortcut if the command has one.

Some menu items open a submenu of related commands. When the documentation tells you to choose a submenu command, the instruction is written:

Choose Object > Arrange > Bring To Front

This tells you to open the Object menu, choose Arrange to open the submenu, and then choose the Bring To Front command.

Choosing commands in the context menu

You can choose commands from a menu that pops up wherever the pointer is in Canvas. The commands in the menu are based on what you are doing, so this is called the *context* menu.

To choose a command from the context menu, do the following:

Mac: Press the Ctrl key and press the mouse button at the same time.

Windows: Press the secondary (right) mouse button.

Using modifier keys

For some actions, you need to press a keyboard key while you click or drag the mouse. For example, to select several objects, press the Shift key while you click each object. This can be written as *Shift-click*. If you press the Command key, for example, while you drag the mouse, the action can be written as *Command-drag*.

When referring to Canvas for Windows, some instructions say to "right-click" an object. This means to click the object using the secondary button, usually the right button, on the mouse.

Using on-line Help

✔ Tip
For the latest information on Canvas, be sure to view any "Read Me" files included with the program.

Canvas includes a comprehensive on-line Help system that lets you refer to the documentation while you work.

To view Help in Canvas (Mac) Press the Help key on an extended keyboard, or choose Help > Contents.

When you press the Help key and a dialog box is open, the Help system displays help for the dialog box. Otherwise, the Contents topic appears. You can also search for topics in the Help window.

To view Help in Canvas (Windows) Press the F1 key to display Help, or choose Help > Contents.

When you press F1 and a dialog box is open, the Help system displays help for the dialog box. Otherwise, the Contents topic appears. You can also search for topics in the Help window.

Viewing Deneba's web site

The Deneba Home Page command in the Help menu will display the Deneba Software home page in your web browser.

If you have a web browser open, Canvas switches to the browser and loads the Deneba home page. Otherwise, Canvas looks for an installed browser, launches it, and loads the Deneba home page.

It's a good idea to visit the Deneba web site often. You can find tips to help you get the most out of Canvas, plus program updates, technical notes, profiles of users, and contact information. The library area lets you download free plug-ins, palette files, and other extras.

CHAPTER 2

USING SPRITEEFFECTS

Canvas 7 introduces a new technology for applying effects to objects. Called *SpriteEffects*, this technology lets you apply image filters and adjustments to vector objects, images, text, and grouped objects.

Before SpriteEffects, commands such as Blur, Hue/Saturation, Invert, Emboss, Twirl, and many others could be applied to paint objects (images) only. SpriteEffects technology offers new power and flexibility for creative art, technical illustration, and graphics production.

About SpriteEffects

In Canvas, you could always modify objects with image-editing techniques — if you converted the objects to images. However, you lost the ability to edit vector paths and text. Also, applying filters and adjustments would change an image permanently.

SpriteEffects technology overcomes these problems. You can apply effects temporarily, adjust effects settings, change the order of effects, and hide or remove effects individually.

For example, you can apply a blur filter, emboss, and contrast adjustment to an object. You can later change the blur settings, turn off the emboss effect, and re-order the effects. You don't have to use Undo or save intermediate versions to preserve an original illustration.

The biggest benefit of SpriteEffects is that objects remain editable. After you apply effects, you can edit object paths, insert and delete text, and change inks and strokes. In edit mode, you see the object without effects. When you finish editing, Canvas reapplies the effects.

When SpriteEffects are printed or exported to file formats outside of Canvas, the effects are rendered as images. This is like taking a snapshot of the objects and printing the resulting image.In your Canvas documents, the objects keep their original editing features.

Direct effects and lens effects

There are two ways to use SpriteEffects: apply effects commands directly to objects, or apply effects commands to lens objects.

Direct effects

You can apply image filters and adjustment commands directly to vector, text, paint, and group objects. You could apply the Blur command to a text object, then use the Hue/Saturation command to highlight the text edges with color for example.

When you apply effects directly, an entire object, including its fill ink, pen ink, and stroke, is affected.

Lens effects

Another way to use SpriteEffects is to create a *lens* object from a vector or text object. Then, you apply effects to the lens. The effects will appear on objects that are viewed through the lens.

Lenses can magnify objects and view objects in other locations. If you move the *viewpoint* of a lens, whatever is behind the viewpoint will appear in the lens. If you move the lens, the viewpoint can remain fixed or move with the lens.

Applying effects

Commands and options for SpriteEffects include the following:

- Commands in the Object > SpriteEffects submenu, which let you apply and edit effects.
- The SpriteEffects palette, which lets you apply, edit, and remove SpriteEffects, and select lens options.

Because many types of filters and adjustments can be applied through SpriteEffects, general procedures are given here. You can locate specific information for effects commands by looking up the commands in the index.

Using plug-in filters

You can use third-party plug-ins with SpriteEffects. Plug-ins must be Adobe Photoshop 4.0. compatible and also support Photoshop Actions to be used with SpriteEffects.

Plug-ins can be installed by copying them to the Plug-ins folder in the Canvas Tools folder. For information on settings and options for a plug-in, refer to the documentation from the manufacturer.

Note: Effects commands in the Image > Filter and Image > Adjust submenus are available for traditional image editing. These commands are not available when other types of objects are selected.

To apply an effect

Use this basic procedure to apply one effect using a filter or adjustment command.

1 Select an object. You can select any type of object, including a lens.

2 Choose Object > SpriteEffects > Add Effect. A submenu of filters and adjustment commands appears.

3 In the Add Effect submenu, choose the command to apply.

4 If the selected command has no options, Canvas applies the command to the object, which remains selected. If there are options for the command, a dialog box appears. Do the following:

- Choose the settings and options you want to use.
- If there is a Preview option, select it to see the effect of the current settings.
- Click OK to apply the current settings.

Applying multiple effects

You can repeat the procedure above to apply more than one effect to an object. However, it might be easier to use the SpriteEffects palette. The palette lets you apply and edit effects, and set other options. See "Using the SpriteEffects palette" on page 2.5.

Transferring SpriteEffects

The Detach and Attach commands will transfer filters and adjustments between objects and lenses.

Detach removes effects from a selected object and applies the effects to a new lens that is the same size as the object's bounding box.

Attach applies effects from a lens directly to an object. Attaching is a way to apply multiple effects to an object at once.

You can also use the Load Effects, Save Effects, and Append Effects commands in the SpriteEffects palette to transfer sets of effects.

To detach effects

1 Select an object (not a lens) that has effects applied to it.

2 Choose Object > SpriteEffects > Detach.

3 Canvas removes the object's effects and applies them to a new lens, which appears offset from the original object and is selected.

To attach effects

1 Select a lens that has effects you want to apply, and a non-lens object to receive the effects. The objects do not have to be the same size or overlap; either can be in front in the stacking order.

2 Choose Object > SpriteEffects > Attach. Canvas applies the effects to the selected object. The lens object is not changed.

Pasting effects

You can use the Paste Attributes command to transfer effects from one object to another.

1 Copy an object that has effects to the Clipboard.

2 Select an object to transfer the effects to.

3 Choose Edit > Paste Attributes. In the Paste Attributes dialog box, select the SpriteEffects option and click OK. Canvas will apply the effects (except lens settings) to the selected object.

Saving and loading effects

You can save effects that have been applied to an object as a set. After saving an effects set, you can apply the set to other objects.

To save effects

1 Open the SpriteEffects palette by choosing Window > Palettes > SpriteEffects, or Object > SpriteEffects > Show Palette.

2 Select an object or lens that has effects you want to save.

3 Choose Save Effects from the SpriteEffects palette's menu.

4 A directory dialog box appears. Enter a name and select a location to save the effects set. Click Save to save the set in a file.

To apply saved effects

1 Open the SpriteEffects palette by choosing Window > Palettes > SpriteEffects, or Object > SpriteEffects > Show Palette.

2 Select the object you want to apply the effects set to. You can select an object with no effects, one that has effects, or a lens.

3 Do either:

Replace effects: To replace the selected object's effects with the effects set, choose Load Effects in the palette's menu.

Merge effects: To add the effects set to the effects on the selected object, choose Append Effects in the palette's menu.

4 A directory dialog box appears. Select an effects set file and click Open. Canvas applies the effects to the selected object.

Editing SpriteEffects

To modify SpriteEffects objects, you can do the following:

- Add and remove effects
- Change settings for the effects
- Change the order of effects
- Adjust the size of the effects area
- Show or hide effects
- Change lens magnification and viewpoint

To edit SpriteEffects (not objects), you use the SpriteEffects palette.

Note: To edit an underlying object (not its effects), double-clicking the object, or selecting it and choosing Object > Edit > Object, will place the object in the appropriate edit mode. This is true whether or not the object has SpriteEffects. Techniques for editing objects are described in the chapters on drawing, text, and painting.

Using the SpriteEffects palette

The SpriteEffects palette is the control center for SpriteEffects. All SpriteEffects features are available in the palette, except Attach and Detach, which are in the Object > SpriteEffects submenu.

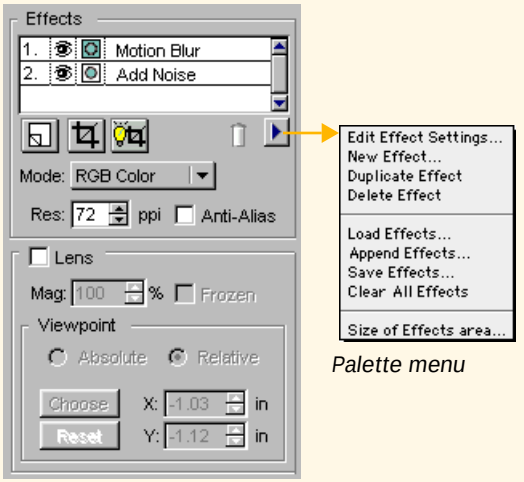
To display the SpriteEffects palette

Choose Object > SpriteEffects > Show Palette to open the SpriteEffects palette. Or, choose Window > Palettes > SpriteEffects to open the palette.

The SpriteEffects palette is a floating palette. You can keep it open while you work, and dock it on the Docking bar. If an object is selected, its SpriteEffects settings are shown in the palette. When no object is selected, the controls in the palette are not available.

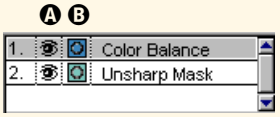
SpriteEffects palette

The SpriteEffects palette is the control center for applying effects, creating lenses, and editing effects on objects.



Palette menu

Using the effects list



Effects list

A Show effect
B Mask

When you select an object that has effects, you can use the list at the top of the SpriteEffects palette to arrange the order of effects. You can also show or hide effects, and change the mask setting.

Effects that are applied to the selected object are listed in order of application, with the first effect at the top. If no effects appear in the list, the selected object has none, or more than one object (or no object) is selected.

You can select an effect by clicking in the list. The selected effect is highlighted. Double-clicking an effect is the same as selecting it and choosing Edit Effect Settings in the palette's menu.

Arranging effects

To change the order in which effects are applied, drag an effect up or down and drop it in the list.

Showing and hiding effects

Click the eye symbol to erase it from the effect you want to hide. Hiding an effect temporarily removes the effect from the object.

To restore a hidden effect, click to make the eye symbol appear for the effect. Canvas then re-applies the effect to the selected object.

Selection masks

In the Effects list, a symbol to the left of each effect name shows the state the *selection mask* for the effect. You can click the symbol to toggle the mask on ( ) and off ( ).

An active selection mask defines a selection for an effect. The selection will include objects, not empty space. The mask can preserve transparent areas, such as empty space in a group object, and space between text characters.

- When the selection mask is on, the effect is based on the selection area.
- When the selection mask is off, the effect is based on the entire bounding box area.

For example, if you apply the Add Noise command to a circle, the selection includes only the circle, so the noise affects only the circle if the mask is on. If the mask is off, the noise appears in the entire bounding box area.

Noise applied to vector graphic

Mask on

Mask off

For a built-in effect, Canvas uses the best selection mask setting. For third-party effects, you might need to change the mask setting for the best results.

Blur effects usually require the selection mask to be off, so the blur can extend beyond the outline of an object. Other effects look best when they are based on a selection. For example, a flame effect will cover an entire bounding box if the selection mask is off. If the mask is on, flames will rise from just the objects or text characters in the selection. This does not mean that flames can’t rise above the selection, just that the effect will be based on the selection, not the entire bounding box.

When you edit the settings for an effect, Canvas displays a border on the selection, the same as the selection border that appears in images.

Modifying an object's effects

You can use the SpriteEffects palette to modify a selected object's effects. You can add, remove, and duplicate effects, and change the settings for the effects applied to the object.

Adding effects

1 Select an object to apply effects to. You can select an object that has no effects, one that has effects, or a lens.

2 In the SpriteEffects palette, click the New button ( ) or choose New Effect in the palette's menu.

3 A dialog box appears. Select an effect command from the pop-up menu and click OK.

4 If there are no options for the command, Canvas applies the effect. If there are options for the command, a dialog box appears. Configure the options and click OK to apply the effect.

Each effect that you apply appears in the Effects list at the top of the SpriteEffects palette.

Changing effects settings

To change the settings for an effect, double-click the effect name in the Effects list in the SpriteEffects palette. Or, select the effect name and choose Edit Effect Settings in the palette's menu. Then, use the dialog box to adjust the settings for the effect and click OK to apply the current settings.

Some filter and adjustment commands (including include Blur, Desaturate, Invert, and Sharpen) do not have editable settings, so choosing Edit Effect Settings or double-clicking the effect does nothing.

Duplicating or removing effects

You can use the SpriteEffects palette to duplicate or remove effects that have been applied to a selected object.

Removing an effect deletes it from the Effects list. If you just want to temporarily hide an effect, click the eye symbol in the Effects list.

1 Select the object whose effects you want to edit.

2 In the SpriteEffects palette, do any of the following:

Duplicate Effect: Select an effect in the list and choose Duplicate Effect in the palette's menu.

Delete Effect: To remove an effect, select the effect in the list. Click the trash can or choose Delete Effect in the palette's menu.

Clear All Effects: To remove all effects from the selected object, choose Clear All Effects in the palette's menu.

SpriteEffects options

In the SpriteEffects palette, you can set the color mode, resolution, and anti-aliasing for the effects applied to a selected object. These options control how SpriteEffects are rendered for printing and export, as well as the display of SpriteEffects in Canvas.

When you change a setting, the change is applied immediately to the selected object.

Mode

From the Mode menu, select the color mode to use for rendering SpriteEffects.

The SpriteEffects Mode is used for rendering all the effects applied to an object. If you choose Grayscale, for example, the object and effects applied to it will appear in gray shades on screen and when the object is printed or exported.

Select a mode that is appropriate for the medium you use. **RGB** is best for web graphics, screen display, and output to a film recorder. **CMYK** is appropriate for process-color printing and color separations for commercial printing. **Grayscale** is appropriate for black-and-white publishing.

None is available in the mode menu only when the selected object is a lens that has no effects commands applied to it. The lens can have a magnification value and a remote viewpoint, however.

If you select None, the lens object is not rendered for printing or export. This can be more efficient and produce better output when a lens displays vector objects or high-resolution images. This option is useful if you use lenses without effects to show close-ups or call-outs of diagrams.

Resolution

Enter the resolution in pixels per inch for rendering SpriteEffects. The higher the resolution, the smoother effects will appear. However, higher resolution requires more memory and slows down printing.

For web graphics and screen display, 72 ppi is the recommended resolution. For office printing, 100 to 200 ppi is usually sufficient. For commercial printing, a range of 150 to 300 ppi is recommended for halftone images, depending on the paper and press requirements.

Anti-Alias

Select this option if you want to smooth the edges of objects in the rendering of SpriteEffects.

Sizing the effects area

When you apply effects to an object, Canvas defines a rectangular *effects area*. Usually, the effects area is slightly larger than the bounding box of the object the effects are applied to.

There is one effects area for all effects applied to an object. Canvas tries to keep the effects area as small as possible, without cropping out any visible objects.

You can adjust the effects area using the SpriteEffects palette. The palette lets you set the effects area manually or automatically.

You might need to enlarge the effects area to see effects that extend beyond an object's edge. For example, Motion Blur and plug-in effects like bevel, glow, and fire usually need to extend beyond an object's outline. Also, if text characters extend outside the text object border, an effect applied to the text could be cut off.

If you make the effects area smaller than an object's bounding box, the object and the effects will be cropped by the effects area border.

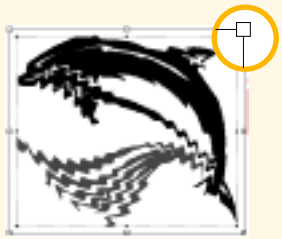
To size the effects area automatically

1 Select the object whose effects area you want to adjust.

2 In the SpriteEffects palette, click the smart-crop icon ( ).

3 If the resolution of the effect is greater than 72 ppi, a Canvas message asks you to confirm that you want to proceed. Click OK.

4 Canvas estimates the correct size of the effects area and makes it as small as possible.



Effects area box

To size the effects area manually

Some effects need to extend far outside an object's bounding box. In these cases, the auto-size option might not extend the effects area far enough. If this happens, you can enlarge the effects area yourself.

1 Select the object whose effects area you want to adjust.

2 In the SpriteEffects palette, click the crop icon ( ).

3 A box appears on the selected object. The box indicates the effects area and has hollow handles (the object's bounding box has solid handles).

4 Drag a handle to enlarge or reduce the effects area. When the box is the size you want, click inside it.

To size the effects area precisely

You can enter values to precisely size the effects area.

1 Select the object whose effects area you want to adjust.

2 In the SpriteEffects palette, choose "Size of Effects Area" from the palette's menu.

3 A dialog box appears. Do either:

- Set the size of the effects area by entering the distance from the rulers' zero point to the left, top, right, and bottom sides of the effects area rectangle.
- Click a button to enlarge ( ) or reduce ( ) the size of the effects area. When you click a button, the distance values in the text boxes show the new effects area size.

4 Click OK to apply the setting to the effects area.

Lens effects

You can apply effects to a lens the same as you apply effects to other objects (see “Applying effects” on page 2.2). You also can set a magnification value and viewpoint location for a lens. These options are available in the SpriteEffects palette.

You can use the magnification and viewpoint options after you create a lens with the Object > SpriteEffects > Convert to Lens command, or by selecting the Lens option in the SpriteEffects palette.

Basic lens

With the magnification set to 300% and its viewpoint set about 2 inches to the right, a lens made from a circle shows a detail view of an illustration.

To create a lens

You can create a lens from any object (except a lens). If you want to preserve an object, make a copy and convert the copy to a lens.

1 Select one object.You can select any type of object (except a lens).

2 Choose Object > SpriteEffects > Convert to Lens.

3 The object becomes a lens and remains selected.

Fill inks are removed when vector or text objects are converted to lenses. The stroke on a lens is not affected by the effects applied to the lens.

The default lens effect is normal (100%) magnification. To add additional effects, see “To apply an effect” on page 2.3; you can repeat the procedure to apply additional effects.

✔ Tip

If you are a Photoshop user, you can use lenses as you would adjustment layers in Photoshop. Lenses are actually more powerful because they are not limited to a few adjustment commands.

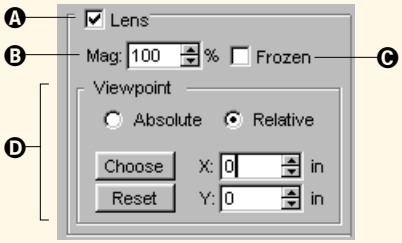
Other ways to create lenses

You can convert a selected object to a lens by selecting the Lens option in the SpriteEffects palette.

You can create copies of lenses the same ways that you copy other objects. For example, you can use the Duplicate command or the Copy and Paste commands to create a copy of a selected lens.

Lens options

- **A** Select to create a lens
- **B** Magnification percentage
- **C** Freeze lens view
- **D** Viewpoint settings



Magnification in lenses

You can set the magnification level of a lens so objects will appear magnified (or reduced) in the lens. You can set the magnification level with or without other effects applied to a lens.

Magnification affects the view through the lens to the lens viewpoint. If the default viewpoint (at the center of the lens) is used, the lens displays a magnified view of objects behind the lens. If the viewpoint has been moved, the lens shows a magnified view of objects behind the viewpoint. See “Setting a lens viewpoint” on page 2.14.

To set magnification

1 Select a lens object. (To create a lens, see page 2.12.)

2 In the SpriteEffects palette, enter the magnification value in the “Mag” text box. You can set magnification from 4 to 3,200 percent.

When you change the magnification value, the lens view changes, unless the Frozen option is selected in the SpriteEffects palette. When Frozen is selected, the lens view does not change until you deselect the Frozen option.

Setting a lens viewpoint

The *viewpoint* of a lens is a point in the document that appears in the lens. The default viewpoint is at the center of the lens, so the lens displays whatever is directly behind it.

You can move the viewpoint of a lens to make any location appear in the lens. This is useful for displaying close-ups of illustrations.

The center of a lens is focused on the lens viewpoint. If you move the viewpoint, the new location appears centered in the lens object.

The viewpoint of a lens can be set anywhere on the same page, slide, sheet, or frame as the lens object. Lenses can display objects on all visible layers on the same page, sheet, slide, or frame. Lenses will not display objects on other pages, sheets, slides, or frames.

To set a viewpoint visually

Use this procedure when you want to click in the document to set the viewpoint for a lens.

1 Select the lens object.

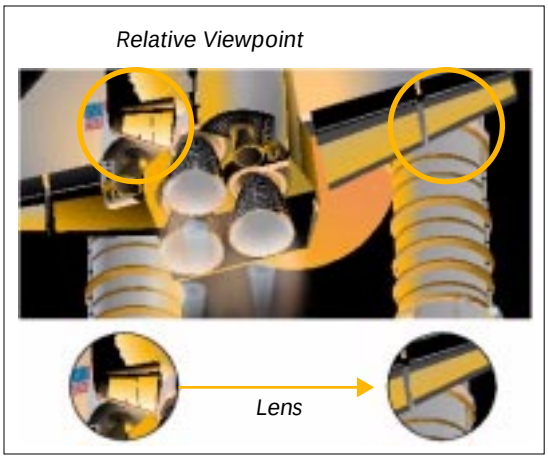
2 In the SpriteEffects palette, select Relative or Absolute; these options are described next.

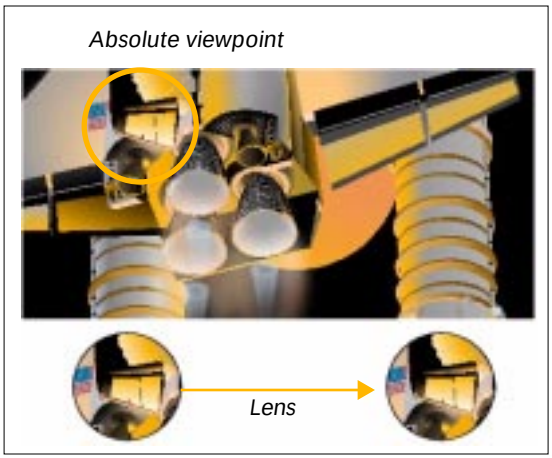
3 Click Choose.

4 Move the pointer in the document and click to set the viewpoint. The point you click appears centered in the lens.

Absolute and relative viewpoints

To set the relationship of the viewpoint to a lens object, select Absolute or Relative in the SpriteEffects palette.





Absolute An absolute viewpoint is set at a specific location in a document and does not move. The lens shows the same absolute point no matter where the lens is placed on the page.

Relative A relative viewpoint is set at a specific distance from the center of the lens. If you move the lens, the viewpoint moves the same distance and direction. Unless the Frozen option is selected, the view in the lens changes to show the new viewpoint. When Frozen is selected, the view in the lens does not change; if you deselect the Frozen option, the view then changes to the current viewpoint.

To set a viewpoint precisely

Use this procedure to enter values to position a viewpoint.

1. Select a lens object.
2. Use one of the following options:

   Absolute position: Select Absolute and enter horizontal (X) and vertical (Y) distances from the rulers' zero point to the viewpoint. For example, enter 0 in the X and Y boxes to set the viewpoint at the zero point. The viewpoint will not move if you move the lens.

   Relative position: Select Relative and enter horizontal (X) and vertical (Y) distances from the center of the lens to the viewpoint. Positive values move the viewpoint down and right of the lens center. Negative values move the viewpoint up and left of the lens center. To set the viewpoint 1 ruler unit left of the lens

center, for example, enter -1 (X) and 0 (Y). The viewpoint will move if you move the lens.

To reset a viewpoint

Select a lens and click the Reset button in the SpriteEffects palette to reset the viewpoint to the center of the lens object. This resets the location values to 0, 0 if Relative is selected. If Absolute is selected, the location is measured from the rulers' zero point to the lens center.

Lenses and stacking order

The view through a lens depends on the stacking order of the lens, as well as the position of the viewpoint.

Only objects that are *behind* a lens in the stacking order can be seen through the lens. A lens and its viewpoint are at the same level in the stacking order.

Because of stacking order, objects that you create *after* you create a lens can not appear in the lens. Also, objects that you move to the front of the stack after you create a lens can not appear in the lens.

You can select a lens, and then choose Object > Arrange > Bring to Front to move the lens and viewpoint to the front of the stack. With the lens in front, any object at the viewpoint can appear in the lens.

You can use stacking order to change a lens view. You can send a lens to the back of the stack so nothing appears in it. You can bring it to the front so all the objects at the viewpoint appear in the lens.

You can use a lens to display layered views. For example, you can draw a map and create a lens to show a close-up of an area. If you add text after you create the lens, the text is higher in the stacking order. The text will not appear in the lens close-up of the map.

Freezing a lens

You can select the Frozen option in the SpriteEffects palette to "freeze" the current view in a lens. This is like taking a snapshot or rendering the image in the lens; the view won't change unless you deselect the Frozen option. For example, if you change the fill color of an object, the lens will not show the change. If you deselect the Frozen option, Canvas updates the lens view.

✔ **Tip**
Freezing lenses can avoid slow performance when you edit objects shown in lenses. When you finish editing, select the lenses and deselect the Frozen option to update the lens views.

Selecting Frozen overrides a lens relative viewpoint; the lens will show the same view after being moved. If you deselect Frozen, the lens will display the new viewpoint location.

To use the Frozen option

1 Select a lens.

2 In the SpriteEffects palette, click the Frozen option to select it. The lens is frozen when a check mark appears in the Frozen box.

3 To update the view in a lens to show the current viewpoint, click the Frozen option to clear the check mark.

Sharing SpriteEffects

Because SpriteEffects are “live” effects that can be edited and updated, there are a few issues to consider if you plan to share documents that contain SpriteEffects.

Effects that are applied to an object need to be available to other Canvas users if they share the document and need to edit the effects. If you use only built-in Canvas effects, this is not a problem. If you use third-party plug-ins to apply effects, other users must have the same plug-ins installed. Without the plug-ins, they can not edit effects applied in a Canvas document.

This issue is similar to the issue of font availability in shared documents. If a document contains text, the same fonts must be installed by all users who share the document.

If you export a document using an image file format, the effects will be rendered into an image (as described below), and the effects plug-ins will no longer be needed. Rendering is necessary because other file formats do not support SpriteEffects on objects.

Platform considerations

When it comes to using effects plug-ins, you should not have a problem when sharing documents on the same platform (Mac OS or Windows), as long as everyone who views the document has the same plug-ins installed.

If you share documents across platforms, however, compatibility among third-party plug-ins — even ones with the same names — is not guaranteed.

Printing effects

When you print from Canvas, preserving effects should not be a problem, as long as effects plug-ins are available in Canvas when the document is printed. Whether you print directly to an output device or to a PostScript file, Canvas renders effects before printing. This is true unless, in the Print dialog box, you set Transparency Rendering to “Don’t Render Transparent Objects.” When this setting is selected, the only SpriteEffects that will be printed are lens objects that have no effects except magnification and viewpoints.

Rendering effects

You can preserve the appearance of effects by rendering objects before sharing a Canvas document. Rendering converts SpriteEffects and objects into static images. Effects and objects are not editable after conversion to images.

You can use several methods to render SpriteEffects:

- Use the Camera tool to take a snapshot of an illustration. This renders the area you select.
- Select objects that have effects, including lenses, and choose Image > Area > Render.
- Save a document in an image file format, such as BMP, GIF, JPEG, PCX, or TIFF. Canvas will render the document as an image before saving the file.

I

DOCUMENTS & SETUP

CHAPTER 3

RUNNING CANVAS

This chapter explains how to start and end a Canvas work session. It also provides an overview of the Canvas interface and describes the following basic procedures:

- Selecting tools from the Canvas toolbox
- Using and arranging palettes
- Using information displayed in the Status bar
- Undoing, redoing, and repeating actions

Starting and exiting Canvas

To start Canvas, do one of the following:

- Double-click the Canvas program icon.
- Double-click a Canvas document to start Canvas and open the document.
- Double-click a Canvas template file to start Canvas and create a new document based on the template.
- Choose the Canvas shortcut in the Start menu (Windows).

When you start Canvas, it displays a start-up screen and a status indicator as it loads. Then Canvas opens a blank document, or the document you used to start the program.

◆ **To view start-up screen information:** When Canvas is running, Choose About Canvas in the Apple menu (Mac) or the Help menu (Windows). Do this when you want to check your serial number, version number, and other program information.

To stop running Canvas

Choose File > Quit (Mac) or File > Exit (Windows). If you try to quit without saving a document that has changed, Canvas asks if you want to save it first.

Checking optional software at start up

Canvas displays a message if it encounters a problem, such as missing system software components, as it starts. If a message appears, click OK to continue loading Canvas.

Canvas depends on some system software components for importing and exporting certain types of files, managing colors, and working with some graphics formats. The Canvas installer places some software called “extensions” (Mac) or “Dynamic Link Libraries” (Windows) on your system if needed. If Canvas can’t find the required component later, it’s possible the file was moved or disabled.

If you encounter a problem when starting Canvas, refer to the “Read Me” file and to the on-line Help system; these include the most up-to-date information on required software.

Overview of the Canvas interface

Canvas appears nearly identical on screen whether you use the Mac OS or Windows operating systems. Some operations differ slightly across platforms, but these operations are very familiar to most users.

For example, on Mac OS systems, you press an icon in the toolbox to open a toolbar or palette and drag to the tool you want to select. On Windows systems, you click or press an icon to open a toolbar or pop-out palette, and then click again on the icon for the tool you want to select.

Canvas has four types of documents: Illustration, Publication, Animation, and Presentation. These documents share some common elements, while some specialized controls apply to particular documents types.

The Canvas window

Major parts of the Canvas interface are shown here.

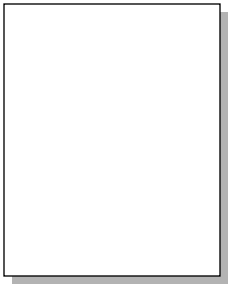
Some of these items might not be displayed in your Canvas configuration. For example, you can hide the Toolbar and the Docking bar. You can dock the toolbox and other palettes.

And you can add your own shortcuts to the Toolbar.

Each Canvas document appears in its own floating window. Each document window has a Zoom bar and scroll bars. All documents share the toolbox and Status bar.

- **A** Menu bar
- **B** Toolbar
- **C** Docking bar
- **D** Toolbox
- **E** Layout area
- **F** Zoom bar
- **G** Status bar

Layout area



Layout area

The rectangle centered in the Canvas document window is the Layout area. This rectangle is the main working area for creating illustrations, page layouts, presentations, and animations.

The white space around the Layout area is additional working space where you can place objects before using them in an illustration. Objects in this outside area are saved with the document, but objects that are completely outside the Layout area are not printed.

The Layout area represents different things in the different Canvas document types.

Illustrations The Layout area is one page, called a “sheet,” with layers.

Publications The Layout area is one single-sided page or two facing pages with layers.

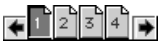
Presentations The Layout area is one “slide” with layers.

Animations The Layout area is one frame of an animation. If you select “onion-skinning” (click the onion in the Document Layout palette), you can see objects on adjacent frames.

You can change the color of the Layout area to represent the color of tinted paper. You can set the Layout area color by choosing Layout > Document Setup.

Document navigation controls

Buttons that represent pages, slides, sheets, or frames appear below the document. You can click buttons to move through a document.



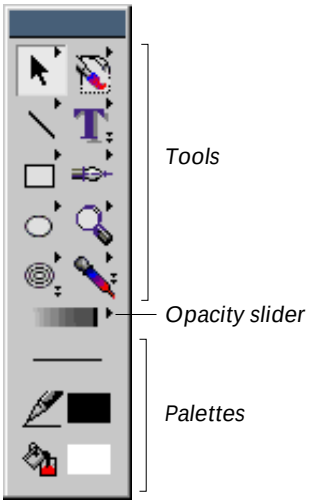
Sheet buttons

Slide / Frame buttons

Page buttons

You can also use the navigation buttons to select layers. When you press a page button, for example, a pop-up palette lists the layers on that page. You can select a layer in the pop-up palette. If you drag away from the button, the Document Layout palette appears.

Using the toolbox



The toolbox contains tools for drawing, painting, creating objects, editing, and viewing. The toolbox is a floating palette. You can place it anywhere on screen by dragging its title bar, and you can dock it on the Docking bar.

◆ **To display the toolbox:** If the toolbox is hidden or closed, Choose Window > Palettes > Show Toolbox to display it.

Selecting tools

In the Canvas toolbox, tools are represented by icons. The toolbox displays 10 tools arranged in two columns at the top of the toolbox. The tools that aren't displayed are available on toolbars, which are like drawers that slide out from the toolbox.

A toolbar opens from each icon displayed in the toolbox. The displayed icons are called the home icons for the toolbars. Home icons have small arrows at their upper-right corners. The last tool selected on each toolbar appears as a home icon.

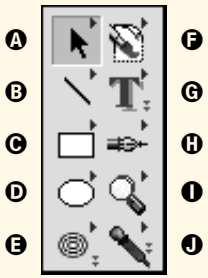
◆ **To select a tool displayed in the toolbox:** Click the tool. The selected tool is shaded, like a recessed button.

◆ **To select a tool from a toolbar:** Press the home icon to open the toolbar. On Mac, drag to the tool you want to select; on Windows, click the tool icon.

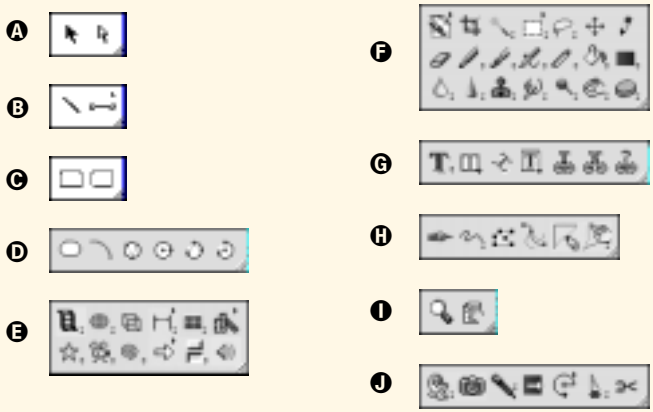
Tool palettes

This diagram identifies the tool palettes in the toolbox. Press the home icon of a palette to open the palette.

- Ⓐ Selection tools
- Ⓑ Line tools
- Ⓒ Rectangle tools
- Ⓓ Oval and arc tools
- Ⓔ Object tools
- Ⓕ Paint tools
- Ⓖ Text tools
- Ⓗ Path tools
- Ⓘ View tools
- Ⓙ Effects tools



The toolbox



Using the Toolbar

The Toolbar contains buttons you can click to choose commands, tools, inks, strokes, and styles. The Toolbar appears above the document, under the menu bar.

- **To display the Toolbar:** Choose Window > Palettes > Show Toolbar. To hide the Toolbar, choose Window > Palettes > Hide Toolbar.
- **To select an item on the Toolbar:** Click its button.

A standard set of commands appears on the Toolbar when you first run Canvas. You can use the Customize command to change the buttons on the Toolbar. You can add buttons to the Toolbar for commands, tools, and custom colors and styles. See “Customizing the keyboard and Toolbar” on page 9.15.

You can identify Toolbar items by displaying tool tips. Point to an icon and a tool tip appears with the name of the command or tool. If tool tips don't appear, choose File > Preferences, and select "Command Information Tool Tips" on the General tab.

Using palettes

Canvas organizes tools, special effects, object attributes, and other functions in palettes. Palettes can remain open on screen, and they can be docked on the Docking bar.

Instead of an OK button, a palette has an Apply button. Click Apply to implement the current settings. A palette stays open until you click its close box or use a command to close it.

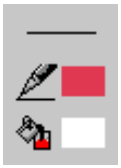
Using the Palettes submenu

All Canvas palettes are listed in the Window > Palettes submenu. To display a palette, choose the name of the palette in the submenu. If a palette is behind other palettes, it comes to the front. If a palette is docked, the palette comes off the Docking bar and opens.

Some palettes are also associated with commands in other menus. For example, the Object > Object Specs command opens the Object Specs palette. The Image > Show Channels/Hide Channels commands open and close the Channels palette.

A pair of commands in the Palettes submenu control the Canvas toolbox. Choose Window > Palettes > Show Toolbox to open the toolbox. Choose Window > Palettes > Hide Toolbox to remove the toolbox from the screen.

Palette icons in the toolbox



Strokes palette

Pen Ink palette

Fill Ink palette

Three icons at the bottom of the toolbox provide access to the Inks, Strokes, and Brushes palettes. You can use these icons to select preset colors and other attributes. During image editing, the Brushes palette icon replaces the Strokes palette icon.

You can "pop" open these palettes from the toolbox, and then drag them away to keep them open. Do this when you want to use a configuration manager to create custom attributes.

Procedures for selecting inks and strokes are covered in the chapters "Inks: colors and patterns" on page 12.1, and "Strokes: outline effects" on page 13.1. Information on selecting and using brushes is in the chapter "Painting and image-editing" on page 24.1.

Organizing palettes on screen

To move a palette, drag its title bar. To roll up a palette so only its title bar is visible, double-click the title bar (Mac) or click the box at the right end of the title bar (Windows).

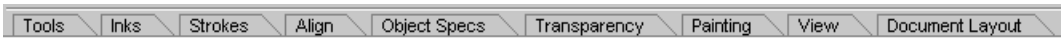
◆ **To arrange palettes:** Choose Window > Palettes > Clean Up Palettes. Canvas moves all open palettes except the toolbox and floating toolbars to the upper-right corner of the document. On Windows systems, Canvas also rolls the palettes up to their title bars. With Mac OS 8, Canvas can roll up palettes if the option labeled "System-wide Platinum appearance" is selected in the Appearance control panel. Otherwise, Canvas moves the palettes to the upper-right corner of the screen, but doesn't roll them up.

◆ **To close all palettes:** Choose Window > Palettes > Put Away Palettes. Canvas closes all open palettes, including the toolbox and floating toolbars.

Using the Docking bar

You can use the Docking bar to customize the Canvas interface. The Docking bar can be displayed near the top of the screen under the Menu bar. If the Toolbar is displayed, the Docking bar appears below it.

◆ **To display the Docking bar:** Choose Window > Docking Bar > Show Docking Bar. When you display the Docking bar, the palettes that were docked the last time it was displayed will remain docked. To hide the Docking bar, choose Window > Docking Bar > Hide Docking Bar.



Docking palettes

Drag a palette to the docking bar to dock it

You can "dock" Canvas palettes on the Docking bar. When you dock a palette, a tab with the palette's name appears on the Docking bar. The tabs of docked palettes give you quick access to features that you use often. Docked palettes also leave more space available on screen.

You can dock most Canvas palettes, including tool palettes that you drag away from the toolbox, such as the Painting, Rectangles, and Text palettes. You can dock other palettes from the toolbox, including the Inks, Strokes, Transparency, and Brushes palettes. You can also dock command palettes such as Align, Blend, Envelope, Object

Specs, and Type. Dialog boxes that require you to click OK or Cancel before continuing can't be docked.

You can dock as many palettes as you want on the Docking bar, depending on the size of your screen. If you dock all available palettes, their tabs will probably overlap.

◆ **To dock a palette:** Drag its title bar onto the Docking bar and drop the palette when a tab outline appears. To dock a palette of tools from the toolbox, first drag the palette away from the toolbox and drop it onto the desktop so its title bar appears, and then drag the palette onto the Docking bar to dock it.

◆ **To change the position of a docked palette:** Drag the palette's tab to another position on the Docking bar.

◆ **To remove a docked palette:** Drag its tab away from the Docking bar.

◆ **To dock all open palettes:** Choose Window > Docking Bar > Dock All Palettes

◆ **To arrange docked palettes:** Choose Window > Docking Bar > Clean Up to arrange the tabs of docked palettes evenly on the Docking bar.

◆ **To arrange tabs by name:** Choose Window > Docking Bar > Clean Up By Name to arrange the tabs of docked palettes in alphabetical order.

✔ **Tip**
Click an empty area of the Docking bar to display a menu of common commands: Clean Up, Clean Up By Name, Dock All Palettes, and Tab Size.

To adjust the size of tabs on the docking bar

1 Choose Window > Docking Bar > Set Tab Length. A dialog box appears.

- To display the full name of docked palettes, select Auto.
- To set a specific tab size, select "No. of Characters" and enter the number of characters to display. A smaller number results in smaller tabs.

2 Click OK.

Using docked palettes

To make a selection from a docked palette, click the palette's tab on the Docking bar. The palette pops open and you can click a tool or other item in the palette to select it. When you click in the document or the toolbox, the palette closes again. To close the palette without selecting anything, click anywhere outside the palette.

Palettes that are docked when you quit Canvas will be docked the next time you launch Canvas. The settings for the Docking Bar are stored in the Canvas 7 Settings file in Mac OS and the Canvas7.set file in Windows.

You can use docked palettes as if they are floating, with one exception: You cannot drag objects into docked palettes.

Using the Status bar

The Status bar is at the bottom of the screen (Mac) or the bottom of the Canvas window (Windows). The Status bar provides information about commands, tools, objects, and program operations.

You can select the number of information fields to display in the Status bar, and the function of each field.

- **To set the number of information fields:** Point to the Status bar, open the context menu, and choose from the Number of Fields submenu.
- **To add fields:** Point to the Status bar, open the context menu, and choose a function in the Add to Right or Add to Left submenu.
- **To remove a field:** Point to the field, open the context menu, and choose Remove.

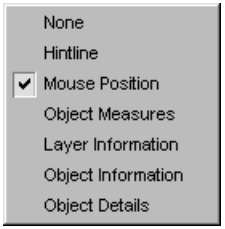
New fields that you add to the Status bar are blank until you assign a function to each field. If you reduce the number of fields, Canvas removes fields from the right end of the status bar.

To adjust the width of a field, drag its border right or left.

During certain actions, such as saving a document, Canvas displays a progress bar in the Status bar.

You can hide the Status bar (Mac OS only) by choosing Window > Palettes > Hide Status Bar. You can display the Status Bar by choosing Window > Palettes > Show Status Bar.

Assigning functions to fields



To assign a function to a field in the Status bar, point to the field, open the context menu, and choose a function in the Show submenu.

Hintline The Hintline area displays tool names, tips, and status messages. When you move the pointer over a tool icon or other item, the Message area shows the tool's name and function. You can use this feature to take a tour of the Canvas tools and interface.

Mouse position When you move the pointer, draw, resize, or rotate objects, Canvas displays the coordinates of the pointer.

Object Measures Displays the XY coordinates of the object's upper-left corner, and the object's width and height.

To change the unit of measurement for this data, use the Rulers command in the Layout menu.

If you set a drawing scale in the Rulers dialog box, position and measurement data conform to the drawing scale. For example, if you set a drawing scale of 1 centimeter = 1 meter, and you draw an object 5 centimeters square on screen, the Status bar displays the scaled dimension.

When a single object is selected, you can press the pointer on the Object Measures field to open a pop-up menu showing the height, width, area, and perimeter of the selected object. To paste a measurement from the data pop-up menu, choose an item in the menu. Canvas pastes the measurement you select as text next to the object.

Object Details Displays various details about selected objects, such as the position of points on the bounding box of a rectangle (as measured from the rulers' zero point) and the number of points in a path object. For other objects, the field displays data such as the diameter of ovals and the angle of arcs.

Object Information Displays information about selections. When one object is selected, the field displays the type of object selected. When multiple objects are selected, the field shows the number of objects selected. When you select an object group, the field displays "Group of *n* objects," with *n* as the number of objects.

Layer Information Displays the current page number and layer number. Symbols indicate layer options, including non-printing, locked, and color override. When an object is selected, the field displays the object's number in the sequence of objects on the layer.

Undoing, redoing, and repeating actions

You can easily correct mistakes, restore your work to an earlier state, and repeat commands using the Undo, Redo, and Again commands.

◆ **To cancel an action:** Choose Edit > Undo. Or, press Command+Z (Mac) or Ctrl+Z (Windows).

The minimum and maximum number of times you can undo changes can be changed on the General tab in the Preferences dialog box. See "General preferences" on page 9.1.

Not all actions can be canceled with the Undo command. Actions that cannot be canceled include scrolling; closing or reverting to an earlier version of a document; selecting and deselecting objects; deleting settings in palettes; and saving documents.

◆ **To restore actions you canceled using Undo:** Choose Redo in the Edit menu. You can choose Redo multiple times to reinstate canceled actions in reverse order.

◆ **To repeat a command or other action:** Choose Again in the Edit menu. When an action can be repeated, the Again command includes the name of the action. For example, after you rotate an object, the Again command appears as "Rotate Again."

Not all actions can be repeated. The Again command isn't available if the previous action can't be repeated.

Using expressions for numeric values

You can type basic mathematical expressions to specify numeric values in Canvas dialog boxes and palettes. You can use addition, subtraction, division, and multiplication operators in simple expressions.

For example, you can type a fractional value, such as 2/3, in place of a decimal value.

To type an expression

To enter operators in expressions, type a plus sign (+) for addition; a minus sign (-) for subtraction; a slash (/) for division; and an asterisk (*) for multiplication.

You can type parentheses to nest values and operators in expressions. You do not type an equal sign in an expression.

Canvas calculates the result of a mathematical expression when you press Tab or Enter, or click an Apply button, or move to another value in a dialog box.

To modify a value

To use an existing value in an expression, click after the number to place an insertion point. Then, type the remainder of the expression. For example, to make the width of an object 3 times larger, click after the existing value and type * 3, and then press Enter. To make the value one-third as large, type / 3.

By entering expressions after existing values in the Transform palette, you can move objects incrementally. For example, to move an object 3/4 inch to the right, type + 3/4 after the X value.

Specifying measurement units

In most dialog boxes, you can type abbreviations to specify measurement units. You can use this feature to override a document's measurement units or the specific measurement units used in these dialog boxes.

For example, when inches is a document's unit of measurement, you can type *1 cm* to specify 1 centimeter. Canvas converts 1 cm and displays it as .3937 inches.

The following are the abbreviations you can type to specify a unit of measurement.

Abbreviation	Unit of measure
in	inches
ft f	feet
y	yards
mi	miles
p	picas
pt	points
mm	millimeters
m	meters
km	kilometers
cm c	centimeters

To use an abbreviation for a measurement unit

In a text box that accepts numerical values, type a value followed by the abbreviation for the measurement unit. Canvas converts the numerical value to the measurement units you are using in the document when you press Tab or Enter, or click an Apply button, or click in another edit box.

You can even type a mathematical expression using more than one measurement unit. For example, you can type 1p+1cm.

Using context-sensitive menus

Canvas has *context* menus that you can pop up in the drawing area, giving you quick access to common commands. The menus are context-sensitive; the available commands depend on the current operation.

You can choose common editing commands, such as Cut, Copy and Paste, when an object is selected. Other commands are available when an object is in edit mode. For example, image-editing commands appear in the context menu when you edit a paint object. Path-editing commands appear when a vector object is in edit mode.

When no objects are selected, you can choose view commands such as Zoom In, Zoom Out, Show Rulers, and Show Guides. If the Clipboard contains objects or text, you can choose Paste. You can choose Undo after performing an action that can be undone.

Context menu for a paint object selection

To use context menus

To apply a command to an object, select the object first. To use other commands, you do not need to select an object before displaying the context menu.

Windows: Click the right mouse button. A context menu appears. Click a command in the menu to choose it.

Mac OS: Press Control and the mouse button. A context menu appears. Highlight a command in the menu and release the mouse button to choose the command.

When you are editing an object, you can point to a specific item to display commands for editing that item. For example, if you point to an anchor point on a path, you can choose commands to modify the anchor point in the context menu.

For information on specific commands that appear in the context menu, refer to the command name in the Index.

Using the Display Options command

The Display Options command lets you configure most of the options for screen display in a single dialog box. You can change display options, and set the default display options for new documents.

All of the options in the Display Options dialog box are described elsewhere. For information on an option, locate the item in the Index.

To use Display Options

1 Choose Layout > Display Options.

2 A dialog box appears. To activate a display option, select its checkbox so a check mark appears. To turn off an option, clear the checkbox.

3 To make the current setup the default for new documents, select “Make default for new documents.”

4 Click OK.

CHAPTER 4

DOCUMENT BASICS

Canvas documents are the containers for your work. You can create and save vector drawings, text, raster images and effects in Illustration, Publication, Presentation and Animation documents.

This chapter describes the basics of working with Canvas documents, including how to open, save, view, and print them.

Opening Canvas documents

You use the Open command to open Canvas documents stored on disk. The general procedure is the same for opening Canvas documents and any other type of file that Canvas supports. See on-line Help for complete information on options for other file formats.

To open a file

1 Choose File > Open. Canvas displays a standard dialog box for you to select a file to open.

2 Select a file format to display one type of file in the current folder.

3 Select the file to open and click Open. Canvas displays a preview if the selected document contains a preview.

◆ **To open a document you worked with recently:** Choose the document name from the list of recently opened documents in the File menu.

◆ **To start Canvas and open a document simultaneously:** Double-click a Canvas document icon in a folder or directory on your system. The program starts and the document opens.

1 C:\Documents\Floor1.CNV
2 C:\March\Orgchart.CNV
3 D:\Bob\Plotplan.CNV
4 C:\Canvas\Map.CNV

Documents opened recently are listed in the file menu.

Options for opening Canvas files

When you choose Open, a directory dialog box lets you select a file in the scroll list and see a preview. On Mac, previews require QuickTime.

You can select “Show All Files” to list all the files in a folder. This is different than Selecting “All” in the File Format pop-up menu, which lists all files that Canvas can open.

If you highlight a QuickTime movie or Sound file in the list, the preview area lets you play a movie or sound preview. In addition, the button below the preview area lets you manage preview images.

- When the button says Create, click it to make a preview for a file that doesn't have one.
- When the button says Update, the file and its preview are not consistent. Click Update to make the preview match the file.

If you need additional help working with files, folders, and directories, refer to your Mac OS or Windows documentation.

You can open more than one document at a time in Canvas. When you open a document, Canvas loads the document into your system's memory. You need to have enough memory available to hold the document's contents. Documents that contain many complex objects or large high-resolution images require more memory than simple documents.

When you work with a document, changes you make to the document are not saved until you use the Save or Save As commands.

Substituting fonts when opening documents

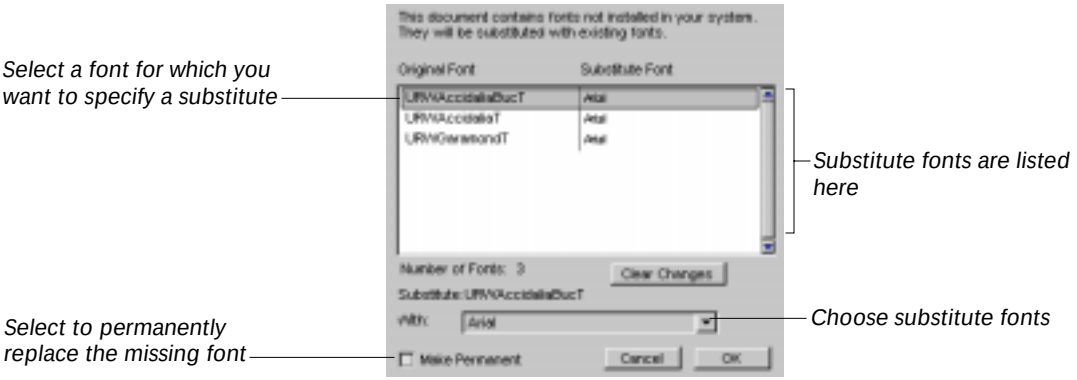
If a document you open uses fonts that aren't available on your system, Canvas displays a dialog box before opening the document. You can use the dialog box to review which fonts are required by the document and to select substitute fonts, or you can let Canvas select substitutes.

1 Select a font listed under Original Font, or Shift-click to select multiple fonts. This column lists fonts that are specified in the document but are not available.

2 Choose a substitute font in the "With" pop-up menu. The name of the font appears in the list under Substitute Font. Canvas displays the font name in its corresponding typeface so you can preview the font substitution.

3 Select the checkbox to permanently replace the missing fonts with the fonts you choose in this dialog box.

4 After you select substitutes for the missing fonts, click OK to open the document. To cancel the changes, click Clear Changes to let Canvas choose a substitute and open the document.



Opening documents that require specific tools

When you open a Canvas document that depends on one or more external tools to display and print correctly, Canvas alerts you if the necessary external tools aren't available. To load the required tools, quit Canvas, restart Canvas, and press the Spacebar to open the Tool Picker dialog box. Select the tools you want, or click All Tools.

Placing documents

You can use the Place command to incorporate a document stored on disk into an open Canvas document. You can insert a Canvas document or a non-Canvas document with this command. For example, you can place a document containing your company logo within a document in which you are preparing a sales brochure.

The Place command lets you visually set the location and dimensions of the incorporated document.

When placing Canvas documents, you can control which layers, pages, or slides to place, and whether to place them on the current layer, page, or slide, or on new ones, depending on the document type (Illustration, Publication, or Presentation).

The Place command is available when a Canvas document is open.

To place a file in an open Canvas document

1 Choose File > Place. A directory dialog box appears.

2 In the directory dialog box, select the file that you want to place, and then click Place. If the file has more than one page or layer, the Place Options dialog box appears. Configure the options

in the dialog box, and then click OK. See “Options for placing files,” next.

Place pointer 

3 If you selected “Show Place Cursor” in the dialog box, the Place cursor appears. Position the Place cursor in the open document where you want the top-left corner of the placed file to be. If you did not select “Show Place Cursor,” Canvas inserts the file after you click OK.

4 Click to place the file at its original size; Canvas inserts the upper-left corner of the file at the point you click. To define the dimensions of the file you’re placing, drag to create a bounding box. Canvas inserts the file and scales it to fit the bounding box.

Options for placing files

When you place a file, the Place Options dialog box lets you specify how the placed file should be added to the current document.

When you place one Canvas document type (Illustration, Publication, Animation, or Presentation) into another document type, Canvas converts the placed pages, sheets, or slides to the format of the current document.

Document pages (and sheets or slides) can be added to the current document, along with their layers.

In the Place Options dialog box, you can select the following options, and then click OK to place the document.

Place on Current Layer Places the file’s objects on the current layer of the current page. No pages or layers are created in the current document.

Show Place Cursor Select this option if you want to set the position or size of placed items on the current page. After you click OK in the Place Options dialog box, a place pointer appears. Click to set the position of the upper-left corner of the placed items, or drag to enclose an area in which you want the placed items to fit.

Add Layers to Current Page Places the document’s layers as new layers on the current page in the current document.

Add New Pages Places the document’s pages and layers as new pages and layers in the current document.

Select Click to choose specific pages or layers to place. A dialog box lists the available items. Shift-click two items to select a range. Command-click (Mac) or Ctrl-click (Windows) to select multiple items and toggle selected items. Click OK to close the dialog box.

Using Canvas clip art

The Canvas clip art collection is stored in Canvas documents on CD-ROM. For details, see “Using Canvas clip art” on page 11.1.

Because it is a locked storage medium, you can’t save documents on a CD-ROM. If you open a document from the CD-ROM and want to save an edited version, you can store it elsewhere using the Save As command. You can also copy files from a CD-ROM to a hard disk so you can work with them without having the CD-ROM loaded.

Saving Canvas documents

The Save and Save As commands store a document on disk.

- The Save command updates a document file on disk and overwrites the previously saved version.
- The Save As command lets you create a new file on disk from an open document, save documents as templates, and use other graphics and text file formats.

When you use these commands, the default format for storing documents is the native Canvas format.

✔ Important
To avoid losing your work in the event of a power failure or system failure, use the Save command frequently as you work to store changes on disk.

To save a new Canvas document

1. Choose File > Save As. A directory dialog box opens.
2. Select a location to store the document and type a file name.
3. Click Save to store the document on disk.

◆ **To save changes to a document as you work:** Choose Save in the File menu to update the document file on disk.

◆ **To save a document with a different name or in a new location:** Choose Save As in the File menu, type a new name or select a new location in the directory dialog box, and then click Save.

Saving selections and layers

You can use the Save As command and options in the Save directory dialog box to save selections or layers, and create previews.

Save Entire Document. The default setting tells Canvas to save a complete document.

Save Selection. Choose this option after you select the objects in the document that you want to save as a new document. If you don’t select anything, this option is not available.

Save Layers. Select this option to save one or more layers in a new document. Then, click Layers to specify which layers to save. This option isn't available if the document has only one layer.

Use Compression. Check this box to reduce the size of files saved on disk.

Preview. Select the "Preview" option to save a low-resolution preview of the document. In applications that support previews, you can see a thumbnail image of the document before opening the file.

Use Preview Icon (Mac only). Canvas creates a finder icon with a preview of the document if you select this option.

Use Extensions (Mac only). Adds a three-character filename extension. Use this if you use Mac files on Windows systems.

Reverting to the saved version of a document

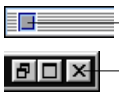
The Revert command lets you discard changes made to a document since it was last saved. This is the same as closing the document without saving changes, and then opening the original from disk.

Be certain that you want to discard all changes to a document before choosing the Revert command, because you cannot use the Undo command to restore your work after using the Revert command.

Keep in mind that you can use the Save As command to save a document with a new name. If you are not certain that you want to discard changes to a document, use Save As to store a new version on disk, then open the original document and compare the two.

◆ **To revert to a document's saved version:** Choose File > Revert. Before performing the command, Canvas asks you to confirm that you want to discard all changes.

Closing documents



When you close a document, Canvas removes the document window from the screen. Closing a document doesn't save it (Canvas will warn you if you try to close a document that has changed).

◆ **To close a Canvas document:** Choose File > Close. You can also click the Close box (Mac), or the Close button (Windows) in the document's title bar to close the document.

Working with document windows

Each document you open appears in its own window. You can work with Canvas document windows the same as other windows. You can resize a window, expand it to fill the screen, and minimize or roll it up. Canvas provides commands to organize and select document windows when more than one is open.

Selecting among open documents

When you open several documents at once, only one is active. The Window menu displays the names of open Canvas documents. The name of the active document has a check mark.

◆ **To change the active window:** Choose the document's name in the list at the bottom of the Window menu. You can also click a document's window to make the document active.

When you open more than one document, information in the Status bar, such as the pointer's location, applies to the active document. The same is true of floating palettes; palette settings apply to the active document and they change when you switch documents.

Arranging windows

When you open more than one document window, you can stack or distribute them on screen so they are easier to work with.

When Canvas arranges document windows, it resizes them if necessary so they fit within the main program window or screen area.

◆ **To arrange windows in rows:** Choose Window > Tile Down.

◆ **To arrange windows in columns:** Choose Window > Tile Across.

◆ **To arrange windows in a grid (Mac only):** Choose Window > Tile.

◆ **To stack all windows:** Choose Window > Stack.

◆ **To arrange icons of minimized windows (Windows only):** Choose Window > Arrange Icons.

Viewing documents

This section describes how you can adjust your view of a document. Viewing options in Canvas let you

- control when Canvas redraws objects
- scroll to any area with the Hand tool or scroll bars
- increase or decrease the view magnification
- restore any view magnification and location
- display wireframe and process-color views

Controlling when Canvas refreshes the display

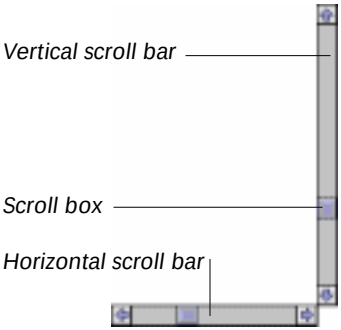
Canvas refreshes the display, which redraws all visible objects, when you scroll or change magnification. When you work with complex images, you can interrupt the redraw to save time, then refresh the display when you're ready.

◆ **To interrupt display redraw:** Press Command+Period (Mac) or Esc (Windows) during normal redraw.

◆ **To refresh the display:** Choose Layout > Display > Refresh. You can refresh the display after interrupting screen redraw, or when you want to refresh the display.

Scrolling documents

You can use scroll bars or the Hand tool to move to areas of a document that aren't displayed in the document window.



Using scroll bars

Document scroll bars represent the full document area. The position of the scroll box within a scroll bar indicates the current view area.

To scroll using scroll bars, do one of the following:

- Click one of the arrows to move in the arrow direction.
- Drag the scroll box toward the part of the document you want to see. For example, drag up to see more of the top.
- Click the scroll bar to scroll one screen length toward the side of the scroll box that you clicked. For example, click to the right of the scroll box to move one screen to the right.

Using the Hand tool

Using the Hand tool to scroll a document is like sliding a piece of paper on a desktop.

✔ **Tip**
To temporarily switch to the Hand tool while using another tool, press the Spacebar and drag with the Hand pointer.

To scroll with the Hand tool

1 Select the Hand tool from the toolbox. The pointer becomes a hand.

2 Drag to make the document follow the pointer. For example, to move a document up so you can see the bottom, drag toward the top of the screen.

Changing the view magnification

You can change your view of a document by changing the view magnification. This is called “zooming,” and you can zoom in to make objects appear larger or zoom out to see a larger area. Zooming changes the view on screen, but doesn’t change the actual size of anything in the document.

You can zoom with the Magnifying Glass tool, the Zoom bar, the Zoom palette, and Zoom commands. You can use magnification levels from 3.12 to 3,200 percent. Normal magnification is 100 percent.

◆ **To use a command to zoom:** Choose Layout > Views > Zoom In or Zoom Out. Zoom In increases magnification to the next higher preset level; Zoom Out decreases magnification to the next lower preset level.

◆ **To enter a zoom percentage:** Choose Layout > Views > Zoom, or press Command (Mac) or Ctrl (Windows) and the slash key (/). Enter a zoom percentage from 3.12 to 3,200 in the dialog box and press Enter or click OK.

Using zoom shortcuts

You can use keyboard shortcuts to access the Magnifying Glass tool and to zoom directly.

Mac To zoom in with the Magnifying Glass tool, press Option+Tab or Option+Spacebar or Command+Spacebar and click or drag a box around an area; to zoom out, press Option+Tab+Shift or Option+Shift+Spacebar or Command+Shift+Spacebar and click or drag a box around an area.

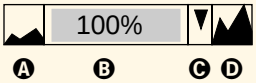
To zoom in directly, press Command+Option+Plus (+). To zoom out directly, press Command+Option+Minus (-).

Windows To zoom in with the Magnifying Glass tool, press Ctrl+Spacebar and click or drag a box around an area; to zoom out, press Ctrl+Shift+Spacebar and click or drag a box around an area.

To zoom in directly, press Ctrl+Alt+Plus (+). To zoom out, press Ctrl+Alt+Minus (-).

Using the Zoom bar and Zoom palette

Zoom bar



A Zoom out
B Magnification level
C Zoom palette button
D Zoom in

You can use the Zoom bar at the bottom left of the document window to adjust the view magnification. The Zoom bar displays the current magnification and lets you change magnification. You can also use the Zoom bar to open the Zoom palette.

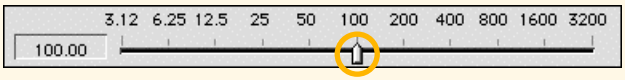
◆ **To zoom to the next preset magnification level:** Click the Zoom-in or Zoom-out button on the Zoom bar. The Zoom-in button increases magnification. The Zoom-out button decreases magnification.

◆ **To enter any magnification percentage:** Type the magnification percentage in the center of the Zoom bar.

Zoom palette

To open the palette, click the arrow on the Zoom bar

Click a magnification value



Drag the slider to any magnification value

✔ Tip
To quickly magnify an object, select the object and click the Zoom-in button.

If you open the Zoom palette, you can click the preset magnification levels or click anywhere on the slider bar. For example, click the slider bar between 50 and 100 to set the magnification level to approximately 75 percent.

Using the magnifying glass

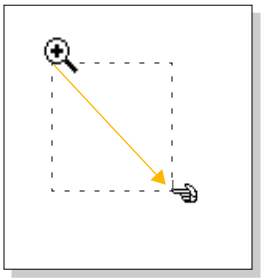
You can use the Magnifying Glass tool to zoom in and out from an area that you select in the document.

1 Select the Magnifying Glass tool in the toolbox. The pointer becomes a magnifying glass with a plus sign.

2 Click the center of the area you want to magnify. Canvas zooms to the next higher preset magnification level and centers the view at the point you clicked.

3 To reduce rather than magnify, Shift-click the area you want to center on screen at reduced magnification.

◆ **To magnify an area to fill the screen:** With the Magnifying Glass tool, drag a box around the area you want to magnify.



Using Views commands

You can use Views commands to quickly change your view of the current document. Choose the following commands in the Layout > Views submenu.

Home view Displays the upper-left corner of the document at normal (100 percent) magnification.

Fit to Window Reduces or increases magnification to the maximum magnification level for the layout area to fill the document window.

Fit to Selection Reduces or increases magnification to the maximum magnification level for the selected objects to be visible in the document window.

Fit to Objects Reduces or increases magnification to the maximum magnification level for all objects on the current page, sheet, slide, or frame to be visible in the document window.

Using custom views

You can create custom views to save the current magnification level and position in the document. After you create a custom view, you can select its name in the Layout > Views submenu under Home View. A check mark appears next to the view name when a custom view is selected. Canvas assigns shortcut keys (which appear in the menu) so you can quickly select the custom views you have created.

To remove a custom view

1 Choose Layout > Views > Delete View. If only one custom view exists, Canvas deletes it.

2 If more than one custom view appears in the Views submenu, the Delete Views dialog box opens. Select a view and click OK. Canvas removes the selected view from the Views submenu.

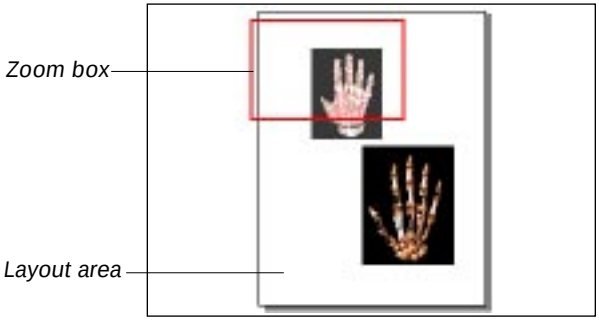
Using the Navigator palette

The Navigator palette provides an overview of a document. You can use this floating palette to scroll the document and zoom in and out.

◆ **To display the Navigator palette:** Choose Window > Palettes > Navigator. You can also click the small triangle button on the Zoom bar to open the Navigator palette.

Zooming and scrolling

The window in the Navigator palette shows a reduced-size view of the entire layout area. A red rectangle, the *view box*, represents the current zoom level and view position in the document. The box is small when you zoom in to view details, and becomes large (relative to the layout area) as you zoom out.



Navigator palette window

Scrolling In the Navigator window, you can move the view box to change your view:

Drag the view box to the part of the layout area you want to see. To see the top of a page, for example, drag the box to the top of the layout area.

Click in the Navigator window to quickly change views. The view box moves and the view is centered where you clicked.

Zooming You can use the zoom buttons and the text box to change the magnification level. These controls are also in the Zoom bar at the bottom of the document window.

Type a zoom percentage in the text box to change the magnification level. Type a higher number to zoom in or a lower number to zoom out. Normal magnification is 100%.

Click the Zoom-in button on the right to double the magnification level. Click the Zoom-out button on the left to reduce magnification by half.

Rotating the layout area

To rotate the layout area, choose one of the four rotation options from the pop-up menu to the left of the Zoom-out button. The rotation options are also available from the pop-up menu at the left end of the Zoom bar.

Note: Rotating the layout area can help you when you create documents, but it does not change a document's orientation; rotating the layout area does not affect the printer setup or document setup.

View options

You can choose view options from the Navigator palette's pop-up menu. This menu contains the same commands as the Layout > Views submenu. You can choose Home View, Zoom In and Zoom Out, custom views that you have saved, and commands that make all objects or the entire layout area visible in the window.

Display modes

The normal Canvas display mode shows all objects with their inks, strokes, and other attributes as they are in the document.

Canvas provides several special-purpose display modes: Gamut Warning, Wireframe and Ink Coverage.

When a special display mode is active, a check mark appears next to the command in the Layout > Display submenu. To turn the display mode on or off, choose the command.

Gamut Warning

This mode highlights colors that are outside the CMYK color gamut. It replaces out-of-gamut colors with a special indicator color. By default, the indicator color is bright green.

◆ **To select Gamut Warning mode:** Choose Layout > Display > Gamut Warning.

To change the Gamut Warning color, choose Edit > Calibration > Gamut Warning.

Wireframe

Wireframe mode shows vector objects in position without their assigned ink or stroke attributes. When Wireframe is selected, vector objects are hollow and have 1-point black pen strokes. Text characters appears solid black. Paint objects appear as usual.

Wireframe mode speeds up the screen display and lets you see through vector objects.

◆ **To select Wireframe mode:** Choose Layout > Display > Wireframe.

Caching objects for faster display

The Cache Object command can be used to speed up the display of complex objects. This is useful when a document contains complex objects that you do not need to edit often. When you cache an object, Canvas stores a low-resolution preview in memory. The preview can be displayed quickly when you move the object or change views. You can cache any type of object for faster display.

To cache an object

1 Select the object to cache.

2 Choose Object > Options > Cache Object.

3 A dialog box appears. Enter a preview resolution value, from 2 to 300 pixels per inch, in the text box. Lower resolutions produce rougher previews.

4 Click OK. Canvas displays a preview of the cached object at the resolution you entered.

To uncache an object

The Uncache Object command replaces the preview of a cached object with the actual object at normal resolution.

1 Select a cached object.

2 Choose Object > Options > Uncache Object. Canvas displays the object at its normal resolution.

Cache display options

Two options in the Display Options dialog box let you control caching and display of cached objects. Caching in Canvas is a technique that can dramatically increase display speed.

When an object is cached, Canvas creates a low-resolution version of the object to display on screen. This can make it much easier to work in documents that contain complex vector objects or high-resolution images, which can significantly slow down zooming and scrolling.

When you are not editing cached objects, it usually won't matter that they are displayed at lower resolution. You'll enjoy significantly faster display without losing any capabilities. When you do want to edit a cached object, Canvas loads the original; you do not need to take any special action or uncache the object.

To set caching options

1 Choose Layout > Display Options.

2 Select or deselect options in the Cache area (described next), and click OK to implement the settings.

Draw with Cache option

Select this option to display low-resolution versions of cached objects for faster display. Cached objects are objects that have been cached with either the Cache Object command or the Auto Cache Images option (described next).

When Draw with Cache is not selected, Canvas retains any low-resolution previews that it has created in memory, but displays the full paths of vector objects and displays paint objects at normal resolution.

Auto Cache Images option

Select Auto Cache Images to automatically cache paint objects whose resolution is above a threshold that you specify.

To set the resolution threshold, enter a value from 72-2540 ppi in the first text box. When the resolution of a paint object is equal to or greater than the specified resolution, Canvas caches the paint object.

Cached paint objects are displayed at low resolution for faster display. Enter the desired display resolution in the second text box.

Note: If Auto Cache Images is selected, but Draw with Cache is not selected, Canvas will cache paint objects (if their resolution is above the threshold you set), but will not display the low-resolution versions.

To uncache all paint objects, deselect Auto Cache Images. A message appears. Click Yes to uncache all paint objects. This is equivalent to using the Uncache Object command on each paint object individually.

Note: If you want to uncache paint objects and Auto Cache Images is already cleared, use the Uncache Object command instead.

Viewing and editing document properties

With the Properties command, you can view the properties of documents. You can view standard data and add your own meta data to a document.

To view or edit properties

1 Choose File > Properties. The Properties dialog box contains the following tabs: General, Statistics, Summary, and Custom.

2 Click a tab to display its options. Use the procedures later in this section to edit the options, where applicable, then click OK to implement the settings.

Note: The document must be saved for some of its properties to be displayed.

Choosing a property

To view or customize a property, select a tab from the Properties dialog box.

General Describes general information about a saved document, such as type, location, size, attributes, when it was created, and when it was last modified.

For Mac only, the Finder Comments box lets you view the comments that appear in the Finder's Get Info comment window for the document.

Statistics Displays when the document was created and when it was last modified. It also shows the last time the document was printed, the name of the person it was last saved by, the number of revisions, and the total editing time.

The Statistics box contains information about the document and the objects contained in it.

Note: The creation time can be different on the General and Statistics tabs. The Statistics tabs displays the date and time the document was created as a new document. The General tab displays the time it was first saved.

Summary Lets you customize information about the document. You can enter a title, subject, author, manager, and company.

In the Category and Keyword boxes, you can type data to categorize the document.

The Comments box lets you type comments about the document.

Custom Lets you add custom data to the document. You can choose names and data types for these entries, as described next.

To enter custom data

1 Choose a name from the list for the data entry, or to create a new data name, type a name in the Name text box.

2 Choose a data type from the Type menu. You can choose Text, Date, Number, or Yes or No. Then, depending on the type, enter a value in the Value box.

- For Text, type any text value.
- For Date, type a date from 1/1/1601 through 12/31/9999.
- For Number, type a numeric value.

- For Yes or No, click Yes or No.

3 Click Add to add the data entry to the Properties box.

To modify a data entry

Click the entry in the Properties box, then change the type or value. You cannot change the name of the entry. Click Modify to apply the change.

To delete a data entry

Click the entry in the Properties box, then click Delete.

Printing documents

Canvas works with all standard desktop printing devices, including PostScript and non-PostScript printers. You can print Canvas documents using black-and-white or color devices.

This section focuses on printing to desktop printers. For complete information on printing options and special printing situations, including color separations, refer to on-line Help in Canvas. For information on installing, setting up and selecting a printer to use, refer to your operating system documentation.

How Canvas prints documents

A few key factors affect how Canvas prints a document. Canvas decides which objects to print based on the following:

- **Document boundary.** Canvas does not print objects that are outside the layout area (the rectangle that represents the document on screen). Objects that are partly inside and partly outside the layout area will be cropped in the printout.
- **Visible layers.** Objects on layers that are not visible are not printed.
- **Printable layers.** If a layer's print option (in the Document Layout palette) is off, nothing on the layer is printed.
- **Printable objects.** If an object is made non-printable (in the Document Layout palette or the Trap tab in Object Specs), the object will not print.

Using Page Setup

To set page options, choose File > Page Setup. The settings affect the document's layout area in Canvas and the way a document is printed.

It's best to set these options when you create a document so you can see page breaks correctly on-screen.

Center On Paper Centers a document on the printed page. If you're printing selected objects only, Canvas shifts the selected items to the center of the printed media. This option can be useful when you have selected objects that you want to print in the center of the page, but they are not centered in the document itself.

Fit To Paper Scales a document to fit within the page's printable area. Keep in mind that objects that are outside the layout area, will not be printed.

Tile Prints a large document by dividing it among "tiles" of printer pages. Type an overlap amount in the text box so part of the document repeats at the edge of adjoining tiles; the overlap makes it easier to assemble the complete document after printing.

Previewing and printing

Choose File > Print Preview to check print settings and the composition of a document before printing.

Print preview reflects the current print settings and the page setup. These settings include the type of output (composite or color separations), the pages to print, tiling, centering, printing blank pages, and printing in color.

In the preview, you can see which objects, layers, and pages will be printed. You can make sure the layout fits in the printable area of the paper. When you use the Tile option, the preview shows the tiles as separate pages.

When you finish previewing a document, click Print to send it to the current printer. Click Done to return to the document without printing.

Click the zoom buttons to increase or decrease the magnification of the preview. Click the arrow buttons to cycle through the pages. If you are previewing separations, click the plate buttons to cycle through the plates that will be printed for each page.

To print a document

1 Choose File > Print. The Print dialog box appears.

2 Enter the number of copies and the pages to print, and then select other options. Click Print (Mac) or OK (Windows).

Desktop printing options

This section describes the primary options you can use for printing documents on desktop printers.

Printing multiple scaled pages

In the Thumbnails pop-up menu, you can select an option to print multiple document pages on each printer page.

Choose 1/Page to print a document at actual size, with one document page on each printer page. If the document is larger than the printer paper, the document will not be scaled; you can select the Tile option to print the document on multiple sheets of paper.

To scale and print multiple document pages on each printer page, choose an option to set the number of document pages to print. The document pages will be scaled as necessary to fit the printer pages. The amount of scaling depends on the size of the document pages and the size of the printer pages.

For example, if you want to print six document pages as thumbnail images on a printer page, choose 6/Page.

Output options

Collate Copies Prints all pages of the document in order based on the number of copies requested, rather than printing all copies of page 1, all copies of page 2, and so on.

Skip Blank Pages Does not output document pages (or separation plates) that are completely blank.

Reverse Order Prints from the last page to the first, keeping pages in the correct order if the printer stacks pages face-up in the output tray.

Print Facing Pages If the document is formatted for spreads, Canvas prints facing pages on a single page. This option is available for printing Publications only.

✔ **Tip**
Some documents can be larger than the paper in your printer. To print the entire document, select the Tile option in the Page Setup dialog box. Canvas will "tile" (divide) the document into a series of pages matching the paper size of your printer.

Color Mode

Choose an option from the Color Mode menu to control color accuracy when using a color printer. In general, when you print to a color printer, it's best to choose a color specification that matches the colors in the document you're printing. For example, choose CMYK if your document contains CMYK colors only.

RGB Outputs colors using RGB color specifications. A non-color printer will convert the color values to print as shades of gray.

Black & White Prints all colors as black or white.

Colors As Grays Canvas converts color values to shades of gray for printing on any printer, including color printers.

CIE L*a*b Uses color calibration to try to match printed colors to their appearance on screen. Keep in mind that many on-screen hues cannot be reproduced on paper with printing inks. For example, colors that look bright and saturated on screen, such as hot pink, cyan, and brilliant orange, will appear muted in printed materials.

CMYK Outputs colors using CMYK color specifications. A non-color printer will convert the color values to print as shades of gray.

Image compression

In the Image Compression menu, choose a format for output of image data to a PostScript device or file. The format you choose affects the amount of data transmitted and the size of a PostScript file. This setting can affect compatibility with networks and PostScript printers.

Note: Rendered transparency effects are also transmitted as image data when printing to PostScript printers.

ASCII Outputs image data as plain text. This is the most compatible format, but it transmits (or saves in files) the largest amount of data.

Binary Outputs images as binary data, which might not be compatible with all printers and networks. Binary data is half the size of ASCII data.

Level 2 ASCII Outputs images in an ASCII format that is compatible with PostScript Level 2 devices. This produces files that are approximately 20% smaller than regular ASCII PostScript files.

RLE Outputs images using Run Length Encoding compression. This format is compatible with PostScript Level 2 devices. This form of compression is most efficient when documents contain images that have large areas of flat color.

JPEG Outputs images using JPEG compression. This format is compatible with PostScript Level 2 devices. JPEG compression requires more system memory and more processing time at the printer than other compression methods. However, this format achieves the fastest printing results with continuous-tone (photographic) images and documents containing transparency effects.

Note: By default, Canvas uses JPEG compression for printing images. This can reduce the amount of data sent to the printer. If a network print spooler reports errors with a JPEG data stream, select Images: ASCII or Level 2 ASCII and try printing again. The Images setting affects printing of images and rendered effects only.

Printing proxies

Print Proxied Images at Full Resolution Prints the high-resolution images that are linked to the proxies in the document. Canvas outputs the images from the linked files on your computer. If you do not select this option, Canvas prints proxy images rather than the high-resolution images. This is faster and could be adequate when you are proofing other parts of a document.

Transparency Rendering

Choose an option in the Transparency Rendering menu to specify how transparency and SpriteEffects will be rendered (converted to pixels for printing).

Smallest Area Renders the area inside the bounding box of all transparent objects. This generates the least amount of additional data to print transparency effects. Do not choose this option if you are printing in color on non-PostScript printers and the document has vector and transparent objects that share the same color, because these printers will not match the colors precisely. In some cases, non-

standard PostScript printers might produce a slight pixel shift between a transparent and non-transparent area of a vector object. If this happens, select Complete Area.

Complete Area Renders the area within the bounding boxes of all transparent objects, as well as objects that are overlapped by transparent objects (or intervening objects). This is the best setting to use when you print to a non-PostScript printer, such as a Windows GDI printer, to avoid color-matching problems

Entire Document Renders all objects in the document as one or more images that are sent to the printer. This is equivalent to processing the document in an internal RIP (raster image processor) in Canvas. This option produces the greatest amount of image data. However, this option can be useful if you experience problems producing accurate output of transparency or other effects when you use a particular printer or printer driver.

Don't Render Transparent Objects Does not render any transparency effects in the document. If you select this option, transparency (SpriteLayer) and image (SpriteEffects) effects will not be printed; transparent objects will be printed as opaque objects.

The one exception to this rule involves vector objects that have a transparency Scope setting of Fill only when printing to a PostScript printer, because PostScript can print transparent fill inks in vector objects without rendering. For information on the Scope setting, see "To set an object's transparency scope" on page 14.5.

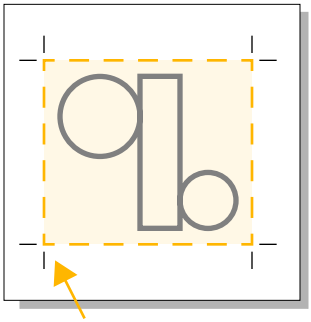
You might want to select Don't Render Transparent Objects if you need to quickly print a proof of a complex document. This allows you to check the positioning of objects without seeing the final transparency effects.

Printing text with effects

Because of the way that Canvas renders SpriteLayer effects, text that is not in front of all other objects can be output as rendered images rather than text. If you want to avoid rendering of text for printing, select **Text Always In Front**. Canvas will print the text objects in front of all other objects.

If you have text that has special effects or is behind transparent objects, you should not select this option, so the text will be rendered and printed as it appears in the document.

Placing crop marks



Crop marks

For print production, you can place crop marks around specific objects in your document. This is useful when you want to control the exact placement of crop marks, or you want to output several illustrations with crop marks around each illustration on one page.

Crop marks are short vertical and horizontal lines that indicate the border where an illustration or page can be trimmed.

When you use the Crop Marks commands, Canvas draws the crop marks as vector lines on the current layer in the document. Each crop mark consists of two lines. You can select the lines and perform operations on them as you would other vector objects.

To place crop marks

1 Select the objects you want to place crop marks around. You can select one or more objects of any type.

2 Choose Object > Options > Crop Marks.

3 The Crop Marks dialog box appears. In the Outset box, enter the distance you want the crop boundary to be from the selection.

- If one object is selected, the selection boundary is the object's bounding box.
- If more than one object is selected, the selection boundary is the smallest rectangle that would enclose all the selected objects.

4 Select the Use Registration Ink option to assign Registration ink color to the crop marks. Registration ink appears black, but it prints on all plates when you output color separations. This option should be selected if you want the crop marks to print on all plates.

5 Click OK to create the crop marks.

CHAPTER 5

DOCUMENT SETUP

When you create a new Canvas document, you select a document type. Then you specify the document size and other options.

This chapter explains how to create new documents and how to set up document rulers, drawing scales, guides, and alignment grids.

Creating new documents

When you want to create a new document, you use the New command and tell Canvas to create an Illustration, Publication, Presentation, or Animation document.

When you start Canvas the first time, a new Illustration document appears. When you start the program after that, Canvas creates the same type of document you selected the last time you used the New command. If you also selected a template, Canvas uses the same template for the document it creates at startup.

If you start Canvas by double-clicking a document icon, Canvas opens the document without creating a new document.

You can create new documents any time, even with other documents open. The number of documents you can have open at the same time is limited only by the amount of memory available on your system.

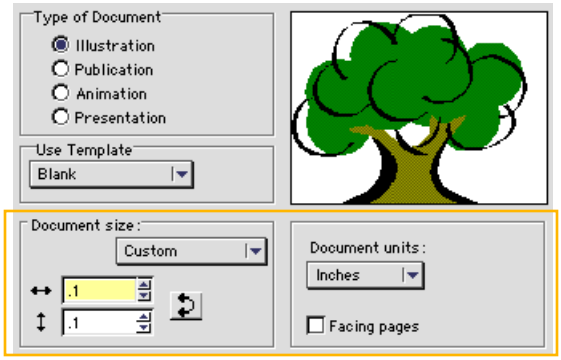
To create a new document

1. Choose File > New.
2. Select options for the new document (described next)
3. Click OK to create the document.

Options for new documents

In the New dialog box, you can choose a document type, select a template, specify document size, and choose measurement units.

Options based on document type



Type of Document Select Illustration, Publication, Animation, or Presentation. These types are described next.

Use Template To base the new document on a template, select the template from the menu. See “Using document templates” on page 5.3.

Document size Select a document size from the menu. You can select preset sizes, or set the document size to the printer paper, or enter a custom size. To set up a custom size, choose Custom and enter the width (↔) and the height (↕).

Orientation To change the orientation of the document, click the button. This swaps the width and height values.

Document units Choose the general measurement units for the document from the menu.

Facing pages For a Publication document, select this option to specify a document with facing (two-sided) pages. A facing-pages document has a master page with left and right pages.

Wizard Click the Wizard button if you want the New Document Wizard to guide you through the options for setting up a new document.

Choosing a document type

When you create a new document, you can select an Illustration, Publication, Presentation or Animation document.

Illustration documents

Illustration documents are general-purpose documents for all types of illustrations and graphics. You can specify a custom document size, and the document can have multiple pages (called “sheets”), with multiple layers on each sheet.

When the active document is an Illustration, the icons at the bottom of the window represent the document’s sheets. You can click an icon to move to that sheet.

Publication documents

Publication documents are designed for publications printed with two-sided (facing) pages, although you can also create a Publication that has pages with single sides. You can use master pages to hold items that you want to appear throughout the publication. You can also use multiple layers on each page.

When the active document is a Publication, you can use page icons at the bottom of the window to move among the document’s pages.

Presentation and Animation documents

Presentation documents are designed for on-screen “slide show” presentations. Animation documents are designed for creating animation files.

In Presentation documents, you can use multiple layers and a master slide to hold background elements. You can use more than a dozen transition effects, including wipe and dissolve, during slide show playback.

When the active document is a Presentation, you can use slide icons at the bottom of the window to easily move among the slides.

An Animation document is designed for creating and editing web (GIF) animation files. An animation is composed of multiple *frames*, which are equivalent to the image frames of film-based animations.

You can use “onion-skinning” in an Animation document. When you select onion-skinning, frames adjacent to the current frame appear in the background. This is helpful for setting up object movement in an animation.

Using document templates

Templates are special Canvas documents that you can use as the basis for new documents. When you select a template in the New dia-

log box, Canvas creates a new document containing the graphics and text in the template and uses the template's settings for layers, slides, pages, rulers, grids, guides, views, and default object attributes.

How is a template different than a regular Canvas document? When you choose a template in the New dialog box, Canvas creates a new document based on the template, but doesn't actually open the template file. When you make changes to the new document and save it to disk, the changes don't affect the template.

Canvas treats a template in a similar way when you open one by double-clicking its icon or using the Open command. In either case, rather than open the actual template document, Canvas makes a new document based on the template's document type and contents.

Templates, like regular Canvas documents, are various types: Illustration, Presentation, Publication, and Animation. In the New dialog box, the templates listed in the "Use Template" pop-up menu match the document type selected in the "Type of Document" area.

Setting up documents

After you create a document, you can use the Document Setup dialog box to change the document's measurement units, size, orientation, and other options.

The Document Setup dialog box presents similar options for each type of document, with some specific options for a particular document type. For example, in a Publication document, you can set facing pages and page margins. In a Presentation document, you can specify screen size.

To set up a document

1 Choose Layout > Document Setup.

2 The Document Setup dialog box appears. Select the options you want and click OK.

Document Setup options

The following options are available in all document types, except as noted.

Document Units

To specify measurement units, choose an option in the Document Units pop-up menu.

Select Inches, Points, Centimeters, or Picas to see the size of the document in these units in the boxes in the Illustration size area. Select Ruler Units to use the units specified in the Ruler dialog box. To change the units specified in the Ruler dialog box, choose Layout > Rulers.

✔ Tip

For illustrations larger than the current paper size, you can use the Display> Show/Hide Page Breaks command in the Layout menu to see or hide page divisions. A line around the layout area indicates page boundaries.

Document Size

You can set the document size to match the paper in your printer, or set up a document based on a standard or custom size. The controls for document size are labeled according to the type of document (Illustration, Publication, and so on).

To use a standard size, choose an option from the pop-up menu. You can choose standard sizes based on the document type.

From Printer To base the dimensions of the layout area on your printer's page size, choose From Printer. The layout area will match the settings in the Page Setup dialog box. For more information, see "Matching documents to printer pages" on page 5.6.

Custom To specify custom dimensions, choose Custom. Type the width in the first box and the height in the second box.

From Screen In Presentations and Animations, you can base the size of the layout area on the monitor's size. To do this, choose From Screen.

Orientation

To change the orientation of the document, click the button in the Orientation area. This swaps the width and height values of the document.

Margins

To set margin size for two-sided Publications, enter the Inside, Outside, Top, and Bottom margins in the text boxes in the Margins area. For single-sided Publications, enter Right, Left, Top, and Bottom margins. The margin is measured from the edge of the paper. Margins are not available in other document types.

On screen, the document's margins appear as a dashed line. The printable area appears as a solid line around the edge of the layout area. Make sure the margins are not outside the printable area.

Page Layout

To specify multiple pages per sheet in a Publication, choose Tent Card or Greeting Card in the Sheet Layout pop-up menu.

Facing Pages

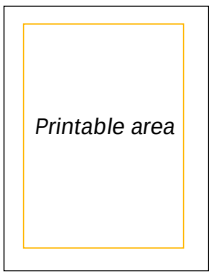
To create double-sided pages, select Facing Pages. When you select this option, a message appears. Click OK to proceed. Once you select Facing Pages for a Publication, it cannot be deselected. In addition, when Facing Pages is on, the document has a left and a right master page that you can apply to its left-hand and right-hand pages. This option is available in Publication documents only.

Paper Color Lets you apply a solid color to the document layout area. The paper color is for display purposes only and does not print.To apply a paper color, select a color from the pop-up palette.

Note: When objects are partially transparent, the paper color is visible through the objects. However, while the paper color is not visible through solid objects, in the real world, the colors of objects will be affected by the color of the paper they are printed on. For example, a yellow circle printed on blue paper will appear green. This is not shown on screen in Canvas when you use the Paper Color option.

Canvas includes the paper color when it renders transparent objects, so the paper color affects the rendered image the same as it does on screen in Canvas.

Matching documents to printer pages



Paper

Selecting “From Printer” in the Document Setup dialog box tells Canvas to use the page information from the Page Setup dialog box. Canvas sets the orientation and dimensions In the Document Setup dialog box to match the selected page size.

When From Printer is selected and you change the page settings, Canvas changes the dimensions of the document to match. You can choose File > Page Setup to change the paper size, or its orientation; Canvas will update the dimensions of the document and you do not have to choose Layout > Document Setup.

When the document type is Illustration, and you select From Printer, the document size is equal to the *printable area* of the paper selected in the Page Setup dialog box. For all other document types, the document size is equal to the *paper size*, rather than the printable area.

✔ **Tip**

To see or hide the printable area, you can use the Display > Show/Hide Printable Area command in the Layout menu. Canvas indicates the printable area by a solid line around the border of the page.

On most printers, the printable area is smaller than the paper size. Illustration documents are sized to the printable area, so illustrations will fit on the paper without being scaled. You should note that the printable area on many printers is not centered exactly on the paper.

Canvas takes scaling into account when it sets the document dimensions and you specify a scaling factor in the Page Setup dialog box. If you specify 50% scaling, for example, the document size will be twice the page size (or twice the printable area size in an Illustration).

When From Printer is selected, Canvas checks the Page Setup information each time you open the document. If necessary, it adjusts the document's dimensions to match the page information.

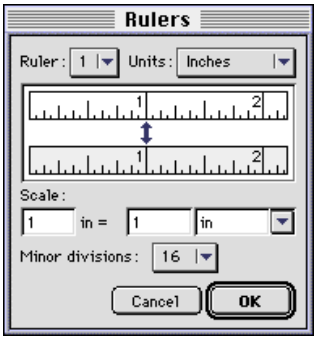
Setting up rulers and the drawing scale

You can set up rulers for a document using various units of measure and display the rulers at the top and left of the document window. Rulers help you track the pointer's movement and let you create alignment guides in the layout area.

When you set up rulers, you also set the document's drawing scale. Canvas bases the rulers and all object measurements on the drawing scale.

For example, if you set the drawing scale to 1 inch = 1 foot, and draw a line 1 inch long on screen, Canvas displays the line's length as 1 foot. Canvas uses scale measurements in the Object Specs palette, the information area of the Status bar, and in dimension objects.

You can use inches, points, centimeters, and picas as a document's base unit of measurement. For the drawing scale, you can relate the base unit to inches, feet, miles, picas, pixels, metric units, and your own custom units.



Scale	values		
1 inch = 6 inches	1	6	inches
5 inches = 1 mile	5	1	miles
10 cm = 1 meter	10	1	meters

To set up rulers and drawing scales

1 Choose Rulers in the Layout menu. In the Rulers dialog box, choose a ruler number in the Ruler pop-up menu. You can use the default rulers or customize them.

2 To change the measurement units, choose the units in the Units pop-up menu. Canvas sets up the ruler's major divisions based on the units you choose.

3 Set the drawing scale using the text boxes in the Scale area. In the first box, type the base unit measurement. In the second box, type the scaled equivalent. In the third box, enter the units for the scaled measurement. You can type a custom unit here; Canvas will use the first two letters in dialog boxes and dimensions. The table at left shows examples of settings for various drawing scales.

4 Choose a setting for the ruler's minor divisions in the pop-up menu under the Scale boxes.

5 To establish the ruler's major divisions, drag the double arrow between the two rulers. Drag to the unit of the top ruler that you want to be the major division. The major division also determines the major division of the alignment grid.

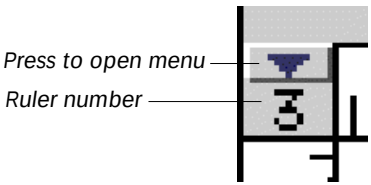
6 After you configure all ruler settings, click OK.

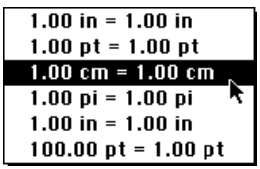
To display and hide rulers

When you want rulers to appear on screen, choose Layout > Display > Show Rulers. To hide the rulers, choose Layout > Display > Hide Rulers. The rulers must be displayed if you want to create alignment guides in the layout area.

To change rulers

When the document rulers are visible, you can change the current ruler by pressing the button in the upper-left corner of the document, and selecting a ruler from the pop-up menu that appears.





Rulers menu

To change the rulers' zero points

The default zero point for each ruler is at the top-left corner of the illustration area. To change the zero point, drag from the intersection of the rulers. As you drag the zero point, intersecting lines follow the pointer. To return the rulers to the default zero point, click the box where the rulers intersect.

To use 'tear-off' rulers

When rulers are displayed, you can move a copy of a ruler into the layout area to measure specific areas of an illustration. When you tear off a ruler and move it, Canvas takes a snapshot of the ruler and pastes it into the document as a paint object. A tear-off ruler isn't active like the rulers displayed at the window edges.

◆ **To place a tear-off ruler in a document:** Point to the ruler you want to tear off, press Option (Mac) or Alt (Windows) and drag a copy of the ruler into the document.

Using the alignment grid

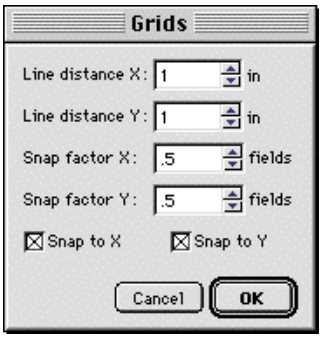
You can display a grid of vertical and horizontal lines to aid in positioning objects in a document. You can also turn on the snap-to-grid feature to make Canvas snap objects into alignment with the grid when you drag near a grid line.

When snap-to-grid is active, the pointer movements snap to the grid according to the settings in the Grids dialog box.

◆ **To display grid lines on screen:** Choose Layout > Display > Show Grids. To turn off grids, choose Layout > Display > Hide Grids.

◆ **To turn on snap-to-grid:** Choose Layout > Snap To > Grid. Choose the command again to turn off snap-to-grid.

◆ **To temporarily override the grid constraint:** Press Tab as you create, resize, or move objects.



To set up the alignment grid

1 Choose Layout > Grids. The Grids dialog box appears.

2 Type a value in the Line Distance X: Units text box. This is the distance from one vertical grid line to another.

3 Type a value in the Line Distance Y: Units text box. This is the distance from one horizontal grid line to another.

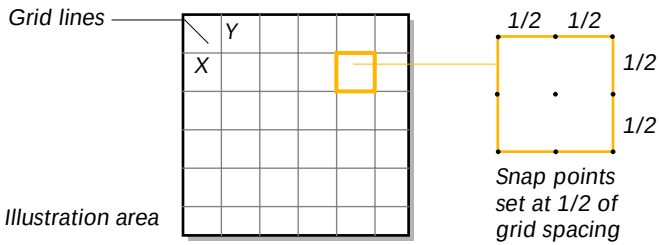
4 Type a value in the Snap Factor X: Fields text box. This value sets the snap points along the horizontal lines of the grid.

5 Type a value in the Snap Factor Y: Fields text box. This value sets the snap points along the vertical lines of the grid.

You can enter decimal or fractional values; Canvas converts fractional values to decimal values. For example, if the Line Distance is 1 inch, a Snap Factor of 1/2 Fields sets snap points every 1/2 inch.

6 Select Snap to X and Snap to Y to make objects snap to the snap points on both sets of grid lines.

7 Click OK to implement the grid settings.



Using alignment guides

You can create alignment guides and alignment objects. Other objects can “snap” to alignment guides and objects.

Alignment guides are horizontal and vertical lines you can drag into a document from the document rulers. When you create alignment guides, Canvas places the guides on a guide layer.

You can also create guide objects from any vector objects. Guide objects are placed on a guide layer. If you draw a rectangle on a guide layer, for example, objects can snap to the sides of the rectangle.

Alignment guides and objects normally do not print, because the guide layers are set to be non-printing.

◆ **To activate snapping to guides:** Choose Layout > Snap To > Guides. When the snap-to feature is active, objects you move will snap to alignment guides and objects on guide layers.

To set up alignment guides

1 To display the document rulers, if they are hidden, choose Layout > Display > Show Rulers.

2 Point to either ruler and drag a guide into the document area. To remove a guide, drag the guide back to its ruler.

◆ **To show or hide guides:** Choose Layout > Display > Show Guides or Layout > Display > Hide Guides.

◆ **To move objects touching an alignment guide:** Press Option (Mac) or Ctrl (Windows) as you drag an alignment guide. This method does not apply to alignment objects on a guide layer.

To set up alignment objects

1 Select one or more vector objects.

2 Choose Object > Arrange > Send to Guide Layer. Canvas moves the selected objects to the guide layer on the current page.

The ink and stroke attributes of guide objects are overridden by default on guide layers. Guide objects appear with a blue pen ink, a 1-point stroke, and no fill ink. If you move an alignment object off a guide layer, its original attributes reappear.

You can edit guide objects without moving them off a guide layer. For example, you can select a guide object, drag its selection handles, use freeform mode to transform it, and use edit mode to reshape it.

To position guides numerically

After you place a guide line in a document, you can set its position numerically.

1. Double-click an alignment guide.
2. A dialog box appears.
   - Select Horizontal or Vertical to set the guide's orientation.
   - In the text box, enter the distance to place the guide from the ruler's zero point. Positive values go down and to the right from the zero point. Negative values go up and to the left.
3. Click OK.

When you enter a value for the position of a guide, you can use the current measurement units, or enter a unit abbreviation. For example, to place a vertical guide 3 inches to the right of the zero point, type "3in" (without quotes) if the current units are not inches. To set a horizontal guide 2 picas above the zero point, type "-2p".

CHAPTER 6

DOCUMENT LAYOUT

Canvas provides great flexibility in document layout. You can use multiple pages and layers in any document. You can set up master pages, shared layers, guide layers, and grid layers. Layout options also include slide transitions and timing for GIF animations.

This chapter describes document layout options and procedures, including how to add, delete, and arrange pages and layers, and use the Document Layout palette.

About document pages and layers

You can create four types of documents in Canvas: Illustrations, Publications, Presentations, and Animations. The common elements of all document types are pages and layers.

Pages

All Canvas documents can contain multiple pages. Here, “pages” is used as a general term for elements that make up a document.

- Publications can have single or facing pages.
- Illustrations have pages, called “sheets,” which are single-sided.
- Presentations have pages, called “slides,” which can be displayed in sequence as “slide shows.”
- Animations have pages, called “frames,” which form animation sequences for animated GIF files.

Layout area

In the Document Layout palette, pages are at the top level of the layout hierarchy, followed by layers, groups, and objects.

The Layout area in Canvas represents a document page. Page icons below the document window show the sequence of pages in a document. The icon for the current page is shaded.

Layers

A layer is a transparent level that objects are placed on. Pages are made of one or more layers. When you place or draw objects on a page, you actually place the objects on the page’s layers.

In the Document Layout palette, a page's layers are listed after the page name. Objects are listed after the layer they are on. A new page has one layer (Layer #1). You can add layers to any page, including master pages.

Layers can help you work efficiently. You can organize objects on layers, and you can display, print, and save layers individually.

You can save time and resources by sharing layers in a document. A *shared layer* is similar to a master page. As with a master page, objects on a shared layer appear on every page where the shared layer is applied. You can update multiple pages by editing a shared layer.

Master pages

Master pages are special types of pages. The objects on the master page's layers can appear on every page in a document.

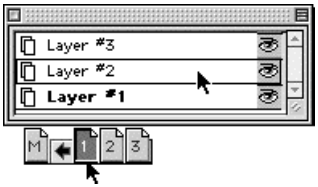
In the Document Layout palette, the master page and its layers are listed under each page where the master page is visible. The main master page is at the top of the list.

Master pages are available in Publication documents. Similar elements called "master slides" are available in Presentation documents, and "master frames" are available in Animation documents.

By selectively hiding layers of the master page, you can control the master page appearance throughout a document or on selected pages. The master page at the top of the layout list can be locked.

Using the Document Layout palette

The Document Layout palette is the control center for working with pages, layers, and objects. The palette is available in all types of documents (some options are based on document type).



Layer pop-up palette

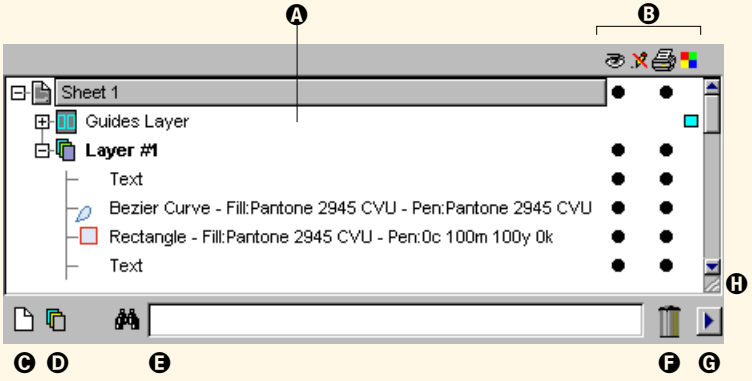
◆ **To open the Document Layout palette:** Choose Layout > Document Layout. Or, press a page icon at the bottom of the document window, and drag the pop-up palette away.

The palette shows a list of the pages, layers, and objects in the current document. You can use the palette to add, delete, and move items and set layout options. You can select, move, copy, and delete objects.

The Document Layout palette floats, so you can place it anywhere on screen. You can dock the palette on the Docking bar. To expand the palette, drag the grow box below the scroll bar.

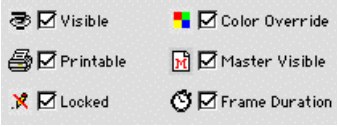
The Document Layout palette lets you select and set options for pages, layers, and objects

- A Layout list
- B Options columns
- C New page
- D New layer
- E Search box
- F Trash
- G Palette menu
- H Grow box



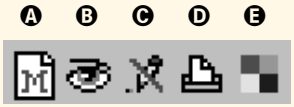
Setting options in the palette

The Document Layout palette has columns of settings for several options: master pages, visibility, locking, printing, layer override colors, and animation frame duration.



To display option columns, choose Palette Options in the palette's menu. In the dialog box, select the options that you want to appear in the Document Layout palette. Some options are not available in all types of documents.

Options columns



- A Master page
- B Visible
- C Locked
- D Printable
- E Color override

The following are the options you can change by clicking options columns in the Document Layout palette. (You can also use dialog boxes to change options; see "Using options dialog boxes," page 6.7).

Master page Click to show or hide the master page on a document page. If the master page is hidden, a hollow bullet appears in the column. When the master page is visible, the bullet is solid. Master pages are not available in Illustration documents.

You can hide master page layers using the Visible option. Hiding all master page layers is the same as hiding the master page.

Visible Click to show or hide a page, layer, master page, or object. Hiding a page hides all its layers (unless one is the current layer).

Locked Click to lock or unlock a page, layer, or object to prevent or allow changes. A bullet indicates an item is locked and its contents

can't be selected, moved, edited, or deleted. Grid layers are always locked. A padlock icon indicates an item is also password-protected.

Printable A bullet indicates an item will print. When no bullet appears, the item will not print. If you change this option on a page, the setting is applied to all the page's layers.

Color Override Click in the column to apply an override color to a layer. A square with the override color appears in the column. To select an override color in the Layer Options dialog box, double-click the layer name. To hide a layer's override color, click in the column to remove the color square.

Frame Duration In Animation documents, this column shows the duration of a frame in hundredths of a second. To change the frame's duration, double-click the frame name, change the duration value in the Frame Options dialog box, and click OK.

Using the layout list

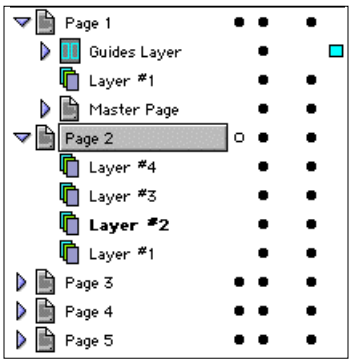
You can use the list in the Document Layout palette to display and select pages, layers, and objects. You can expand the list to display more detail, or collapse it to display fewer items.

Layout list

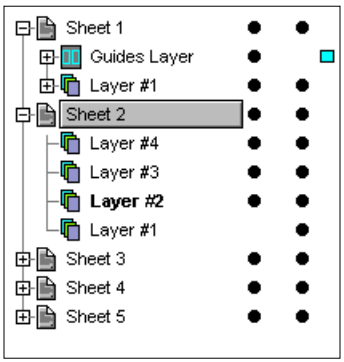
Items in a document are listed in a tree format in the Document Layout palette.

Mac: Click ▷ to expand the list. Click ▽ to collapse it. **Windows:** Click a plus to expand the list; click a minus to collapse it.

Ctrl-click an item to toggle the state of its sub-items. If you Ctrl-click a page, its expanded layers will collapse, and its collapsed layers will expand.



(Mac) Publication



(Windows) Illustration

List hierarchy

The layout list is a hierarchy. Pages are at the top level, followed by layers, then group objects, then individual objects. Each level is indented to the right from the level above. The master page and its layers are listed after a page's regular layers.

The name of the selected item in the list is shaded. The active layer name is **bold**. Names of master layers, shared layers and objects on shared layers are *italic*.

◆ **To expand or collapse one level in the list:** Choose Expand All or Collapse All in the palette's menu. The current level (pages, layers, or object groups) will expand or collapse. You can also Option-click (Mac) or Alt-click in the list to do the same thing.

Selecting items

You can select one or more items at once in the layout list. The name of a selected item is shaded.

- Selecting a page makes it the current page. The last current layer of the current page will be the current layer.
- Selecting a layer makes it the current layer.
- Selecting an object selects the object in the document.
- Selecting any item that is not visible makes the item visible.

◆ **To select one item:** Click the name of the item in the list

◆ **To select multiple items:** Click the first item and Shift-click the last item. This selects a continuous range of pages, layers, or objects. To select or deselect individual items in a selection, press Ctrl and click each item.

Searching for items

Canvas can find items in the layout list by searching their names. This means you can go to pages and layers, and select objects in a document, by typing some or all of the text in an item's name.

To select an item in the list, type the text to find in the search box in the Document Layout palette. When you stop or press Enter, Canvas searches the list from the current page. The search includes only items that are visible in the list (not collapsed pages).

You can type text lower- or upper-case. If an object in the list is named "Rectangle Fill 0c 67m 45y 23k" and you type "23K" Canvas will select the object. Default object names are object type and ink values. Default page and layer names are item type and sequence

number. You can assign names to objects, layers and pages (except Publication pages); assigned names will appear in the layout list.

Adding, deleting, and moving pages and layers

To change a document's layout, you can add, delete, and move pages and layers. You can do this in the Document Layout palette or use commands in the Layout menu. In addition, you can arrange, copy, and delete objects in the Document Layout palette.

To add pages

In the Document Layout palette, click the New Page button. Canvas adds a page, sheet, slide, or frame to the end of the document. In the list, the item's name is the next number in sequence.

You can also add pages by choosing Add Page (Sheet/Slide/Frame) in the palette's menu. A dialog box lets you change the page name (except in Publications).

To add multiple pages

Commands in the Layout menu let you insert multiple pages into a document.

1 Choose Insert in the Layout > Pages (Sheets/Slides/Frames) submenu.

2 A dialog box appears. Enter the number of pages you want to add, choose a location to insert the new pages, and then click OK.

To add layers

In the Document Layout palette, select a page or layer and click the Add Layer button. Canvas adds a new layer to the current page.

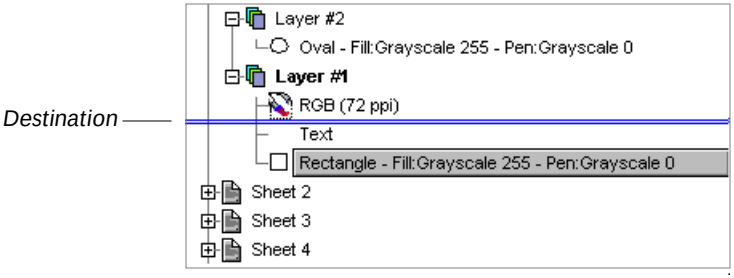
You can also add layers by choosing Add Layer in the palette's menu. A dialog box lets you change the layer's name and select other options (see "Page and layer options" on page 6.7).

✔ Tip
You can merge layers, which moves objects from a source to a destination layer and deletes the source layer. Click the source layer to select it in the layout list. Shift-click the destination layer. Choose Merge Layers in the palette's menu.

Arranging items

To move pages, layers, or objects, you can drag them in the layout list. If you drag to a collapsed part of the list, the list expands.

Canvas does not rename layers if you change their order or move them to other pages in the list. If you change the order of pages, Canvas will rename them, unless you have given them unique names.



◆ **To copy items:** Select one or more items in the palette, and then Ctrl-drag them to a new location.

To delete items

Drag the items from the list to the Trash icon. You can also delete items by selecting them in the palette and then choosing Delete in the palette's menu.

To delete multiple pages

1 Choose Layout > Pages (Sheets/Slides/Frames) > Delete.

2 In the dialog box, enter the page range to delete and click OK.

Page and layer options

✔ Tip

You can set options for multiple items by selecting them and choosing Options in the palette's menu. Do this to set the duration for multiple frames of an animation, or to apply transitions to multiple slides.

In each type of document, you can set options for pages and layers. You can use the Document Layout palette to set some options (see "Setting options in the palette" on page 6.3). Additional options are in dialog boxes.

Using options dialog boxes

In the Document Layout palette, double-click a page, master page, or layer to open an options dialog box. Or, select the item and choose Options in the palette's menu.

In the options dialog box, select from the following options and click OK to apply the settings. Some options, as noted, are not available for all items or document types.

Naming items

In the text box, type a name for the item. By default, Canvas names pages and layers based on their order in the list. In Publications, page names cannot be changed.

Locking items

Select the Locked option to prevent changes to a page's layers, to individual layers, or to individual objects.

Password protection You can select the Password option when Locked is selected. When the Password option is used, the assigned password must be entered to unlock or change the page. To assign a password, select the Password option and type at least three characters in the text box. After you click OK, enter the password in the confirmation dialog box that appears and click OK.

Note: A locked page can be changed in some ways. If a master page is visible, changes to the master page will appear on the locked page. Also, a locked page does not prevent a document from being deleted. If a locked page is copied, the copy is also locked.

Hiding items

The Visible option can be changed only in the Document Layout palette list. In options dialog boxes, the Visible option is not available because a current item can't be hidden.

Layer colors

Grayed Select Grayed to make solid color inks of objects on the layer appear to be grayed (desaturated).

Select **Color Override** to apply a color to a layer. Select **White Fill** to apply a white fill ink to vector objects and text objects on a layer that has a color override.

When you apply a color override to a layer, you temporarily assign a color to vector and text objects on the layers you specify. A color override does not affect paint objects. When you turn off the Color Override option, all affected objects revert to their original colors.

The White Fill option lets you control how override colors appear on vector objects. This option doesn't change the way override colors appear on text.

When White Fill is selected, Canvas applies the override color to the pen ink of vector objects and applies white as the fill ink color. In other words, the override color becomes the color of the stroke of vector objects, while the inside of the object remains white. When White Fill is not selected, Canvas applies the override color as both pen and fill inks.

If you use the White Fill option, objects without a visible stroke are not visible against the white layout area.

Using onion-skinning

In Animation documents, you can display more than one frame (page) at a time. *Onion-skinning* is the term for displaying multiple frames as if they are on tracing paper. This view can be helpful for positioning objects across frames of an animation.

To use onion-skinning, press the onion symbol in the Document Layout palette. Choose an option from the pop-up menu.

Next Frame displays the current frame and the frame after the current frame. **Previous Frame** displays the current frame and the frame before the current frame. **Next & Previous** displays the current frame and one frame before and after the current frame.

To display any number of frames adjacent to the current frame, choose **Custom** and enter the number of frames to display.

To show just the current frame, choose **No Onion Skinning**.

When onion-skinning is active, names of the displayed frames are tinted in the layout list.

Sharing layers

Sharing a layer means applying a layer to more than one page in a document. The shared layers are linked together; changing one layer will change all the linked layers. This means that shared layers can be used like additional master pages.

The names of shared layers and objects on them are in italic type in the Document Layout palette.

✔ Tip
You can share a layer by pressing Shift and dragging the layer to another page (except the master page). Repeat to add the shared layer to other pages.

To share a layer

1 Select the layer you want to share in the Document Layout palette.

2 Choose Share Layer in the palette's menu.

3 In the dialog box that appears, select the pages in the list that you want to share the layer. Click Select.

The shared layer name appears in the list of layers for each page you selected.

To unshare a layer

Unsharing a layer converts it from a shared layer into a regular, non-linked layer on one page or throughout a document.

1 Select the layer you want to unshare.

2 Choose Unshare Layer in the palette's menu.

3 In the message box that appears, do one of the following:

Unshare all instances: Click Yes to unshare all of the layers in the shared group. Canvas disunites the layers and creates a copy of each layer.

Unshare one instance: Click No to unshare the layer on the current page only. The rest of the layers remain shared.

Using master pages

Master pages (slides/frames) hold common elements that you want to appear on most pages. Objects on the master page's layers appear on pages where the Master Page option is selected.

Illustration documents do not use master pages.

You can unlink a master page. This lets you edit the page's contents like you would any layer that isn't shared, without changing the appearance of the master page on other pages. Canvas also lets you re-link a master page.

To unlink a master page

1 Select the page where you want to unlink the master page. (Do not select the master page item or a layer).

2 Choose Unlink Master in the palette's menu. The layers of the master page become regular layers of the current page.

To link a master page

1 Select the page you want to apply the master page to.

2 Choose Link Master in the palette's menu. Canvas links the master page to the current page. Other elements on the page are not affected.

Dispersing objects

You can use the Disperse command to quickly move objects to pages throughout a document. This is useful for creating frames and slides.

For example, you can select a series of graphics, and use Disperse to place one graphic on each frame in an Animation document. You can spread objects over existing pages or Canvas will create pages for the objects. Dispersed objects are placed on a new layer on each page.

To disperse objects

1 Select the objects to disperse. The objects should be on the same layer and should not be grouped.

2 Choose Object > Arrange > Disperse.

3 In the dialog box, select an option:

Dynamic: Canvas will create pages to hold the selected objects.

Selected: Click Select to display a list of pages. Shift-click pages to select them, and then click Select.

4 In the text box, type the number of objects to place on each page (Canvas divides the number of objects evenly if you select pages; remaining objects go on the last selected page). Click OK to disperse the selected objects.

Using guide and grid layers

In addition to general purpose layers, you can use special layers designated to contain drawing aids called guides and grids.

Like other layers, guide layers and grid layers appear in the Document Layout palette. You can arrange these layers by dragging them in the list to place them in front of or behind other layers.

Guide layers

When the command Layout > Snap To > Guides is selected, objects that you draw and move will snap to guides on the guide layer.

Guides that you drag from the rulers, and text sections you draw with the Section tool will appear on the current page's guide layer. You can also draw on a guide layer to create "magnetic" guide objects.

To add a guide layer

1 Select the page you want to add a guide layer to.

2 Choose Add Guide Layer in the Document Layout palette's menu.

3 The New Guide Layer dialog box appears. Enter a name, and select the visible option to display the layer, and click OK.

By default, objects on guide layers are light blue. By changing the guide layer override color, you can make the objects any color. To change a guide layer's name, override color, or other properties, you can double-click the layer and use the options dialog box, or use another method for setting layer options as described in this chapter.

Grid layers

Grid layers display gray grids that can help you position objects precisely. When the command Layout > Snap To > Grid is selected, the bounding boxes of objects will snap to the grid.

When you create a grid it appears on a grid layer. Grid layers are locked by default. You can configure the current page's grid using the Layout > Grids command.

To add a grid layer

1 Select the page you want to add a grid layer to.

2 Choose Add Grid Layer in the palette's pop-up menu. The New Grid layer dialog box appears. Configure the options as desired, and then click OK. Canvas adds a new grid layer.

By default, grid layers are gray. To change a grid layer's name and other properties, you can double-click the layer and use the options dialog box, or use another method for setting layer options as described in this chapter.

Presenting slide shows

You can display Presentation documents as on-screen slide shows. The term *slide show* is used because you build a presentation as a series of screens, or "slides," with illustrations and text. The metaphor is based on the way traditional business presentations have been assembled from photographic slides or transparencies and displayed with a slide or overhead projector. When you play back a Canvas Presentation document, Canvas displays the document's slides in order, using the specified transition timing and effects.

A presentation slide show can be set to automatic mode, in which the slide show plays once and stops or repeats continuously. Slide changes also can be controlled by an operator. Canvas can show

slides using a time interval that you specify, or you can control the pace by clicking to switch to the next slide whenever you are ready.

You set up a presentation by first creating a Presentation document using the New command in the File menu, then adding additional slides and layers as described in this chapter.

You can use a presentation document's Master slide for background objects and text. Use the Document Layout palette to apply the Master slide to other slides, and to set options for slides.

Slide options

In the Slide Options dialog box, you can set up standard options (see "Page and layer options" on page 6.7) as well as transitions for slide shows. You can select from more than a dozen transition effects.

To set up slide transitions

You can set transitions for the current slide or multiple slides. To apply a transition effect to multiple slides, select the slides in the Document Layout palette and use the Options command.

1 Double-click a slide in the Document Layout palette's list, or select one or more slides and choose Options in the palette's menu.

2 The Slide Options dialog box appears. To use a transition effect (such as Dissolve or Iris In), select "Transition to next slide." If you do not select this option, the slides simply appear in sequence.

- Select a transition effect in the pop-up menu.
- If there are options for the transition effect, the Options button is available. Click the button to change the settings. In the dialog box that appears, drag the slider to adjust the speed of the transition from slower (Min.) to faster (Max). Select a Direction option (if available) and then click OK.
- To preview the effect, click Try.

3 Click OK in the Slide Options dialog box to apply the settings to the selected slides.

Setting up slide shows

To set up a Presentation for display as a slide show, choose Layout > Slide Show. The Slide Show palette opens. This is a floating palette that can be kept open to configure and play slide shows.

You can select the following options in the Slide Show palette:

Fit to screen Reduces or enlarges the document's slides so they fit within the screen area of the system used to play the slide show. Canvas calculates a scaling factor based on the size of the system's monitor and the resolution setting.

Loop Causes the slide show to play continuously until you interrupt it. When Canvas reaches the end of the document, it begins the slide show from the first slide.

Show Pointer Displays a pointer on screen during playback. Select this option and then select the pointer from the pop-up menu. You can control the pointer with the mouse during the slide show, so you can indicate important items in the presentation.

Auto Play QuickTime movies (Mac only) Causes any QuickTime movie files that have been placed in the Presentation document to begin playing automatically. When a slide containing a movie is played, Canvas loads the movie and begins playing it if this option is selected. QuickTime is not currently supported in Canvas for Windows.

Advance Every _ Seconds Makes the slide show self-running by advancing from one slide to another after a specified interval, without any intervention from the operator. Enter the number of seconds in the text box. The exact timing between slides depends on the speed of the system used for playback and the complexity of the illustrations.

Progressive Build Displays layers in sequence. Canvas will show each slide's master layers and Layer 1, and then the other layers in sequence. Otherwise, a slide's layers are shown together.

Anti-Aliased Play Quality Select this option to anti-alias (smooth) vector and text objects during playback. If you select "Draw Quality: Anti Aliased" in the Preferences dialog box, Canvas will anti-alias objects in your documents *except* when playing slide shows.

To play a slide show

1 Choose Layout > Slide Show.

2 To start a slide show, click Play. If "Advance Every _ Seconds" is selected, Canvas changes slides at the specified interval. Otherwise, click to change slides. Ctrl-click to go back one slide.

3 To stop the slide show, press Esc (Mac) or right-click (Windows).

CHAPTER 7

FILE AND DATA EXCHANGE

Canvas supports many standard formats for exchanging files and data with other programs. This chapter explains how to use non-Canvas file formats, including web image formats. It includes information on exchanging files on the Internet, and sharing data using Publish and Subscribe and Object Linking and Embedding.

Exchanging files

Canvas lets you work with many file formats. With a common file format, you can bring a file generated in another program into a Canvas document, or transfer a Canvas document into another program.

Because the native Canvas 7 format saves all the objects, properties, and effects that your documents can contain, you should save all your documents in this format. Still, you might want to export a document in a different format, or import graphics into a Canvas document.

When you use a non-Canvas file, you can avoid problems such as lost information and printing errors if you know the capabilities and limitations of the file format. For example, some formats support only one type of data (vector, raster, or text), while others support multiple types. Image formats support certain image modes.

Importing files

You can use the Open and Place commands to import files. You choose the format you want to use in the format pop-up menus in the Open and Place dialog boxes. To import image files, you can also use the Acquire submenu (see “Acquiring images” on page 7.4).

To open or place a file

1 Choose File > Open or File > Place.

- Open creates a new Canvas document containing the file you select.
- Place inserts the file in the current Canvas document. Place is available only if a Canvas document is open.

2 Choose a file type in the File Format (Mac) or Files of Type (Windows) pop-up menu. The file list shows files that match the selected format.

- Select All Files (Windows) or Show All Files (Mac) to show every file in the folder. You can choose All in the File Format menu (Mac) to show all files that Canvas can open.

3 In the file list, select a file and click Open or Place. You can also double-click a file name. For some file formats, a dialog box presents options for opening files. Configure the options and click Open or Place.

- If you open the file, Canvas creates a new document.
- If you are placing the file, a Place pointer appears. Click where you want to place the top-left corner of the file.

Saving files in other formats

You can use the Save As command to export files in a variety of file formats. However, be aware that most file formats do not support every Canvas object or effect. For this reason, Canvas asks if you are sure when you select other file formats for saving files.

For example, a TIFF file can save only a single raster image; it does not support text or vector objects. If you save a Canvas document containing vector objects or text in TIFF format, all the objects in the document are changed into an image. If you then open the TIFF file, its contents appear as one raster image, so you can't edit the original text or reshape the vector objects.

When you save a document in a non-Canvas format, Canvas creates a new file on disk, but does not close the document or change the name of the document in the title bar. If you then try to close the Canvas document (without saving it in Canvas format), a message asks you to confirm that you want to close the document without saving it.

To save a file

1 Depending on what you want to save, do one of the following:

- To save specific objects, select the objects.
- To save specific layers of a multi-layer document, make sure the layers you want to save are visible.

2 Choose File > Save As. A directory dialog box appears.

✔Tip

Always save your work as a Canvas document, so you can edit your work later in Canvas if necessary.

3 Select a file format in the pop-up menu labeled “File Format” (Mac) or “Save as type” (Windows). If a format or option is not available, be sure it is compatible with the document contents.

- On Windows, a message asks you to confirm that you want to save in a format other than Canvas. Click Yes to continue. On Mac OS, this message appears after you click Save; click Save in the message box to continue.

4 Select the Save Entire Document, Save Selection, or Save Layers option at the bottom of the dialog box to specify what to save. Some options that are available when you save in Canvas format are not available when you select other file formats.

5 Type a name for the file, select a location, and click Save.

If options are available when saving in the selected file format, a dialog box appears. Configure the options as you wish and click OK. For information on file options, see the sections on specific formats in this chapter and in on-line Help in Canvas.

Rendering images

When you are saving objects and select a file format that supports images only, Canvas renders the document or selected objects. Rendering creates an image that can be saved in the selected format.

The Render Image dialog box lets you set options for rendering. See “Rendering objects and images” on page 24.7 for more information.

Acquiring and exporting images

You can use the Acquire and Export commands in the Image menu to work with raster image files. These commands are especially useful because you can add new file formats by installing Photoshop-compatible plug-in modules.

Exporting images

When you use an Export command, you create a file on disk from a single selected paint object. Using Export is similar to using Save As, except that you must select a paint object before you choose Export. Export is not available if a paint object is not selected.

To export an image

1 Select the paint object to export. Be sure the paint object is not in edit mode.

2 Choose Image > Export > *file format*, where *file format* is the name of a file format in the Export submenu.

3 In the directory dialog box, type a file name, select a location for the exported file, and then click Save.

If the image mode of the selected paint object is not supported by the format file you choose, the Render Image dialog box appears. In the dialog box, you can select an image format supported by the file format. If an image mode is not available in the Mode pop-up menu, the selected file format does not support that mode. See "Rendering objects and images" on page 24.7 for more information.

Acquiring images

You can use commands in the Image > Acquire submenu to import images from files on disk. You can also acquire images from scanners and digital cameras using the TWAIN interface or acquire plug-in modules.

Acquiring an image places it in the current document as a paint object. In most cases, Canvas stacks acquired images at the center of the current view.

Note: The Open and Place commands work with image files also. The Open command opens a file as a new document. The Place command places a file in the current document. These commands will not import an image file as a proxy or import multiple images at once.

To acquire one or more image files

1 Choose Image > Acquire > *file format*, where *file format* is the name of an image file format in the Acquire submenu.

2 A directory dialog box appears. Navigate to the folder that contains the files to acquire. Files that match the format you selected will appear in the files list.

3 Select one or more files to acquire. You can Shift-click to select multiple files in the list, and then click Open to acquire all the selected files. Or, you can add files from one or more folders to the selected files list, and then click Done to open them.

To acquire an image from a TWAIN device

1 Choose Image > Acquire > TWAIN Acquire.

2 A dialog box appears. Refer to the documentation for the device or acquire module for information on options and settings.

Acquiring images as proxies

You can use the Acquire as Proxy option to import a low-resolution proxy, rather than a high-resolution image, from an image file. The proxy image will be linked to the original image file.

The Acquire as Proxy option appears in the directory dialog box when you acquire TIFF, JPEG, and CVI files.

Select the Acquire as Proxy option to place a proxy of the selected image file in the document. The proxy image will be linked to the image file. The option is selected by default for the CVI file format. See the chapter “Image proxies” on page 29.1.

Internet file exchange

You can import files into Canvas over the Internet, and save files to sites on the Internet directly from Canvas.

When you use a directory dialog box, as with the Open, Place, Acquire, Export, and Save As commands, an Internet button lets you access files and folders on the Internet. You can use the Internet button to select files to open and select folders to save files in.

To exchange files on the Internet, your computer must have an active Internet connection, of course.

The Internet button is also available in any situation when you open or save a file. This includes Load and Save commands in palettes.

✔ Tip

If the Internet button is not available in directory dialog boxes, your system probably lacks the software needed to access the Internet, or the software is not set up correctly.

To use the Internet button

1 You can click the Internet button in any directory dialog box after you choose a command to open or save a file.

2 A dialog box appears (described next). In the Host Address box, enter the URL or IP address of the site you want to access.

3 Click OK.

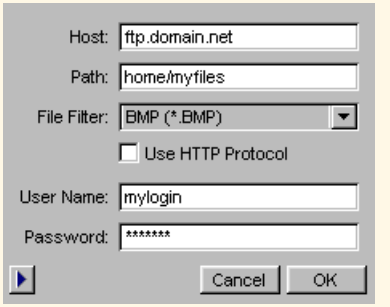
4 A window displays a list of files in the default directory or a directory that you specified. To open a folder, double-click it. To go to a higher directory, select it from the menu above the list.

- If you are saving a file, select the directory to save in.
- If you are opening a file, select the file.

5 Click OK to upload or download the file.

Internet dialog box

Click the Internet button and use the dialog box to specify Internet options.



Host Address: Type the Internet Protocol (IP) address or URL of the site you want to access. You can add the directory path here or in the Initial Path box.

Initial Path: Type the full path to a folder or file. Use a slash (/) between directory levels. Leave the box blank to use an FTP site's default directory.

To download an image from a web page, type the full path and file name. For uploading, you can leave this blank and browse the FTP site to select the upload directory.

File format: The selected format appears here. You can change the format (except when using Load commands).

When opening files, the format limits which files on an FTP site are listed. To display all files, select All.

When saving files, Canvas uses the specified format.

Use HTTP Protocol: Select this to download web images. Type the complete URL, including the name of the image file. User Name and Password are not used. This is not available for saving files. (The URL Access extension is required for HTTP downloading on Mac).

Login: Type your user name for accessing an FTP site. Some sites allow you to enter "anonymous."

Password: If the site requires it, type your password. Sites that allow anonymous login expect an e-mail address here.

Using favorites

You can save and select settings for your favorite sites. Favorites include all settings except file format. To save a favorite, choose **Add Favorite**, then click OK.

To use a favorite, choose its name. To delete saved settings, choose Delete Favorite. Then, select a favorite and click Delete. Click Done to finish.

Internet protocols

You can use the two major Internet protocols in Canvas for saving and uploading files, and for downloading (opening) files. To save or download files over the Internet, you need to know the address of the web or FTP site you want to access. Internet addresses are called *Uniform Resource Locators* (URLs).

Downloading files

You can use the Internet button to download files from File Transfer Protocol (FTP) sites, and from world wide web sites, which use Hypertext Transport Protocol (HTTP). To download web images, you need to know the web page URLs and the image file names.

You can open web images in JPEG and GIF files. From FTP sites, you can open most file formats that Canvas supports. Canvas downloads and imports a file into the current document if you use Place or Acquire. If you use Open, Canvas opens the file in a new document.

Saving files

You can use the Internet button to save and upload files to FTP sites. Web (HTTP) sites do not support uploading. Instead, to post files for web pages, you upload the files to an FTP site. If you have a web site hosted by an Internet Service Provider (ISP), the ISP will tell you the FTP address and the path to use for storing you web files. Then you can use Canvas to save and upload web pages to your web site.

You can save and upload all file types supported by Canvas. This includes web pages and image files for web pages. You can use File > Save As for all file formats, or use Image > Export for image formats. You can save web pages in HTML format or save images in GIF or JPEG format using the File > Save to Web wizard. For more information on web formats, see “Web publishing” on page 8.1.

When you use the Internet button for saving files, Canvas saves a file in the format you specify and uploads the file to a location you specify. Canvas does not save a local copy of the file. It’s always a good idea to save your work in a Canvas file so you can edit it later.

File format options

When you use other file formats that Canvas supports, you can select options when you open, place, import, save, or export some types of files. The most common file formats and their options are described in this section.

For more information on using file formats, refer to the online Help system in Canvas. New information that is not in the printed or online documentation will be provided in the “Read Me” file distributed with the Canvas software.

Saving in Acrobat PDF format

When saving in Acrobat format, you can select screen or printer resolution for images saved in the file. Click an option in the dialog box that appears before the file is saved.

Screen saves images at a maximum 72 pixels per inch (ppi). If necessary, images are down-sampled to 72 ppi.

Printer saves images at a maximum 300 ppi. If necessary, images are down-sampled to 300 ppi. An image's resolution is not increased if it is less than 300 ppi.

Saving CGM files

Computer Graphics Metafile (CGM) format is a standard for exchanging 2-D graphics and text. Variations and extensions to the "standard" format can create incompatibilities with the Canvas file filter. When you save a Canvas document in CGM format, Canvas makes the following image color mode conversions:

Canvas image mode	CGM image mode
CMYK, Duotone, Grayscale, and LAB color	RGB cell arrays
Black & White	CGM versions 1 and 2: RGB cell arrays CGM version 3: Black & White
Multichannel	First channel becomes an RGB cell array; other channels ignored

Using AutoCAD DWG format

The AutoCAD DWG import filter lets you import native AutoCAD (r14) files into Canvas. This filter fits an AutoCAD drawing to a document size of 8.5 by 11 inches. To use this filter, choose File > Open or File > Place and select AutoCAD DWG format in the directory dialog box.

Using Drawing Interchange Format (DXF)

Drawing Interchange Format (DXF) is a format developed by Autodesk, Inc., for exchanging data with AutoCAD and other drawing applications. DXF format provides platform-independent storage of 2D and 3D technical drawings and supports multiple layers. Canvas supports DXF files containing ASCII data, but does not support DXF files that contain data in binary format.

Saving DXF files

When you save a document in DXF format, Canvas converts the following Canvas objects and attributes to DXF objects and attributes:

Canvas objects / attributes	DXF objects / attributes
Paint object	Not converted
Pen and fill patterns	Solid pens and fills
Arcs	Polylines
Calligraphic pen strokes	Fixed-width pen strokes
Continuous dashes	Dashes start in each segment
Layer names with spaces or non-uppercase characters	Spaces removed and characters become uppercase
Grayed layers	Objects appear in original colors

In the DXF export options dialog box, select the platform format to use. You can also select options for exporting lines and circles.

Opening DXF files

The DXF import filter fits a DXF file to a document size of 8.5 by 11 inches.

When opening a DXF file, Canvas makes the following conversions from DXF objects to Canvas objects:

DXF objects	Canvas objects
Blocks	Groups
Traces, Solids, and Quadratic polylines	Polygons
B-spline Polylines	Bézier curve paths
ATTDEF and ATTRIB	Text objects

Canvas does not support 3D objects (3D lines and 3D Face objects in DXF files), so these objects are not imported into Canvas.

Using Encapsulated PostScript (EPS)

Encapsulated PostScript (EPS) is a file format used to save individual PostScript graphics.

Opening EPS files

When you open or place an EPS file, a dialog box asks you to choose an import method. Choose an option and click OK.

Create EPSF Object Imports the EPS file as an EPS object. This object can be rotated or scaled, but you can't select or edit parts of the graphic. Canvas displays a preview image if the file contains a preview in a supported format.

Create Canvas Objects Interprets the EPS file's PostScript code to convert the EPS graphic to editable Canvas objects. Raster images become Canvas paint objects and vector objects are maintained as vector objects. Text is imported as one or more text objects. The EPS preview image is not imported. Specialized objects and attributes that have no Canvas equivalent might not be imported.

Place EPSF Reference Inserts a link to the EPS file and displays its preview image in the Canvas document. This option is useful for keeping the size of the Canvas file smaller than if EPS files are imported directly into the document. If you use this option, the EPS file must be available when you print the Canvas document. If the EPS file changes, the Canvas document is updated when you print it.

Saving EPS files

To save a file in EPS format, choose File > Save As. In the directory dialog box, select EPSF format. Select options in the dialog box that appears (described next) and click OK to save the file.

When you save a Canvas document in EPS format, you could lose specialized objects and attributes that are not supported in EPS. Canvas transparency effects are rendered and stored as images in EPS graphics, using the Transparency Rendering option and resolution that you select.

EPSF Type

Choose **EPS** to create a composite (non-separated) EPS file.

Choose **DCS Version 2** to create a single, pre-separated EPS file in DCS version 2.0 format. You can use a DCS file to output color separations from programs that support this format.

Current Page

Saves the current page, slide, sheet, or frame only. To save a range of pages, enter the starting and ending page numbers in the **From** and **To** boxes.

Preview

Select a format to store a preview image in the EPS file. Canvas and other programs that support EPS previews will display the preview when the EPS file is placed in a document. The image format and color mode you select are applied to the preview image only.

Windows Choose None for no preview, or choose a color mode to save a preview image. Preview images are saved in TIFF format. A preview will not appear in programs that support only WMF or EMF previews.

Mac OS Choose None for no preview. Choose a color mode to save a preview in TIFF format. Or, choose a PICT option to save a preview in PICT format. Use PICT in EPS files for import into Word 98 on Mac OS, or any program that doesn't support TIFF previews.

Use Compression

Select this option to compress TIFF preview images. Some programs can display only non-compressed TIFF previews. If TIFF preview images do not appear correctly, try deselecting this option.

Image Compression

Select a format for storing raster image data.

Binary is the most compact non-compressed format. **ASCII** encodes raster data as text, the least compact format. **Level 2 ASCII** is somewhat more compact than ASCII format. **RLE** compresses binary data and makes the most compact EPS files. To save EPS files for Photoshop or Illustrator, use Binary format.

Color Mode

For EPS format Select a color mode to apply to colors in the EPS file. The available modes correspond to RGB, CMYK, Grayscale, and Black & White modes for paint objects.

- Colors created with RGB, HSL, CMYK, or grayscale values will be converted to the selected mode in the EPS file.
- Spot colors defined in Canvas with the Spot Color option in the Color manager or a spot color library such as PAN-

TONE spot colors will be saved in the EPS file as spot colors, and also with color values in the selected mode.

If you print color separations from an EPS file in another program, you can usually output process and spot color plates, or just process color plates, depending on whether you specify spot and process separations or process-only separations.

For DCS Format Select a color mode for the separations stored in the EPS file:

- Select **CMYK** to separate all colors, including spot colors, as process (CMYK) colors.
- Select **CMYK + Spot** to separate all colors, except spot colors, as process (CMYK) colors. Spot colors will not be converted to process and will be separated as spot colors.

When you use DCS Format and print color separations, the program you use simply outputs the color separation plates as defined in the DCS file; it does not apply its separation method or options to colors in the file. Therefore, if you want to be able to output process and spot color plates, you should select CMYK + Spot Color Mode when you use DCS Format to save illustrations in EPS files.

Transparency Rendering

Select a method for SpriteLayer and SpriteEffects rendering into EPS format. These options are similar to the rendering options that are available when you print a document.

To render effects, choose Smallest Area, Complete Area, or Entire Document.

Smallest Area results in rendering the minimum area necessary to show transparency and SpriteEffects. **Complete Area** renders the minimum area, plus any object that touches the rendered area. This setting can prevent a slight color shift between rendered and non-rendered areas within an object. **Entire Document** renders everything in the document (or selection) as an image to be saved in the EPS file.

If you choose **Don't Render Transparent Objects**, transparency and SpriteEffects won't be rendered.

Rendering Resolution Select a resolution for rendering effects. In general, you should specify a resolution based on the publication requirements for images.

Embed Fonts (Windows only)

Select this option to embed fonts in the file, so text can appear as intended if the required fonts aren't available.

Use Page Dimensions

Select this option to save the full area of the document page, sheet, slide, or frame in the EPS file. If this option is not selected, the EPS graphic will be only as large as the saved objects.

Converting EPS objects

After you import an EPS file, you can choose options from the context menu to convert the object or view information about it.

You can view linking information if the file was imported as an EPSF reference. If the file was imported as an EPSF object, you can convert it to an EPSF reference. If it was imported as an EPSF object, you can create Canvas objects from it.

◆ **To use EPSF Object commands:** Select the EPS graphic and Ctrl+click (Mac) or right-click (Windows). In the context menu, choose one of the options described below.

Convert EPSF into Canvas Objects If you choose to create Canvas objects from an EPSF object, the EPSF object is replaced in the document by equivalent Canvas objects. Depending on the contents of the original EPS file, you might not be able to edit some objects as you expect after the conversion. For example, you would not be able to edit text if the EPS file contained outlines (paths) for text characters, rather than the characters themselves; you could use path-editing techniques to edit the objects.

Embed EPSF Into Document If an EPS graphic has been imported with the Place EPSF Reference option, you can use the context menu to convert the graphic from a linked EPS graphic to an EPS graphic that is placed in the document. The result is the same as importing an EPS file and selecting Create EPSF Object.

EPSF Info... You can get information from an EPS graphic if it was imported with the Place EPSF Reference option. Canvas will display information on the location of the EPS file that is linked into the document. If the file can't be found in its original location, Canvas displays a message. To re-link the file, click File, and use the directory dialog box to select the EPS file. Then, click OK in the message box.

Saving web graphics (GIF/JPEG)

For saving graphics in GIF and JPEG formats (the standard web image formats), Canvas provides an integrated dialog box. You can select either format and use multiple preview panes to compare how the format and other settings will affect your images before saving.

GIF format GIF is the best format for graphics that contain a small number of colors, such as vector art with flat colors. GIF format supports Black & White, Grayscale and Indexed color images, with 1 to 8 bits of color data for a maximum of 256 colors.

JPEG format JPEG format provides compression of high resolution, full-color (24- bit) RGB images. JPEG is designed for efficient storage of continuous-tone images such as photographs. “JPEG” is an abbreviation of “Joint Photographic Experts Group,” a standards organization that promoted the format.

To save graphics in GIF or JPEG format

1 Select the objects to save, or Canvas will save the current document page. Choose File > Save As.

2 In the directory dialog box, select GIF/JPEG in the file format pop-up menu. Type a name for the file and select the save location.

- To save only the selected objects, click Save Selection.
- To save the file on the Internet, see “Internet file exchange” on page 7.5.

3 Click Save.

4 Unless you are saving a single paint object, the Render Image dialog box appears. Select rendering options and click OK. For more information, see “Rendering images” on page 7.3.

5 The Export Preview dialog box appears. Use the dialog box to select the format and other options for saving the graphic. For complete instructions, see “Export Preview options” on page 7.15.

6 Click Export to save the file.

✔Tip
You can use a wizard to save graphics for the web. Select the images you want to save, and choose File > Save to Web. The wizard will help you save images in GIF and JPEG formats.

To export images in GIF or JPEG format

Exporting lets you save selected images, but not entire documents. The difference between Save As and Export is that Save As will render objects or an entire document to create an image that can be saved. Export will save only a single paint object, without rendering.

1 Select a paint object to export.

2 Choose Image > Export > GIF/JPEG.

3 The Export Preview dialog box appears. Use the dialog box to select the format and other options for saving the graphic. For complete instructions, see “Export Preview options” on page 7.15.

4 Click Export to save the file.

5 A directory dialog box appears. Type a name for the file and choose a location to save the file, and then click Save.

Export Preview options

The Export Preview dialog box shows one, two, or four previews of a graphic image when you choose Save As or Export and select GIF or JPEG file format. You can select settings for each preview image to compare how the file format, palette options, and other settings will affect the image you are saving.

A color tile shows the color you point to in a preview image. Two pairs of coordinates are displayed below the preview panes. One pair are the X,Y coordinates of the pointer. The other pair are the coordinates of the pixel at the upper-left corner of the preview panes.

Preview setup

Click a preview button to change the preview setup. You can select one preview, two previews (horizontal or vertical), or four previews.

One preview pane is active and has a highlighted border. Click a pane to make it active. The settings in the dialog box apply to the active preview. The settings in the dialog box can be different for each preview. When you select a preview, Canvas updates the dialog box to show the settings for the active preview.

All panes show the image at the same view location and zoom level. Drag on a preview image to move the view location.

You can use the zoom menu to zoom in or out. Or, click the Magnifying Glass button, then click a preview image to zoom in. To zoom out, Shift-click a preview image.

Without selecting the Magnifying Glass button, you can zoom in or out by clicking in a preview image. On Mac, press Option or Option+Shift and click. On Windows, press Ctrl or Ctrl+Shift and click.

Previewing the current settings

Each preview pane shows the original image. To view how the selected file format and other settings will affect the image, select the **Show Preview** option above a preview pane. Canvas will apply all the settings in the dialog box to the preview image. If you change a setting, Canvas will apply the new setting.

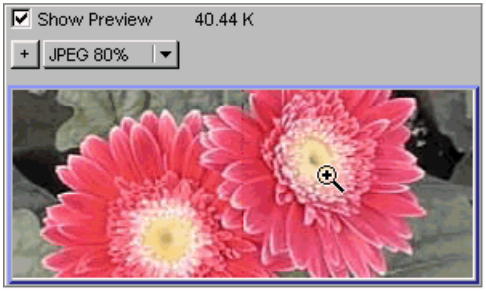


Image file information When Show Preview is selected, the estimated file size and the number of colors in the image appear above the active preview pane. The first value is the estimated file size in kilobytes. The second value is the number of discrete colors that will be saved in a GIF file; the value is not shown for JPEG format.

JPEG options

To use JPEG format, select JPEG from the Format menu. Canvas applies the JPEG format and settings to the active preview pane.

Quality Enter a percentage value from 1-100%. Higher Quality values result in less compression and better retention of original image quality.

Smoothing Enter a smoothing value from 1 to 6. JPEG compression can cause color blocks to appear in an image. Smoothing softens the image to make color blocks less noticeable. Higher values produce more smoothing.

Progressive Select this option to create a JPEG file that web browsers can display at increasing resolution as the image is loaded.

Downsampling This option can help improve compression. Downsampling reduces the image resolution by averaging color values while preserving luminosity details. Programs displaying the image will “upsample” to the original resolution, so greater compression is achieved without changing the display resolution of the image.

Optimized This option can help produce smaller file sizes. When Optimized is selected, some of the least important color information is discarded to produce more efficient compression.

GIF options

To use GIF format, select GIF from the Format menu. Canvas applies the GIF format and settings to the active preview pane.

Max colors Use the menu or type in the box to specify the maximum number of colors to be used in the image. Fewer colors can result in a smaller file, but too few colors will degrade an image.

Palette A palette is a set of colors used in an image. To be saved in GIF format, an image can contain no more than 256 colors. If the image contains more colors, the original colors are mapped to the colors in the palette that you choose.

Adaptive creates a palette that tries to match as close as possible all the colors in the image. This option is the best for preserving the original color range of an image.

Web uses a standard color palette supported by major web browsers. The range of colors in the web palette, however, can cause color shifts in images with many shades of a few colors.

Uniform uses a palette of colors that are uniformly distributed through the range of possible RGB colors.

Exact creates a palette from the actual colors in the image, if the image contains fewer than 256 colors. If the image contains more than 256 colors, Canvas uses the Adaptive option.

Note: To apply a custom or system color palette to a paint object before saving in GIF format, select the paint object and choose Image > Mode > Indexed. In the dialog box, select a palette option and click OK. To modify an Indexed mode paint object, choose Image > Mode > Color Table.

Optimized Select this option to merge single pixels into similar colored areas. This can produce smaller file sizes. However, in images with fine lines or detail, this can reduce the image quality. This option is less effective when Dither is also selected and an image has a limited number of colors.

Dither Select this option if you want Canvas to use dithering to simulate a greater range of colors. Dithering can make an image appear to have more colors than are in a limited color palette, but it can also make an image appear grainy or noisy. To control the amount of dithering, enter a percentage from 1 to 100 in the text box.

Interlaced Select the Interlaced checkbox to save the image as an interlaced GIF. Interlacing divides the image data for faster initial display in web browsers that support interlaced GIF images. In other words, the image appears progressively on the web page.

Selecting transparent colors

The Dropper tools in the Export Preview dialog box let you make colors in a GIF image transparent. Click in the color palette or the current preview image to select colors for transparency. When you select a color, it becomes highlighted in the grid.

Use the regular dropper to select one transparent color. If you click another color, it replaces the current transparent color.

Use the add/subtract dropper to select additional colors to be transparent. Each color you click becomes transparent. To restore a transparent color, click it again.

A checkerboard pattern appears in areas of the preview image that are transparent.

Color palette The area below the GIF options shows the current color palette for the image. The palette changes when you change the Palette or Max Color option.

Saving settings

You can save the current options in the Export Preview dialog box, and then apply the same setup to other images.

To save the current options in the dialog box, choose Save Setting in the pop-up menu above the current preview pane. Type a name for the saved setting and click OK. This setting will be available in the pop-up menu above each preview pane.

To use a saved setting, select the Show Preview option above a preview pane and then select the saved setting in the pop-up menu.

To delete a saved setting, select the setting in the pop-up menu, and then choose Delete Setting. Canvas will ask you to confirm that you want to delete the setting.

Importing Photoshop files

When you open or acquire a Photoshop file that contains layers or paths, the Photoshop Import dialog box appears. Select options to specify what to import and then click OK.

Layers You can select from three options.

- "Load into separate Canvas objects" imports the file's layers as separate objects and stacks them in the document on the current layer.
- "Load into separate Canvas layers" places each Photoshop layer on a new Canvas layer.

With either option, layers that have transparency are imported with visibility masks. Canvas creates an alpha channel and a channel mask for a Photoshop layer mask. Canvas also imports alpha channels.

- "Load Merged Result" imports the file's composite image (if it contains one) rather than its layers. Layer masks, alpha channels, and transparency effects are not imported. The imported paint object has an opaque background.

Note: If the option "Include composited image with layered files" is not selected when a file is saved from Photoshop, Canvas will import a black image containing a message that the layered file was not saved with a composite image.

Paths When the Photoshop file contains paths, you can choose from three import options.

- "Load All" will import a clipping path and other paths as Canvas vector objects.
- "Load only clipping path" is available if the file contains a clipping path. Select this option to import the clipping path (but not other paths) as a Canvas clipping path object. The image will be clipped by the path in Canvas.
- "Ignore paths" will import the file without any paths.

QuickDraw 3D Metafile (3DMF)

QuickDraw 3D tool 

You can open, place and save QuickDraw 3D graphics in Canvas documents. After you open or place a QuickDraw 3D graphic, you can use the QuickDraw 3D tool to rotate, light, and change its colors. The tool is located in the Object Tools toolbar in the toolbox.

Note: To open, place, and save QuickDraw 3D graphics, you must have the QuickDraw 3D extensions installed and active on your Mac OS system.

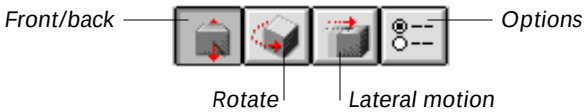
To use QuickDraw 3D graphics

1 Select the QuickDraw 3D tool in the Object Tools toolbar.

2 Click where you want to place the object in the document. A directory dialog box opens.

3 Locate the QuickDraw 3D file that you want to place in the document and click Open. Canvas places the graphic in the document.

4 To change lighting and display options, double-click the QuickDraw 3D graphic with the Selection tool; four buttons appear at the bottom of the object.



5 To move the 3D graphic, click a button and drag inside the bounding box of the graphic.

6 To use the options dialog box, click the Options button, or double-click the QuickDraw tool. Configure the settings you want in the dialog box and click OK.

You can also save QuickDraw 3D objects and Canvas extruded objects in QuickDraw 3D Metafile format. To do this, you must first select a QuickDraw 3D object, or an extruded object. Then choose Save As in the File menu, select the Save Selection option, and choose QuickDraw 3D Metafile in the File Format pop-up menu.

QuickTime Movie (Mac)

Apple Computer's QuickTime technology is included with the Mac OS and is required to work with some graphic formats, including QuickTime movies and JPEG-compressed files in Canvas.

QuickTime tool 

If you have QuickTime software installed, the QuickTime tool in Canvas lets you place and play QuickTime movies. You can also save Presentation documents as QuickTime movie files.

◆ **To open a QuickTime movie file:** Choose File > Open, select QuickTime™ Movie format, and click Open. Canvas imports the movie file into a new document.

◆ **To place a QuickTime movie file in a document:** Select the QuickTime tool in the Object toolbar. Click in the document where you want to place the movie. In the directory dialog box, select the movie file and click Open.

You can also use the File > Place command to place a QuickTime movie file in the current document.

Playing QuickTime movies

To play a QuickTime movie in a Canvas document, double-click the movie object. The movie controller below the movie becomes active. Click the play button (▶) to play the movie.

Playback options

To set playback options for a placed movie, select the movie object, then double-click the QuickTime tool. To set default options, double-click the QuickTime tool when nothing is selected.

Use the following options in the QuickTime dialog box:

Loop Makes a movie repeat when you play it. To repeat the movie from beginning to end, choose Normal. To repeat forward and then backward, choose Back and Forth.

Play Selection Only Plays one selected QuickTime object at a time.

Show Controller Displays the QuickTime movie playback controls with the movie object.

Creating QuickTime movies

You can save a Presentation in QuickTime movie format, so the document's slides become the movie's frames.

To save a Presentation document as a QuickTime movie, choose File > Save As and select QuickTime™ Movie format. Click Save. Select options in the Export Options dialog box and click OK.

Seconds Per Frame The playback duration in seconds for each slide (frame) in the movie. The actual playback speed can vary depending on the system capabilities and movie file compression.

Colors The color depth for the movie file. More colors result in larger file sizes.

Maximize Select an option for compression used in the movie file:

- **Animation Quality** makes slide transitions as smooth as possible at the expense of image resolution.
- **Image Quality** uses high image resolution that might slow down the animation.
- **Compression** keeps the file size to a minimum, at the cost of lower image quality.

Playable on non-Apple computers Makes the movie file compatible with QuickTime for Windows.

Saving files containing movies

If you save a document that contains a QuickTime movie object, Canvas updates the link to the movie file. If it can't find the movie file, Canvas asks you to locate the file. In the directory dialog box, select the file and click Open. If you can't locate the file, click Cancel to continue saving with only the movie's "poster" (preview) image.

Using Tag Image File Format (TIFF)

Tag Image File Format is a high-resolution raster image format. Canvas supports both RGB and CMYK TIFFs. Although TIFF is a common format, many TIFF variations exist. Different resolutions, color systems, previews, and compression schemes make the format flexible, but can cause compatibility problems.

When you save TIFF files, you can choose compression options in the Export TIFF dialog box. Various compression options are available, depending on the mode of the image you are saving.

Group 3, Group 4, and **Huffman** are available to compress images that are in black-and-white mode.

RLE and **LZW** compression can be applied to all image modes, except CMYK Color.

To save an image without compression (the most compatible format), select **None**.

Using text files

Text is a standard format for files containing only ASCII (American Standard Code for Information Interchange) encoded characters.

Text format is available on nearly every computer platform; it's the "plain vanilla" format, the lowest common denominator for words and numbers. Text files don't include proprietary or application-specific character or formatting codes. Some punctuation marks, symbols, and all accented letters are non-ASCII characters that display incorrectly when used in text files. Still, ASCII text can be used to transfer text among a variety of applications, including text editors, word processors, and databases.

When you open a text file, Canvas creates one text object containing the file's contents, and assigns the default font and text formatting attributes to it. If the file contains more text than can fit in the Canvas workspace, Canvas truncates the text object and displays an overflow indicator. You can then flow the truncated text into other columns.

Using Object Linking and Embedding (Windows)

In Windows, Object Linking and Embedding (OLE) lets you easily exchange graphics among programs. Because Canvas provides full OLE support, objects you exchange retain their full functionality and are editable with all the tools of the original application.

Windows programs provide various levels of OLE support. In OLE parlance, Canvas is a fully capable *object* and *container* application. Briefly, this means Canvas can transfer objects to and from other programs through OLE.

In the world of OLE, objects created in Canvas are identified as "Canvas Drawing" objects. If you use the Insert Object command in another application, you should be able to select "Canvas Drawing" as a type of object to insert.

Inserting objects into Canvas documents

You can use three methods to insert objects in a Canvas document: the Clipboard, drag-and-drop, and the Insert Object command. The objects you insert can be either linked or embedded.

Clipboard When you copy Canvas objects to the Clipboard, Canvas places OLE formats, as well as lower-fidelity formats, on the Clipboard. When you paste into another program, that program receives the highest-fidelity format it can accept. If the other program is an OLE container, pasting creates an embedded OLE object. The same applies when pasting into Canvas; Canvas creates an embedded OLE object if OLE formats are available on the Clipboard.

Drag-and-drop In Windows, you can drag objects from Canvas documents to almost any destination on the Desktop (including local and network folders) to create a "scrap" file containing the objects. You can also drag Canvas objects into other documents, and drag objects, such as scrap files and other program's objects, directly into Canvas documents. When you drag an object to another program, it creates an embedding.

You can copy an object when you drag it by pressing a modifier key. Normally, dragging moves the object. If you want to copy the object, rather than move it, Ctrl-drag the object to another document. This copies the object and creates an embedding.

Insert Object The Insert Object command in the Edit menu opens a dialog box in which you can choose any registered OLE object type to insert into a document. You can create a new object or choose a file as the source of the embedded object.

To embed objects

When you embed an object in another document, you can use the original program's tools and commands to edit the object.

Note: Not all programs support OLE and can create embeddings.

1 Select the objects you want to embed in another document.

2 Choose Copy in the Edit menu. Canvas puts the selection on the Clipboard.

3 Switch to the document where you want to embed the selection and choose Paste in the Edit menu. The object is embedded into the document.

To link objects

If you want an object to be updated when it changes in the original document, you can create a link to the object. The Canvas document from which you copy objects to be linked must have been saved before you copy the objects.

Note: Not all OLE programs support OLE linking.

1 Select the objects to link and choose Copy in the Edit menu.

2 Switch to the document where you want to paste the linked object and choose Paste Special in the Edit menu.

3 In the dialog box, Canvas Drawing format is selected and you can click Paste Link to link the object.

To manage linked objects

You can use the Links command to check the source file of a linked object and repair a broken link if a source file has been moved.

1 Select a linked object in a document.

2 Choose Links in the Edit menu. The Links dialog box displays the link type and update method. To change the update method, choose the Automatic or Manual option.

3 Use the buttons to update or change the linked object:

- To update the object from its source, click Update Now.
- To open the source document, click Open Source.
- To select a different source document, click Change Source.
- To remove the link so changes to the source do not affect the linked object, click Break Link.

Differences between linking and embedding

When you insert an object into a Canvas document, or insert an object from Canvas into another program's document, you create an association between the object and its application. Linking and embedding create different types of associations.

Linking When you link an object, the object remains in the file where it was created. Only a link (reference) to the source object winds up in the document, which makes linking an efficient method of storing commonly-used objects and files. Linking makes a dynamic connection between an object and all documents in which it appears. When you edit the object, changes are automatically sent to linked instances of the object in all documents.

Because the object is linked by only a reference to another file, if any of the linked files change locations, the link will be disrupted. To move linked files without disrupting the references, you must move all linked files as well as the entire directory structure so that the relative locations of the files don't change.

When you edit a linked object, the object's application opens in a separate window. When you finish editing, you close the application to return to the document containing the link.

Embedding When you embed an object in a document, the object itself (not just a reference) is copied into the document. Therefore, a document can be moved to another computer without losing the object.

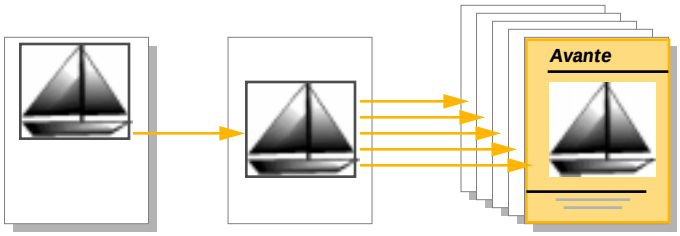
Using Publish and Subscribe (Mac)

Publish and Subscribe is a Mac OS technology that lets you share information in Canvas and with other Mac OS programs.

Publish and Subscribe is useful when you want to be able to update an object in several documents whenever you change the original.

You can share an object by publishing it, which creates an edition, and then subscribing to the edition.

The arrows represent manual or automatic updates from the publisher to the edition, and from the edition to the subscribers.



Publisher *Edition file* *Subscribers*

To share an object, you make it a *publisher*. This creates an intermediate file, called an *edition*. To place the object in other documents, you subscribe to the edition file. Subscribing creates a *subscriber*, which is linked through the edition to the publisher.

Publish and Subscribe creates dynamic links between documents, unlike moving data through the Mac Clipboard. When you change a publisher, Canvas can update the edition automatically. When an edition changes, its subscribers can be updated automatically. You can also turn off automatic updating and then update changes manually.

To publish a selection

When you publish a selection, Canvas creates an edition file containing a copy of the published selection. You can subscribe to the edition from other documents. You can use the same procedure to publish information in another program and subscribe to it in Canvas.

1 Select the objects in Canvas that you want to publish.

2 Choose Edit > Publishing > Create Publisher.

3 In the Create Publisher dialog box, select a location and type a name in the text box for the edition file, and then click Publish. Canvas creates the edition file on disk and displays a rectangular shaded border around the published selection.

Publisher borders

The rectangular border Canvas displays around a publisher is like a window into the document. Canvas sends objects that are within the border to the edition file. You can resize and move the border and move objects into and out of it to change the contents of the edition.

To set publisher options

The Publisher Options command lets you specify when to update a publisher's edition file. It also lets you update the edition manually and cancel the link between the publisher and edition. The command is available once you save the document containing the publisher.

1 Click the publisher border to select it and choose Edit > Publishing > Publisher Options.

2 To update the edition immediately, click Send Edition Now. Canvas updates the edition file. Whether subscribers to this edition also get updated depends on their update setting; see "To set subscriber options" on page 7.28.

3 To specify when Canvas should update the edition file, choose an option in the Send Editions area.

On Save Tells Canvas to update the edition file whenever you save the publisher document.

Manually Tells Canvas not to update the edition. If you select this option, Canvas shows the time of the last publisher change.

4 When you finish setting publisher options, click OK.

◆ **To break the link between publisher and edition:** Click Cancel Publisher in the Publisher Options dialog box. This breaks the link to the edition. However, canceling the publisher does not delete the edition file or affect documents that subscribed to the edition.

To subscribe to a published selection

After you publish a selection, which creates an edition, you can subscribe to the edition file to place the published selection in as many documents as you want.

1 In the document in which you want to place the published objects, choose Edit > Publishing > Subscribe To.

2 In the directory dialog box, select the edition file for the published selection and click Subscribe. The published information

appears in the subscriber document within a non-printing gray rectangle. You can move and resize the subscriber border.

To set subscriber options

You can make changes to an edition file appear automatically in subscriber documents or update the subscriber manually. To set these and other options, use the Subscriber Options command.

1 Click the subscriber border to select it and choose Edit > Publishing > Subscriber Options.

2 To update the subscriber now from the edition, click Get Edition Now. To specify when the subscriber should get changes from the edition file, choose an option in the Get Editions area:

Automatically Tells Canvas to update the subscriber when you open the document and whenever the edition changes.

Manually Tells Canvas not to update the subscriber. If you select this option, Canvas shows the time of the last update.

3 When you finish setting subscriber options, click OK.

◆ **To break the link between a subscriber and edition:** Click Cancel Subscriber in the Subscriber Options dialog box.

◆ **To open the publisher document:** Click Open Publisher in the Subscriber Options dialog box.

Updating publishers and subscribers

When you work on a document containing publishers or subscribers, you can update all the linked items in the document at once.

◆ **To update all edition files:** Choose Edit > Publishing > Send All Now. Canvas updates all editions that are linked to the publishers in the document.

◆ **To update all subscribers in a document:** Choose Edit > Publishing > Get All Now. Canvas gets updates from all editions that are linked to the subscribers in the document.

CHAPTER 8

WEB PUBLISHING

Canvas is an ideal tool for creating graphics and layouts for the world wide web. This chapter explores how to prepare graphics and documents for publishing on the web or a company intranet. It includes information on hyperlinks, animations, and web-page buttons.

About hyperlinks and hypertext

After you create illustrations and text for a web page in Canvas, you can use the URL Attachment palette to link items in the layout to other web pages and resources on the Internet.

Visible objects, such as buttons or graphics, that lead to other web pages are called *hyperlinks* or simply *links*. Text that contains a hyperlink is called *hypertext*. Someone viewing your web page clicks a hyperlink to jump to another web page located on your site or anywhere on the Internet. The web browser searches the Internet for the address associated with the hyperlink. An internet address is referred to as a URL, an abbreviation of *Uniform Resource Locator*.

Examples of hyperlinks

Hyperlinked object

Hyperlinked image

Africa
Asia
Australia
South America
Other countries

Hypertext

✔ Tip
To create invisible "hotspots," you can assign URLs to objects that don't have visible strokes or fill inks. This lets you designate any area of a web page as a hyperlink.

You can make hyperlinks by assigning URLs to any object, including the following:

- vector objects, such as small illustrations
- image objects, including photos and painted images
- text selections and entire text objects
- Buttons and animations

Note: To prevent unintended changes, you can't assign URLs to objects on locked layers, pages, or slides.

Using the URL Attachment palette

The URL Attachment palette is a small floating window that lets you do the following:

- attach URLs to objects and text, or remove an attached URL
- find objects that have a specified URL attached to them
- display the URL attached to a selected object or text
- attach sound and animation controls to objects or text
- apply colors and styles to hypertext
- designate selected text as searchable keywords
- specify the path to use for relative hyperlinks

Creating hyperlinks

Using the URL Attachment palette, you can create links to web pages and other resources on the Internet. Your links can point to web pages with **http** URLs; to files with **ftp** URLs; and to e-mail addresses with **mailto** URLs. You can also make hyperlinks to web pages that are on a local hard disk or company intranet.

URL formats

All URLs start with text that identifies the type of resource located at the URL address.

http:// A web page URL starts with "http" (for *Hypertext Transport Protocol)*, followed by the Internet address, path and name of a web page file. For example: http://www.deneba.com/index.html

ftp:// A file's URL can start with "ftp" (for *File Transfer Protocol*) followed by the Internet address, path and name of a file. For example: ftp://ftp.deneba.com/public/Guide.pdf

mailto: An Internet e-mail URL starts with "mailto" followed by a username, @ symbol, and domain name. For example: mailto:support@deneba.com

Relative paths You can create hyperlinks to web pages by typing relative paths, rather than complete URLs, in the URL Attachment palette. Canvas specifies links this way when you select local files by using the Browse button in the URL Attachment palette. See "Creating links to other files" on page 8.8.

To assign a URL to an object

Use the steps below to create hyperlinks. Instructions for creating various types of hyperlinks appear after this procedure.

1 If the URL Attachment palette is not displayed, choose Object > Options > URL Tag to display it.

2 Select the object to link. If the selection has a hyperlink, the link text appears in the URL Attachment palette.

3 Do one of the following to enter the hyperlink URL:

- Type a URL (including *http*, *ftp*, or *mailto*), or a local web page file name in the text box at the top of the palette.
- Use the palette's menu to enter a URL prefix or a previous URL.
- Use the Browse button to select a web page file. See "Creating links to other files" on page 8.8.
- Select a page from the list in the palette. See "Creating links to pages" on page 8.6.

4 Click Assign to assign the URL to the selection.

URL Attachment palette

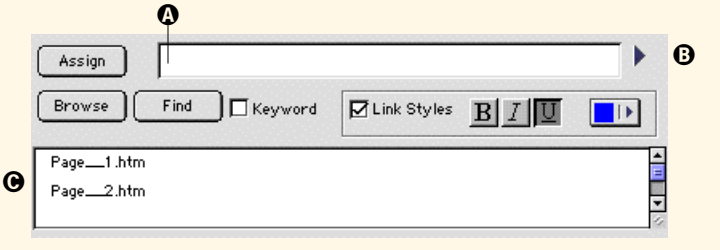
Use the palette to tag objects with URLs for hyperlinks.

Ⓐ Type a URL.

Ⓑ Select a URL or URL prefix.

Ⓒ Select a page in the current document.

Assign: Click to assign the URL in the box to a selected object.



Browse: Click to select a web file to link to.

Find: Click to find a URL assigned to an object in the current document.

Note: You can't assign a URL or action to objects on layers, pages, or slides that are locked. For compatibility with all web servers, you should use lowercase letters when you type URLs. Some servers (mainly Unix) have problems if URLs contain uppercase characters.

To remove an assigned URL

1 Select the object that has a URL that you want to remove. The object's URL appears in the text box.

2 In the palette's menu, choose "Unassign URL from selection." This command is available if the selected object has a URL tag.

Finding objects by URL

You can use the Find button in the URL Attachment palette to search for and select objects that have specified hyperlink text attached.

When objects are found, you can see the object type, object number, and whether an object assigned to a URL is part of a group. For text objects, you can see the number of characters linked, where in a text object the linked characters start and end, and the linked text itself.

1 Click Find in the URL Attachment palette. The URL Search dialog box appears (if the document contains at least one URL).

2 To specify the text to find, choose a URL in the URLs pop-up menu or type a URL in the text box.

3 Click Find. The URL Search Results dialog displays information about objects that have the specified hyperlink text attached.

4 To select an object listed in the URL Search Results dialog box, click the object's name and then click Go To.

Search options

You can select the following options in the URL Search dialog box.

Match Whole Word Select this option to match the specified text exactly. If you type "home.htm" and this option is selected, you won't find "/user/home.htm." If the option is not selected, you will.

Search Whole Document Select this option to search beyond the current page (slide/sheet/frame) in the document.

Attaching hyperlinks to text

Hyperlinked vector and text

Anti-aliased vector objects and text

Hyperlinked invisible object

Hyperlinked image

You can select any amount of text — from one character to whole paragraphs or entire text objects — and use the URL Attachment palette to make the text selection a hypertext link to a web page, ftp address, or e-mail address.

Hypertext styles Many web browsers display underlining or colors on hypertext. You can use the URL Attachment palette to apply styles and colors when you assign a URL to a text selection.

Text in images Making hypertext links in Canvas lets you design the equivalent of *image maps* that can be easily edited. To do this, place text on images (or vector objects), and then link the text to the appropriate URLs. Later, if you want to change the illustration, you can edit the text, images, and objects separately in the original Canvas document.

To create a hypertext link

1 Choose Object > Options > URL Tag to open the URL Attachment palette, if necessary.

2 Make a text selection in the Canvas document. The selected text appears highlighted.

3 Do one of the following to define a link for the selected text:

- Type a URL (including *http*, *ftp*, or *mailto*) or a web page file name in the text box at the top of the palette.
- Use the palette's menu to enter a URL. See "Using the URL palette's menu" on page 8.6.
- Use the Browse button to select a web page file.
- Select a page in the palette's list.

4 To apply styles or color to the text, select the Link Styles check box. The text style buttons and a pop-up color palette appear.

Select Link Styles to show the text style options

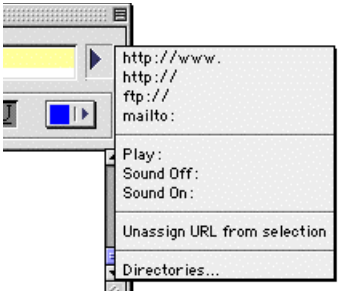
Color palette

Text styles

- Click style buttons to apply text styles.
- Select a solid color ink from the color palette, or choose the Custom button to use the Color Editor.

5 Click Assign to assign the URL and the selected Link Styles to the text selection.

Using the URL palette's menu



A pop-up menu in the URL Attachment palette lets you choose URL prefixes and the text of links that have been assigned to objects in the document. You can choose commands to create sound and animation control objects. Also, you can choose an "unassign" option to remove a link from a selected object.

URL prefixes

In the palette's menu, you can select prefix text for web sites, ftp sites, and e-mail addresses.

- Choose **http://** or **http://www.** to enter a web address.
- Choose **ftp://** to enter a file transfer protocol (FTP) address.
- Choose **mailto:** to create an e-mail link.

After selecting a prefix, type the rest of the link text in the text box.

URL history

When you create a hyperlink in a Canvas document, the URL is added to the palette's menu. Also, when you create a link using the Play, Sound On, or Sound Off commands, the link text appears in the menu.

After you assign a link to an object, you can assign the same link to other objects by choosing the link text from the palette's menu. The link text then appears in the text box at the top of the palette and you can click Assign to assign it to a selected object.

Creating links to pages

The list in the URL Attachment palette lets you create hypertext links from one page to another in a Canvas document. After you link pages, you will want to export each page as a separate web page (see "HTML options" on page 8.19). Using this technique, you can easily convert a single Canvas document into a hyperlinked web site.

✔ Tip
You can use the Document Layout palette to assign meaningful names to pages before you create links to them using the URL Attachment palette.

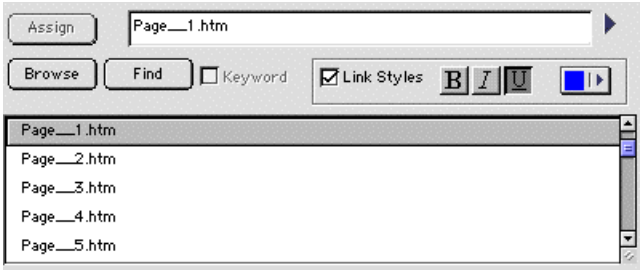
To create links within a Canvas document

1 In a document with multiple pages, select an object or text to be a hyperlink.

2 In the URL Attachment palette, choose the page to link to. The page name (with the extension “htm”) appears in the text box.

3 Click Assign to assign the hyperlink to the selected object.

Page names in the URL Attachment palette



Invalid characters in page names

Because some special characters are invalid in web page names, Canvas converts these characters if they are in a page or slide name that you select in the URL Attachment palette.

If invalid characters appear in a page name, Canvas replaces the characters with underscores when Canvas assigns a URL. Invalid characters include a blank space and the characters in the following table.

Invalid characters in assigned URLs

!	**&**	**[**	
@	*****	**]**	` *(grave accent)*
#	**(**	**{**	**~**
$	**)**	**}**	**<**
%	**+**	**|**	**>**
^	**=**	**tab**	**?**

Format of hyperlinks

Canvas creates links among pages using only file names, not complete URLs. The “Create Absolute URLs” option in the “Directories for Server Aliases” dialog box does not affect links to pages or slides within a Canvas document.

Therefore, when you create a series of linked web pages from a Canvas document, be sure to keep the resulting files together in the same folder or directory on the web server so the links among the pages function correctly.

Creating links to other files

You can use the Browse button in the URL Attachment palette to create links to existing web pages.

Creating links to web pages depends on their location in a directory structure. You can use the Directories command (in the palette's menu) to set a directory path for local web pages and the URL for a web server. You need to do this before using Browse to link local files. For details, see "Using the Directories command" on page 8.8.

To use Browse to link to a local web page

1 Click Browse in the URL Attachment palette.

2 Use the directory dialog box to select the web (HTML) file.

Note: By default, files that do not have an extension containing "htm" do not appear in the file list. To link to web pages, be sure to select files that have the extension "htm."

3 To assign the link to the selected object, click Assign. Canvas makes the link based on the file's location in the directory structure.

Messages displayed when using Browse

Before you can use the Browse button, you must choose Directories in the palette's menu to define the Root URL of the web server and the Equivalent Root folder on your local hard disk. You can also specify the Destination directory where you will save the current web pages.

If you haven't specified the Root URL of the web server and the Equivalent Root, a message appears. If this happens, click OK in the message box to continue. Then, use the Directories command as described next.

Using the Directories command

The Directories command lets you specify the root directory of your web server and the equivalent directory for web pages on your hard disk. You need to do this to be able to use the Browse button to create links to local web page files.

1 Choose Directories in the URL Attachment palette's menu. The "Directories for Server Aliases" dialog box appears.

2 In the Root URL text box, type the complete URL for the root directory of the web site. Usually, the root URL format is "http://"

followed by the domain name (such as www.deneba.com), followed by a slash that indicates the root directory.

- When you assign a hyperlink in the URL Attachment palette, and the “Create Absolute URLs” option is selected in the “Directories for Server Aliases” dialog box, Canvas constructs the complete URL by preceding the name of a file you select with the text you enter in the Root URL text box.

3 In the Equivalent Root text box, type the name of the directory or folder on your local hard disk that you use as the “root” folder for storing your site’s web pages. Click the Browse button to use a directory dialog box to select a file that is in the folder you want to specify as the Equivalent Root folder.

- Canvas uses the location of the Equivalent Root folder when it creates URLs for a file you select on disk as the target of a hyperlink. Canvas compares the file’s location within the directory structure to the location of the Equivalent Root. For example, if the file you select is one level below the Equivalent Root, Canvas includes the parent folder in the directory path when it constructs a complete URL.

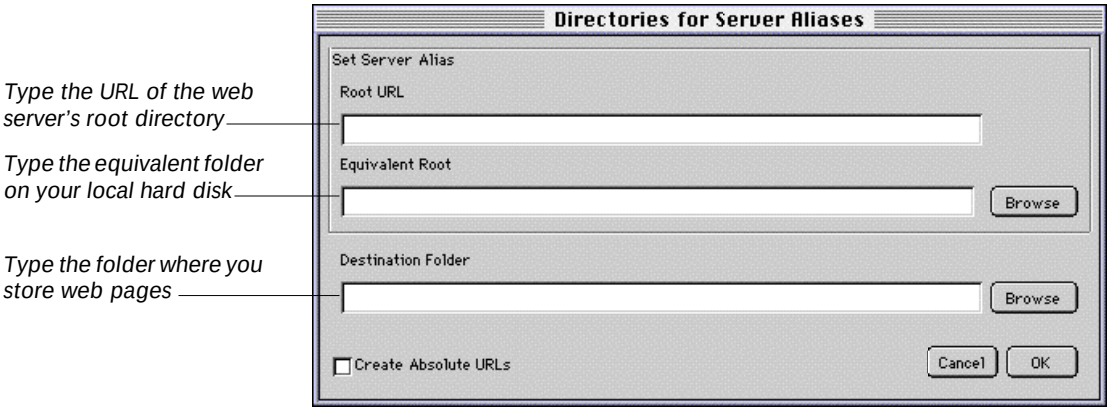
4 In the Destination folder text box, type the name of the folder where you are saving the current document’s web pages, or use the Browse button to select a file in this folder.

5 Click OK to implement the directories.

Create Absolute URLs option

You can select the option “Create Absolute URLs” in the “Directories for Server Aliases” dialog box to tell Canvas how to enter URLs when you use the Browse button in the URL Attachment palette.

If “Create Absolute URLs” is selected, and you use the Browse button to select a file, the link to the file appears as a complete URL (beginning with http://) in the URL Attachment palette. If this option is not selected, links to other pages appear as relative paths when you use the Browse button to select a file.



About file locations and URLs

In most cases, web files are created on one computer and transferred to a web server that is connected to the Internet. You might create web pages on your home or office computer, then transfer the files over a network or the Internet to a web server.

Web pages often contain links to other web pages on the same web server. Because these links are based on the names and locations of the files on the web server, changing file names or locations can break the links among the pages.

To successfully create hyperlinks among web pages on your site, you should understand how to use relative directory paths, absolute directory paths, and Internet URL addresses.

Absolute paths An absolute path specifies a file's location starting at the top, or root, of the directory structure in which the file is stored. For example, if a file named "Calendar.html" is stored in a folder named Events, inside a folder named Public, which is inside a folder named Home at the root of the hard drive, the path to the file is:

/Home/Public/Events/Calendar.html

Relative paths A relative path specifies the location of a file relative to the location of another file in the same directory structure. Rather than starting at the root of the directory structure, a relative path starts at the location of one file or folder and lists the relative steps needed to get to the specified file. In a relative path, the symbol ../ (two periods and a slash) signifies a move up one step toward the root level in the directory structure.

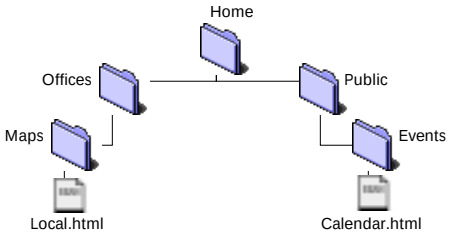
Directory paths

In the directory diagram shown here, the relative path from the file “Local.html” in the Maps folder to the file “Calendar.html” in the Events folder is:

../../Public/Events/Calendar.html

In this case, the relative path starts on one branch of the directory tree, moves to the root, and then back down another branch.

If two files are on the same branch of a directory, the relative path can be much shorter than the absolute path. For example, the relative path between the file “Calendar.html” in the Events folder and a file named “Schedules” in the Public folder (one level above Events) is:



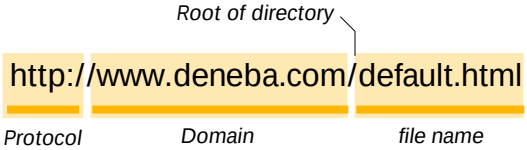
../Schedules.html

The absolute path to the same file is:

/Home/Public/Schedules.html

Complete URLs Like an absolute path, a complete URL lists the directory path starting at the root to the location of a web page on a server. In addition to the path and file name, a complete URL includes a protocol (http or ftp) and an Internet domain name.

A complete URL for a web page



In the “Directory paths” diagram on page 8.11, if the folder named Home is the root folder of a web site, the URL for the “Calendar.html” page is:

http://www.domain.com/Home/Public/Events/Calendar.html

Entering file names and URLs When you create hyperlinks, you can specify the target as a relative path or a complete URL.

- If the two pages are in the same folder or directory, the relative path is simply the name of the target file.
- A complete URL specifies the actual location of the file on a web server on the Internet.

You can type a relative path or a complete URL in the text box at the top of the URL Attachment palette.

When you use the Browse button in the URL Attachment palette, Canvas can enter a relative path or a complete URL. See “Create Absolute URLs option” on page 8.9 for more information.

Creating sound and animation links

The commands Play, Sound On, and Sound Off in the URL Attachment palette’s menu let you assign actions to objects on a web page.

Play

The Play command lets you create “play” buttons for animations and sounds on web pages. You assign the Play command to an object such as a web button, and specify the animation or sound object to be played. When you click the button, the specified sound or animation plays on the web page.

Sound On / Sound Off

These commands let you disable or enable sound playback for animations that contain sounds. You can attach the Sound On or Sound Off command to an object such as a web button, and specify the object number of the animation that you want to control. When you click the button on the web page, it enables or disables sound playback for the specified animation.

Sound On and Sound Off do not affect sound playback while an animation is running. If the sound is disabled, the Sound On command enables sound; the sound is heard the next time the animation is played. If sound is enabled, the Sound Off command disables sound; the sound is not heard the next time the animation is played.

To create a sound or animation control object

Use the following procedure with the Play, Sound On, or Sound Off commands to create a control button.

1 Select the object you want to use as a control object, such as a web button, vector object, image, or text object.

2 In the URL Attachment palette, choose a command in the palette’s menu. The command appears in the text box.

- Choose Play to play a sound or animation.
- Choose Sound On to enable an animation’s sound.

- Choose Sound Off to disable an animation's sound.

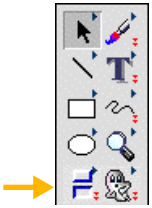
3 A dialog box lists the sound and animation objects in the document. Select the object you want to control and click OK, or double-click the object name in the list.

Invalid link text

If you click Apply in the URL Attachment palette when the text in the text box isn't valid for creating a link, an error message appears. If this happens, click OK to continue, and then change the text to make a valid link.

Using web buttons

You can create and place dynamic buttons in web pages. Web buttons can be linked to URLs, sounds, and animations. You can build buttons with text, vector objects, and images. A web button can change when the pointer touches it and when it is clicked.



Web Button tool

The Web Button tool opens the Web Buttons palette and places buttons in documents. The tool is in the Object Tools toolbar.

Creating web buttons

A dynamic web button has three states: when the pointer is not on the button, when the pointer touches the button, and when the button is pressed. When you create a button, you can use a separate object or image for each of the button's states.

For example, to make a circular button that changes from red to blue when you point to it, and then changes to green when you click it, you could use circles filled with red, blue, and green.

Note: You can't use a web button or sound as a component of a web button. Also, null objects can't be used in web buttons. A null object is an object that has its pen ink and fill ink set to "none."

To create a web button

1 Double-click the Web Button tool to open the Web Buttons palette, if necessary.

2 Drag the object for the button's "Up" state (when the pointer is not on the button's bounding rectangle) into the Up box in the Web Buttons palette. The object appears in the box.

3 Drag the object for the button's "Over" state (when the pointer is on its bounding rectangle) into the Over box.

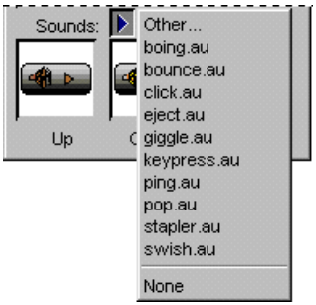
4 Drag the object for the button's "Down" state (when the button is clicked) into the "Down" box.

Note: You can drag objects into the boxes in any order.

◆ **To add a web button to the palette:** To store a button in the palette, drag from the preview box to the scrolling area at the top of the palette.

◆ **To delete a web button from the palette:** Drag the button you want to delete to the trash can in the palette. The button disappears from the palette.

Adding sounds to web buttons



You can attach sounds to the Over and Down states of a web button. The Over sound plays when the user moves the pointer over the button, and the Down sound plays when the user clicks the button. You can attach separate sounds to a button's Over and Down states.

Use the pop-up menu over the Over or Down box to do one of the following:

- Choose a preset sound. The menu contains a variety of built-in sounds you can assign to a button state.
- Choose Other and select an "AU" sound file, and then click Open.
- Choose None to remove a sound from a button state.

Placing web buttons in a document

Use this procedure to place web buttons in a Canvas document. If you want to place multiple copies of the same button, use this procedure once, and then see "Placing copies of web buttons," next.

1 Double-click the Web Buttons tool to open the Web Buttons palette. If the palette is already displayed, select the tool.

2 At the top of the Web Buttons palette, select the button to place. The selected button appears in the preview box.

3 Do one of the following to place the button:

- Click where you want to place the button's top-left corner.
- To scale the button, drag to create a bounding rectangle.

Note: When the Web Buttons palette is closed, you can use the Web Button tool to place the last selected button. Or, if the Web Button

tool is not selected but the palette is open, you can drag a button from the palette into the document.

Placing copies of web buttons

To place multiple copies of the same button, it's recommended that you use the Web Button tool to place the first button in the document, and then use the Edit > Duplicate command to create copies. This method results in faster display of a web page than if you use the Web Button tool to place several instances of the same button.

Editing web buttons

When a web button has been placed in a document, you can select the button and drag a handle to resize its bounding rectangle. You can't edit its attributes, such as pen ink, fill ink, and stroke. You can change the objects in the button, and then replace the button.

To change a button's Up, Over, or Down object, drag the object from the palette into the document. Modify the object and drag it back into the palette. Place a new copy of the button in the document, and store the modified button in the palette if you want to use it again.

Testing web buttons

Before storing a new button in the palette, you can test it in the Web Buttons palette. When the pointer is not in the preview box, you can see how the button will look on a web page when the pointer is not on the button's bounding rectangle. To see the button's appearance when the pointer is on its bounding rectangle, move the pointer into the preview window. To see the button's appearance on a web page when the button is clicked, click in the preview box.

Testing web buttons in a document

After you place a web button, you can test it before you save the document in HTML format. To do this, you use the Web Buttons palette's "play" mode.

When you click "Start Play Mode" in the palette, Canvas puts button objects in the document in "play" mode. When you move the pointer over a button, or click it, you see the effects in the document. When you finish, click "End Play Mode."

It's recommended that you click "Start Play Mode" only to test web buttons. You shouldn't work in Canvas while play mode is active. Be sure to click End Play Mode before starting other work. Otherwise, you might not be able to select objects or change tools.

Linking web buttons

By using the URL Attachment palette, you can link buttons to URLs, sounds and animations. For more information, see “Creating hyperlinks” on page 8.2 and “Creating sound and animation links” on page 8.12.

Saving web buttons

Canvas stores information about web buttons in the Canvas Tool Settings file in the Preferences folder in the System Folder (Mac OS), or the cv7tool.set file in the User folder (Windows). When you add a web button to the palette, it’s available in all Canvas documents.

Saving and loading buttons files

You can save in a file all the buttons that are stored in the Web Buttons palette. You can load buttons back into the palette from these files.

- **To save buttons:** In the palette’s pop-up menu, choose Save Buttons. Type a name for the file and click Save.
- **To load buttons:** To replace all buttons in the palette with those saved in a file, choose Load Buttons in the pop-up menu, select a buttons file, and click Open. To add to the buttons in the palette, choose Append Buttons from the pop-up menu, select a buttons file and click Open.
- **To clear buttons:** To remove all buttons from the Web Buttons palette, choose Clear Buttons from the palette’s pop-up menu.

Using sounds

You can use the Sound tool to place sounds on web pages. Canvas supports AU (Sun Audio) sound files. Many utilities will convert sound files to AU format. Canvas supports sound files that are recorded with single-channel sound, sampling rate of 8,012 Hz (cycles per second), and µLAW compression.

To place a sound object

1. Select the Sound tool in the Object Tools toolbar, and then click where you want to place the upper-left corner of the sound object. Or, drag to set the size of the sound object.
2. In the dialog box, select an AU sound file and click Open.

Note: The sound file you assign must have an “AU” extension.

To set sound options

After placing a sound object in a document, you can set options for the object. You can control whether the object will be visible in the web page and specify a playback method.

1. Double-click a sound object.
2. Choose a playback method in the Play Type pop-up menu:

   On Click plays the sound when the sound object is clicked.

   On Load plays the sound one time when the web page loads.

   URL Linked establishes no playback method for the sound object. Choose this method if you want to use another object, such as a button, to play the sound.
3. Click OK to apply the settings to the sound object.

Linking to sound objects

You can create a link between an object, such as a button, and a sound object. For information, see “Creating sound and animation links” on page 8.12.

Using GIF animations

You can work with web animations in Canvas using Animation documents and the Animated GIF tool.

Creating animations

You can create animations by assembling images in an Animation document and saving an animated GIF file. The Animation document consists of a series of frames, like individual pages. You add objects to the frames to create an animation sequence. The Document Layout palette lets you arrange the frames and set their duration.

For more information on Animation documents and using the Document Layout palette, see “Document layout” on page 6.1.

◆ **To save an animated GIF file:** Open the Animation document you want to save as an animation file. Choose File > Save As. Select GIF Animated file format, enter a file name, and click Save.

Editing animations

You can use the Open command to import an animated GIF file for editing. You can edit the frames and save a new animated GIF file.

To import an animation

1 Choose File > Open.

2 Select the animated GIF file and click Open.

3 A dialog box appears. Enter the first and last frames to import. Click OK to import the frames into a new Animation document.

Placing animations

You can use the Animated GIF tool to insert animated GIF files into web pages that you design in Canvas. When you save a document as a web page, animations are exported and appear on the web page.

Whether you create animations using Canvas or have animated GIFs from other sources, the procedure for placing them is the same.

To place an animation

1 Select the Animated GIF tool. This tool is located in the Object Tools palette.

2 Click in the document where you want to place an animation.

3 A directory dialog box appears. Select the animated GIF file to place and click Open. Canvas inserts the file as an animation object.

To preview an animation, double-click the animation object. You can select, move, cut, copy, duplicate and apply other commands, including Rotate and Flip, to animation objects.

You cannot apply some effects, including Envelope and Extrude. Commands such as Scale and Shadow can be applied, but they affect only the bounding box, not the objects in an animation.

Saving Canvas documents for the web

To export a document as one or more web pages, you can save the document in HTML format.

Note: You should always save your documents in Canvas format before you export web pages. Saving in Canvas format means you can edit the original and export again to change web pages. Canvas does not support opening and editing of HTML web pages.

To save a document in HTML format

1 Open the Canvas document that you want to save as one or more web pages, and then choose File > Save As.

2 In the directory dialog box, select HTML file format. Select a location to save the files, type a file name, and click Save.

3 In the HTML Options dialog box, select options for saving the web pages (described next), and click OK to save them.

How Canvas handles images

Canvas uses compression and color reduction to optimize images for faster display on web pages. When you select the Automatic Image Format option, Canvas exports RGB Color and CMYK Color images as RGB (24-bit) images using JPEG compression. Indexed mode images, which use a maximum of 8 bits of color information per pixel, are exported in GIF format. Black and White images are exported as Indexed (8-bit) images. Canvas exports Grayscale images as Indexed 8-bit images or JPEG-compressed RGB images, using the format that it determines will produce the best results.

Including document data

When Canvas creates an HTML file from a document, it uses meta tags in the HTML file header to include data has been entered in the document Properties dialog box. This data includes information such as Title, Subject Keywords, Author, and Category from the fields on the Summary tab for the Canvas document.

HTML options

The HTML Options dialog box controls the saving of web pages.

Create new folder This option organizes files for a web page by placing them in a new folder in the location you specify. The name you enter for saving a web page file is used for the folder name.

Separate pages This option is available when the Canvas document you are saving contains multiple pages. Select Separate Pages to create a web page from each page in the Canvas document. The page names will become the web page file names. If you do not select this option, Canvas exports all pages as one web page.

Put images in subfolder To help organize files, this option creates a subfolder for the web page image files inside the web page folder.

Generate Navigation File If there is more than one web page to be created, select this option to generate an “index” page. The index page has frames and hyperlinks to all the web pages you are saving.

Use external style sheet Select this option to create an external style sheet for web pages that you are saving. An external style sheet can make it easier to edit styles manually. This option can also reduce the size of individual HTML files, because the complete style information is not included in each web page file.

Render Text Rendering converts text objects to images to ensure that text appears exactly the same on the web as it does in your document. However, rendered text can't be selected as text on a web page.

Select **Automatically** to let Canvas decide when to render text. Select **Always** to render all text. Select **Never** to preserve all text.

Image Format Select **Automatic** if you want Canvas to choose the file format for images. Select JPEG or GIF format to save all images in one or the other format.

JPEG Quality Select an image quality option based on the amount of JPEG compression you want Canvas to apply to images. **Best** produces the best quality with the least compression (100% Quality). Fine is equivalent to 90% Quality. Good is equivalent to 75% Quality. **Draft** applies the most compression and is equivalent to 50% Quality.

Anti-aliasing

Select this option to smooth the edges of vector objects and text objects that are rendered for web pages. Choose an option from the menu to control the amount of smoothing.

Finest uses up to 256 shades for anti-aliasing between each pair of colors. When images have more than 256 colors, they should be saved in JPEG format to preserve the full range of shades. If necessary, Canvas will use JPEG format when it saves anti-aliased images if you select the Automatic Image Format option.

Fine option uses 64 shades per pair of colors. **Medium** uses 16 shades per color pair. **Coarse** uses four shades per color pair.

None does not apply anti-aliasing to rendered images.

Save this setting as default Select this option to save the current settings in the dialog box for all documents. Otherwise, Canvas saves the settings for the current document only.

Default Click Default to apply the settings that were in effect the last time "Save this setting as default" was selected and you clicked OK. If you have never selected the save settings option, clicking default will apply the Canvas default settings to the dialog box.

CHAPTER 9

CUSTOMIZING CANVAS

You can customize your Canvas work environment to best suit the needs of a specific project and to maximize your productivity. This chapter describes how to set preferences, customize keyboard shortcuts and the Toolbar, save document templates, and create custom sets of Canvas tools.

Setting preferences

Preferences are options that let you customize the display, tools, and commands. You can set these options in the Preferences dialog box.

To change preference settings

1 Choose File > Preferences.

2 In the Preferences dialog box, click a tab to display its options. Adjust the options you want to change.

3 To implement the current settings, click OK.

Note: For options that you turn on and off (as opposed to entering a number or choosing a menu option), the descriptions in this chapter refer to the way Canvas works when the option is on. An option is on when its checkbox is selected (has a check mark in the box); an option is off when its checkbox is not selected (has no check mark).

General preferences

The options on the General preferences tab control various display and window behaviors.

Number of Undo Levels Enter a number in the Min box to set the minimum number of actions that Canvas can reverse. The default is three. Enter a number in the Max box to specify the maximum number of actions that Canvas reverse. The default is 10.

To undo an action in Canvas, choose Edit > Undo.

Canvas uses memory to store operations so they can be undone. The amount of memory depends on the operation. For example, undoing a filter applied to a 2 MB image requires significantly more memory than reversing a change in type size.

Canvas allocates memory to ensure that you can undo the specified minimum number of actions. Canvas tries to set aside enough memory so you can undo the specified maximum number of actions. It uses this memory if it's needed for other operations. Therefore, you should be able to undo the specified minimum number of actions, but you might not be able to undo the specified maximum number of actions. The memory allocation ensures that you'll have the most memory available in Canvas.

Freeform Selection Lets you place objects in freeform mode by clicking already-selected objects. Otherwise, you must use the Effects > Freeform command to put an object in freeform mode.

Retain Selected Tool Keeps the current tool selected after you use it, instead of reverting to the Selection tool.

No Background Updates Prevents Canvas from redrawing open Canvas documents when you are working in another application. This option lets other applications run faster when Canvas is in the background.

Dither Colors Provides the best onscreen color representation, but requires more system memory. If you are using Canvas for Mac OS, this option requires 32-bit color capabilities.

Select Across Visible Layers Lets you select objects on all visible layers in a document, rather than just the active layer.

Note: If this option is off, you can still select objects on other visible layers by pressing Tab and clicking the objects.

Fit to Window Opens documents so the full layout area can be seen in the center of the window. When this option is off, documents open in Home View (100% magnification with the upper-left corner of the page in the upper-left corner of the window).

Maximize on Opening Opens documents at full screen size. Otherwise, documents open at a standard size that fits any monitor, but might not fill the screen completely.

Create backup when saving Saves a copy of the current document each time you save changes to the document. The backup copy has the extension ".bak," and Canvas saves to this same file each time.

Search selection on clicks When this option is on, you can drag a selected object from behind another object. If this option is off, you can drag only the front object, because dragging deselects a back object.

Canvas 6-style object locking When you lock an object or group of objects, you can select and copy locked object(s) by clicking on the object or group of objects. Copied objects will not be locked.

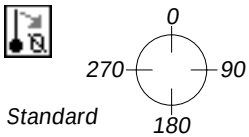
Tool tips Displays information, tips and shortcuts in small boxes that appear when you point at an item, such as a tool, button, or object. For example, if you move the pointer over the Copy button in the Tool Bar, Canvas displays the command name and shortcut. Canvas also displays user comments when you point to an object that has comments, and displays information when you point to an ink in the Inks palette. For color inks, Canvas displays color system information. For example, if you point to a CMYK ink, the color values such as “5c 2m 92y 0k” appear in a pop-up box. For other inks, Canvas displays the ink name.

Scale Stroke Weight When you scale an object by dragging its selection handles, if the object has a solid pen stroke, Canvas will scale the pen weight proportionately with the object.

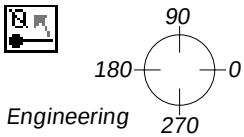
Drawing preferences

The Drawing tab lets you select a coordinate system for angular measurements and specify behavior for moving and copying objects.

Coordinate System Choose the Standard or Engineering system for angular measurements.



Standard



Engineering

When dragging and resizing always show originals When you drag or resize an object, it will follow the pointer and also appear in its original position until you release the mouse button.

> **Windows** Selecting this option means that when you drag an object, an outline of the object (without pen ink, fill ink, or stroke) will follow the pointer.
>
> **Mac** Selecting this option means you will always see the original object when you drag and resize. When dragging, if you pause after pressing the mouse button before you begin dragging, you will see the object (with ink and stroke attributes) follow the pointer. If you begin dragging without pausing, you will see an outline of the object (without pen ink, fill ink, or stroke) follow the pointer.

When duplicating objects offset Tells Canvas how far (in pixels) from the original to put object copies when you use the Duplicate or Paste commands in the Edit menu.

When moving objects offset Lets you specify the number of pixels objects move when you use a combination of modifier and arrow keys. For example, with the settings shown here (for Windows), Ctrl+Right Arrow moves a selected object 50 pixels to the right, and Alt+Right Arrow moves it 10 pixels to the right. Canvas for Mac OS users can use the Command and Option keys in combination with arrow keys.

- **Auto-scroll to selection** keeps objects that you move using the arrow keys in view by scrolling the document window.

Painting preferences

The Painting tab lets you set preferences for displaying and editing paint objects and images.

Interpolation Tells Canvas how to fill new pixels created by resizing a paint object or applying certain filters.

- **Nearest Neighbor** fills new pixels with the same color as an adjacent pixel.
- **Bilinear** fills new pixels with colors derived from the color values of adjacent pixels. This creates softer edges than Nearest Neighbor.

Color Channels Makes channel previews in the Image Channels palette appear in color rather than shades of gray.

Video LUT Animation (Mac only) Provides faster previews of some image filters by modifying the color lookup table of your monitor instead of redrawing the image. For example, with Video LUT Animation turned on, changing the brightness of an image in the Brightness/Contrast dialog box with the Preview option off changes the brightness of the entire screen and not just the image.

Anti-aliased Clipboard Anti-aliases vector and text objects pasted from the Clipboard into a paint object.

Anti-aliased Canvas Objects Anti-aliases Canvas vector and text objects drawn in a paint object. For example, if you add text to a paint object in edit mode, Canvas rasterizes and anti-aliases the text.

Plug-ins Click the button to set the location of Photoshop-compatible plug-ins for use in Canvas. In the directory dialog box that appears, select the folder containing the plug-ins. The path name of

the folder appears below the Plug-ins button on the Painting tab. Installed plug-in filters appear in the Image > Filters submenu.

Don't Show Plug-in Host Warning Suppresses the message that Canvas displays if it tries to load a software plug-in that requires a specific host program. Deselect this option if you want Canvas to display the message so you can choose whether to load the plug-in.

Separate Grayscales as Black Select to separate grayscale paint objects on the black plate only. Deselect this option for Canvas to treat gray color values as RGB colors that will be separated as CMYK grays.

Brush pointers

These options let you change the pointer displayed for painting tools. The default pointer is a symbol of the current painting tool.

Standard Pointer Displays the icon for the current painting tool.

Precise Pointer Displays a cross hair pointer. The intersection of the cross hair is the center of the current brush.

Brush Size Pointer Displays an outline of the current brush as the pointer. *Note:* You can use the context menu to change the pointer while you edit a paint object.

Printing preferences

The Printing tab has several settings that let you control the appearance of printed output. These settings affect printed output when you use the "Print as: Composite" setting in the Print dialog box, and do not affect printing when you use the "Print as: Separations" setting.

Output to maximum resolution Prints Canvas documents at the printer's highest resolution.This setting disables image-reduction options and fast-printing features of QuickDraw® printers, which require a setting of 72 dpi.

If you print documents to a PostScript printer, it's a good idea to select this option. However, if you are using Japanese fonts (two-byte), you can deselect the "Output to maximum resolution" checkbox, and then use the pop-up menu to select 300 dpi, which will speed up printing.

When "Output to maximum resolution" is not selected, you can choose the resolution (from 72 to 2,540 dots per inch) to use in the Resolution pop-up menu.

Halftone options

The options in this area let you set the halftone screen frequency and the halftone screen angle for composite printing. You can also choose to use the printer's default halftone settings.

For most desktop publishing purposes, the printer's default settings are probably the best to use. For commercial printing, you might need to specify a particular frequency and angle for the best output. If you are sending documents to a commercial printer, ask about the appropriate halftone screen settings.

Use printer's default Select this option when you often print to desktop devices such as laser printers, and the default halftone screen frequency and angle are appropriate for your documents.

Frequency To specify a halftone screen frequency, clear the "Use printer default" checkbox, and enter the frequency in lines per inch in the text box. A higher frequency requires a higher printer resolution to produce the same number of grayscale levels in printed halftones.

Angle If you want to specify the angle of the screens used for halftoning, rather than use the printer's default setting, clear the "Use printer default" checkbox, and enter the angle in the Angle checkbox.

Display preferences

Options on the Display tab let you customize the display. You can control transparency effects, display speed and display quality.

Transparency display

The Transparency options let you control how transparency appears when a paint object is in edit mode.

No Preview Displays a checkerboard pattern to represent transparency in an image. This isolates an image from background objects, which can be helpful for editing complex compositions.

Background Preview Displays transparency in an image during editing. Objects behind the image are rendered realistically while you edit. (If no objects are behind the paint object, the document's white layout area shows through transparent areas.) Objects in front of a paint object are hidden during image editing.

Total Preview Displays both background and foreground transparency during image editing. This is the most accurate preview.

Draw Quality

These options in this pop-up menu affect the entire screen display in Canvas.

Draft Provides the fastest screen display by drawing vector objects less smoothly. Choosing this option can increase display speed by 300%.

Normal Provides fast screen display and draws smooth vector objects. This is the recommended setting and is selected by default.

Anti-aliased Significantly smooths all objects on screen, including text and vector objects, by anti-aliasing their edges. This setting is especially useful when you create screen shots or display slide shows on screen. However, this anti-aliasing slows the display compared to Draft or Normal settings.

Note: The effect of the Anti-aliased text option is independent of the Anti-Aliased option on the Display tab. If either option is selected, text is anti-aliased; if neither option is selected, text is not anti-aliased.

Object Caching

Keeps screen images in memory so the display refreshes significantly faster when you move or edit objects. This is the recommended option. If you deselect this option, less memory (up to 4 MB) is used for screen display, but displaying complex images might be very slow.

Type preferences

The Type tab in the Preferences dialog box lets you customize options for text and typography.

Note: Some options on the Type tab are different for Mac OS and Windows versions of Canvas, as noted in this section.

Auto Word Select When you use the I-beam pointer to highlight specific text, this option ensures that you select only whole words (all characters between blank spaces). As you drag to highlight text, Canvas detects when you drag over a space. As you continue to drag, Canvas locates the next space and selects the characters in between.

Drag & Drop Text With this option on, you can highlight specific text, then drag the highlighted text to a new location within the same text object.

Smart Copy With this option on, if you copy and paste text that begins a paragraph, Canvas pastes the text as a new paragraph using the original paragraph settings. With this option off, Canvas pastes text into the current paragraph using the existing paragraph settings.

Use Smart Quotes Select this option if you want Canvas to insert true typographical apostrophes (’), single quotation marks (‘’), and double quotation marks (“”) when you type these characters with the Text tool. Otherwise, these characters appear as straight tick marks, or foot (') and inch (") marks. Of course, the actual appearance of the characters depends on the design of the typeface in use.

The character that Canvas inserts when you type a quotation mark depends on the position of the insertion point in the text, and its position relative to other quotation marks. For example, Canvas always inserts an open quotation mark (“) when you type a quotation mark immediately following a space.

The “Use Smart Quotes” preference setting has no effect on text that you type with the Path Text tool.

Anti-alias text Select this option to soften the onscreen appearance of text based on a point size you specify. You can specify a point size from 10 to 128 points. When the apparent point size of text you type is equal to or less than the point size you specify, Canvas softens its appearance.

Use Greeked text Select this option if you want Canvas to replace lines of text characters with gray bars, which speeds up screen redraw. This preference does not affect printing.

Enter a size in points in the adjacent text box. When “Use Greeked text” is selected, Canvas replaces text at the specified size and smaller when the display magnification is 100% or less.

For example, if you specify 12 points, and zoom to 200%, Canvas replaces any text that is 6 points or smaller. If you zoom to 50%, Canvas replaces text that is 24 points or smaller. It’s a good idea to set the size the same as most body text in your documents. This lets you view headlines and display type normally, while Canvas replaces the body text at 100% magnification. Then, when you zoom in to edit the body text, it will appear normally at the higher magnification.

Windows-only Type preferences

Draw Text as Béziers When using a 256-color display, Windows cannot dither colors in text to approximate a non-system color;

instead, Windows uses the closest solid colors. Turning this option on tells Canvas to redraw text as objects, which lets Windows dither colors when necessary. This method is resource-intensive and can be slow; turn this option on only if you need to see dithered color in text on a system with a 256-color display.

Faster Text/Poor Color Turning this option on speeds up screen redraw of text at the expense of color fidelity.

Tools and options for two-byte and vertical text

A special preference option appears on the Type tab if your system is capable of using two-byte languages. If your system is not equipped for two-byte text, the option does not appear on the Type tab.

The option labeled “Enable two-byte script” tells Canvas to accommodate text characters that require twice as much data (two bytes) as text characters in most Western languages. This makes it possible to create documents using specialized two-byte fonts, including Chinese, Korean, and Japanese.

The “two-byte” preference also can make available several tools and options that let you create vertical text objects (with or without two-byte fonts), and use an entry window for typing two-byte characters. These tools and options are described in this section.

You can select the “Enable two-byte script” option in any version of Canvas. However, to use two-byte fonts in a document, you must have an operating system version that supports two-byte fonts. For Mac OS, you must have a two-byte system version, or a software package such as the Japanese Language Kit. On Windows, you must have a two-byte version of the operating system.

Unlike other preferences, which take effect immediately, you must quit and restart Canvas to activate or deactivate the two-byte text preference. If the two-byte text option is selected, after you start Canvas, you can use two-byte text characters.

Depending on the amount of text in your documents, activating the two-byte text preference might slow down text editing.

Two-byte text tools and options

When the two-byte text preference is active, the following items appear:

- “Vertical” options appear in the Column Guides dialog box and the Type palette; see “Options for vertical text and columns” on page 9.10.
- The Vertical Text tool appears in the toolbox; see “Vertical Text tool” on page 9.12.
- The Vertical Text Object tool appears in the toolbox; see “Vertical Text Object tool” on page 9.13.
- The Inline tab appears in the Preferences dialog box; see “To set inline text-entry preferences” on page 9.13.

Measurement units

When you activate the two-byte text preference, Canvas selects the metric measurement system by default. You can select another system for measurement units by choosing Rulers in the Layout menu. For more information on rulers, see “Setting up rulers and the drawing scale” on page 5.7.

Options for vertical text and columns

A checkbox labeled “Vertical” appears in two places: the Column Guides dialog box and the Type palette.

In the Column Guides dialog box, you can create column guides for vertical text in Publication documents. In the Type palette, you can specify horizontal or vertical orientation for text objects.

Note: The Vertical options described in this section, which appear when “Enable two-byte script” is selected, are not related to the “Vertical” command that changes the alignment of text bound to a path.

To use vertical text column guides

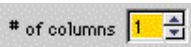
You can use the Column Guides dialog box to set up horizontal guides for columns (text objects) that contain vertical text.

1 If necessary, select the “Enable two-byte script” preference.

2 Choose Column Guides in the Layout menu. The Column Guides dialog box appears.

3 Select the “Vertical” checkbox. The column guide buttons at the top of the dialog box change to vertical orientation.

4 Use the preset column buttons or the other options to specify guides for the number of columns that you want to use.



- To use preset column guides, click one of the buttons. Lines on the first buttons show 1, 2, and 3 text columns. Numbers on the last two buttons show that these make 4 and 5 columns.
- You can set up guides for any number of columns from 1 to 12 using the "# of columns" text box.

5 Click OK to create guides for the specified number of columns.

To use the Vertical option for text objects

You can use the Vertical option in the Type palette to set up the Text tool for vertical text, and to orient text objects to contain vertical text.

1 If necessary, select the "Enable two-byte script" preference.

2 Open the Type palette by double-clicking the Text tool or choosing the Type command in the Text menu.

3 Do one of the following to set up the Text tool, or to change the orientation of existing text objects:

- To change the default operation of the Text tool, make sure that no objects are selected in the document.
- To change existing text objects, select the text objects.

4 Select the Vertical checkbox in the Type palette, and then click Apply to apply the current settings. Canvas applies the vertical option to the selected text objects, or to the Text tool.

When you set the Text tool to create vertical text, lines of text that you type are vertical, with text flowing from top to bottom and lines running from right to left. This is the same as the orientation of text within an existing text object when you apply the Vertical option.

You can also create text objects with the same vertical text orientation using the Vertical Text tool.

◆ **To change text orientation to horizontal in an object:** Select a text object containing vertical text. In the Type palette, deselect the "Vertical" checkbox, and then click Apply.

Using vertical text in Publication layouts

To make it easy to create text layouts in Publication documents, choose the Column Guides command in the Layout menu, and create

the number of column guides you want to use. Then, use the Vertical Text Object tool to click between column guides. This creates a text column sized to fit the column guides. The column extends from the point you click to the left margin of the page. If the column guides are outside the printable area, the column text remains inside the printable area. For more information, see “Vertical Text Object tool” on page 9.13.

Vertical Text tool

Vertical Text tool

The Vertical Text tool lets you type text in vertical columns that flow from top to bottom and right to left. This makes it easy to create vertical columns of text in languages that use vertical text, or when you work on a publication in which text runs across a page.

When you type with the Vertical Text tool, the text characters flow from top to bottom on screen; this looks the same as text created with the Text tool and then rotated 90 degrees clockwise.

Note: If the Vertical Text tool isn’t available because the two-byte text preference isn’t selected, you can get the same effect by rotating text 90 degrees with the Rotate command in the Effects menu.

To create empty text objects, such as for a document template, to contain vertical text, you can use the Vertical Text Object tool; see “Vertical Text Object tool” on page 9.13.

To define a column for vertical text

1 Select the Vertical Text tool in the toolbox. The pointer changes to a horizontal I-beam. The horizontal I-beam indicates that text will flow from top to bottom.

2 Drag the I-beam to set the size of the column, and then begin typing. As you type, text characters run from top to bottom. When the text reaches the bottom edge of the column, it wraps back to the top and onto the next line to the left.

3 To exit text-editing mode, press Esc.

To type vertical text directly

1 Select the Vertical Text tool in the toolbox. The pointer changes to a horizontal I-beam.

2 Click in the document to place the text insertion point, and then begin typing. Because the text will flow from top to bottom, Canvas expands the bottom of the column to fit the longest line you type.

3 To exit text-editing mode, press Esc.

Vertical Text Object tool

Vertical Text Object tool

The Vertical Text Object tool lets you create empty text blocks for vertical text. Text objects created with the Vertical Text Object tool maintain their width and length. The tool is in the Text toolbar.

To create text objects for vertical text

1 If necessary, select the “Enable two-byte script” preference.

2 Select the Vertical Text Object tool in the toolbox. The pointer changes to a horizontal I-beam, which indicates that text in the text object will flow from top to bottom.

3 Drag to define the width and length of the text object.You can then drag in other locations to create more text objects, or begin typing in the new text object.

4 To exit text-editing mode, press Esc.

Preferences for two-byte text entry

The options on the Inline preferences tab let you specify whether you want to always enter two-byte text directly into a document, or use a text-entry window when the apparent type size is outside a range that you have set. This feature is available only when you are running system software that supports two-byte fonts, and are using two-byte fonts to enter text into a document. This preference does not affect printing.

Using a low zoom level can make it difficult to see text as you type. By using the text-entry window, you can see and edit text in the window, regardless of the current view magnification level.

To set inline text-entry preferences

1 Choose Preferences in the File menu.The Preferences dialog box appears.

2 Click the Inline tab to bring it to the front.

3 Specify the following options, and then click OK to implement the current settings:

- If you always want to use a text-entry window, regardless of the size of the type, select the Never option.

- If you want a text entry window to appear when you type text at some apparent type sizes, select the “For text from” option. Type a number from 6 and 255 in each text box. These numbers set the range in which the text-entry window does not appear and you type directly into a document.

A character’s apparent size is the size at which it appears on screen, based on the current view magnification level. For example, 12 point type appears to be 12 points at 100%; at 200%, it appears to be 24 points; at 50%, it appears to be the size of 6 point type.

Using the text-entry window

If you choose the “For text from” option, and you type text in a document at an apparent point size that is outside the specified range, the text-entry window appears at the bottom of the screen. You can type and edit text directly in the window. To enter the text into the current document, press Return (Mac) or Enter (Windows).

If the apparent size of text changes because you change the view magnification, actual point sizes that are beyond the specified “For text from” range might not cause the text-entry window to open. In this case, you can type the text directly into the document.

Measurement units preferences

The Units tab lets you choose measurement settings, such as units, precision, and numerical format. Settings on this tab affect the units displayed in the Strokes palette, the status bar of the Canvas window, the measurements in dimension objects, and the precision of settings in the Type palette.

Pen size units Choose inches, millimeters, points, or picas in the pop-up menu to specify how you want to measure pen size in the Pen tab of the Strokes palette.

Number form Set the precision and numerical format for numbers in the status bar, the Type palette, Show Size display, and other numerical displays. You can choose whole integers, up to four-decimal precision, or fractions. The setting you choose affects the measurement precision only, and does not affect the drawing precision.

Virtual memory preferences (Mac)

The Virtual tab lets you choose a disk drive, and set other options, for memory management. The memory management feature in Canvas

makes it possible to open images and files that require more memory than the amount provided by physical RAM.

Disk Drive Choose a mounted hard disk in the pop-up menu. Canvas uses this disk for virtual memory. The amount of available space on the disk is shown below the pop-up menu.

Use available system memory Turning this option on instructs Canvas to use the allocated system memory first before resorting to its internal virtual memory.

Dynamic Disk Allocation Leave this option on to let Canvas claim and release disk space as needed and available for particular files. If you turn this option off, you can use the "Minimum disk space after allocation" text box to set a limit on how much space Canvas can claim for virtual memory. For example, if you type 50 in the text box, Canvas will leave at least 50 MB free on the disk.

User Info preferences

The User Info tab lets you specify a name and initials for object comments, which you can insert using the Comments command.

Name Type a name in the text box. When you attach a comment to an object, Canvas associates the name you enter with the comment. By default, Canvas uses the name entered when Canvas was installed.

Initials Type initials in the text box. When you attach comments to an object, Canvas associates these initials with the comment.

Customizing the keyboard and Toolbar

With the Customize command, you can assign keyboard shortcuts to commands, tools, attributes, object styles, and font styles. You can also place buttons for these items on the Toolbar at the top of the screen.

To select items to customize

1 Choose File > Customize. In the Customize dialog box, choose items to customize. See "Choosing a category to customize," next.

2 Use the procedures later in this section to customize keyboard shortcuts or place buttons on the Toolbar. When you finish customizing items, click Close to close the Customize dialog box.

When you close the Customize dialog box, object styles you added to the scrolling list will remain in the list. This lets you customize these styles in any document. Outside of the Customize dialog box, object styles are available only in the document in which you create them.

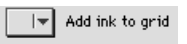
Choosing a category to customize

In the Category pop-up menu, you can choose which items you want to assign shortcuts or add to the Toolbar.

Commands To select menu commands, choose Menus in the Category pop-up menu. In the Sub-Category pop-up menu, choose the menu you want. The menu's commands appear in the scrolling list.

Tools To select tools, choose Tools in the Category pop-up menu. The names of all tools and their icons appear in the scrolling list.

Attributes To select attributes, choose Inks or Strokes in the Category pop-up menu. Next to the scrolling list, a pop-up palette displays preset inks, or three pop-up palettes display pen strokes, dashes, and arrows. Select an ink or stroke from a palette. The item you select appears in the scrolling list and as a button on the Toolbar.

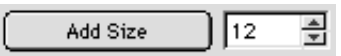


Inks pop-up palette

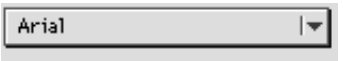
Strokes pop-up palettes

To remove an ink or stroke from the scrolling list, select it and click the Remove Selection button; if the item is on the Toolbar, this removes it from the Toolbar also.

Styles To select styles, choose Object Styles in the Category pop-up menu. The names of object styles appear in a pop-up menu below the scrolling list. If no object styles have been created in Canvas, the pop-up menu will be empty.



Font Names and Sizes To select font attributes, choose Font Names and Sizes in the Category pop-up menu. A font size box appears. Select a size, then press the Add Size button. The font size appears in the main scrolling list, and a font size button appears on the Toolbar.



To choose a font, select a name from the pop-up menu. The font appears on the scrolling list, and a font button appears on the Toolbar.

To customize keyboard shortcuts

1 Select an item in the scrolling list in the Customize dialog box. If the item has a keyboard shortcut, the Current Shortcut Key box shows the shortcut keys.

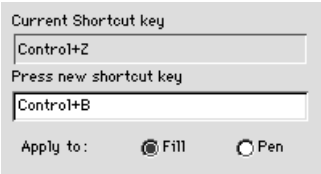
2 To assign a keyboard shortcut, press the keyboard keys you want to use. The keys you type appear in the “Press New Shortcut Key” box. Click Assign to assign the new keys to the item.

Certain keys are restricted, so pressing them will not display their values. Other shortcuts are reserved by Canvas, so they can be assigned, but not applied to some procedures; for example, Ctrl+1, Ctrl+2, and Ctrl+3 cannot be used in painting.

If the keys you type are assigned to another shortcut, the current assignment appears under the “Press New Shortcut Key” box.

You can’t assign single keys as shortcuts. For example, you can’t assign “H” or “F7” to an item.

- To remove shortcut keys from the selected item, click Remove.
- To restore the default shortcut keys to all commands, click Reset All.
- To restore the default shortcut keys to one command, select the command in the scrolling list and click Reset.



To assign shortcuts to inks

You can create shortcut keys for specific fill inks and pen inks. To assign a shortcut key to a fill or pen ink, select the ink in the scrolling list in the Customize dialog box. Type the keyboard keys you want to use. The keys you type appear in the “Press New Shortcut Key” box. Under the box, select whether you want the ink to be a Fill or Pen ink. Click Assign to assign to the new keys to the ink.

To place buttons on the Toolbar

Select an item in the scrolling list in the Customize dialog box. Inks, Strokes, Object Styles, and Fonts appear on the Toolbar automatically when you add them to the scrolling list. For Menus and Tools, double-click the item in the scrolling list to add it to the Toolbar. A button for the selected item appears on the Toolbar when it is displayed.

Toolbar buttons

To remove an Ink, Stroke, Object Style, or Font button from the Toolbar, click the Remove Selection button under the scrolling list, or double-click the item in the scrolling list. To remove a Menu or Tools button from the Toolbar, double-click the item in the scrolling list.

Arranging buttons on the Toolbar

After you place buttons on the Toolbar using the Customize dialog box, you can change their arrangement directly on the Toolbar.

- To move a button, Shift-drag the button to a new location.
- To remove a button from the Toolbar, press Shift and drag the button away from the bar.
- To add a separator between Toolbar buttons, Shift-drag the button on the right slightly to the right. A separator line appears between the button and the one to its left.

Using ink buttons

When you place buttons for inks on the Toolbar, you can use the buttons to apply fill inks and pen inks, or foreground colors and background colors.

You can apply fill and pen inks to vector objects and text. You can select foreground and background colors for painting.

To apply a fill ink or select a background color for painting, click the ink button on the Toolbar. If no objects are selected, the ink becomes the current fill ink or background color.

To apply a pen ink or select a foreground color for painting, press Option (Mac) or Ctrl (Windows) and click the ink button. If no objects are selected, the ink becomes the current pen ink or foreground color.

Saving and loading configurations

After you customize Canvas, you can save the current configuration in a file. You can create other custom configurations and save these in configuration files. You can load a configuration file to change the Toolbar and the keyboard shortcuts.

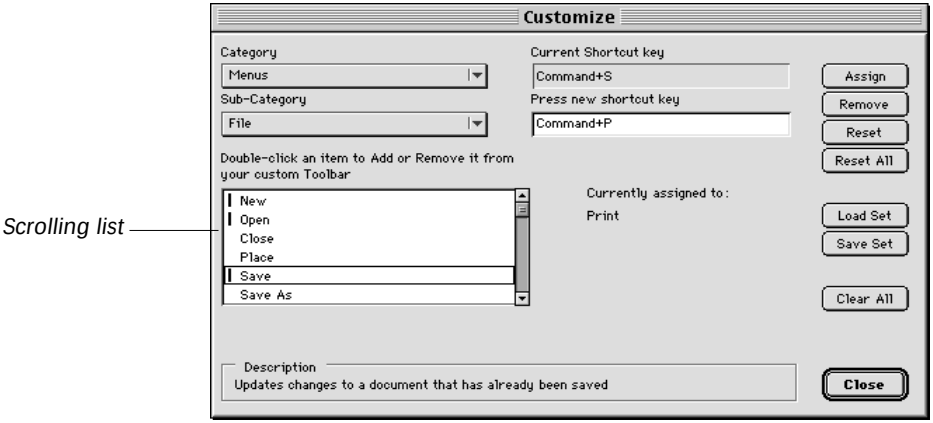
A configuration file stores all the current keyboard shortcut assignments and the setup of buttons on the Toolbar.

◆ **To save the current configuration:** Click Save Set. In the directory dialog box, type a file name, select a location, and click Save to save the file.

◆ **To load a configuration:** Click Load Set. In the directory dialog box, select the configuration file and click OK.

Clearing customized settings

To clear all of the customized settings and Toolbar buttons, press Clear All in the Customize dialog box. Canvas removes all of the customized settings from the scrolling list and all of the buttons from the Toolbar.



Customize dialog box

Use the options in the Customize dialog box to select items, and then create keyboard shortcuts and place buttons on the Toolbar.

Category Choose the category of items to customize. The contents of the scrolling list depend on the Category selection.

Sub-Category For commands, choose the menu containing the commands to customize. The commands in the selected menu appear in the scrolling list.

Scrolling list Displays all tools or styles in the selected category or subcategory (for commands). For inks and strokes, the list contains the inks or strokes you select from the pop-up palettes.

Select an item in the scrolling list to assign a shortcut to it or to place a button for it on the Toolbar. The selected item is highlighted.

Current Shortcut Key Displays the current keyboard shortcut for the selected item, if a shortcut exists.

Press New Shortcut Key With an item selected in the scrolling list, press the keyboard keys you want to assign to the item. To use a modifier key, press and hold Shift, Ctrl, Option, or Command (Mac), or Shift, Ctrl, or Alt (Windows). Press a letter, number, or function key. The new shortcut keys appear in the box.

Assign Click to assign the keystrokes in the Press New Shortcut Key box to the selected item.

Remove Click to remove the current shortcut keystrokes from the selected item.

Reset All Click to restore the default shortcut keys to all items.

Reset Click to restore the default shortcut keys to the item selected in the scrolling list.

Palettes A pop-up palette appears when the Category selection is Inks; three palettes appear when the Category is Strokes. Select an ink or stroke from the palette. The selected item appears in the scrolling list and on the Toolbar.

Remove Selection When the Category selection is Inks, Strokes, Object Styles, or Font Names and Sizes, click the Remove Selection button to remove a selected item from the scrolling list. This also removes a button for the item from the Toolbar.

Save Set Click Save Set to create a file of all current shortcut keys and Toolbar buttons. In the directory dialog box, type a name for the file and click Save.

Load Set Click Load Set to import a file of shortcut keys and Toolbar buttons. In the directory dialog box, select the file to load and click OK. Canvas resets the shortcut keys and the Toolbar according to the configuration stored in the file.

Clear All Click Clear All to clear all of the customized settings in the scrolling list and all of the buttons on the Toolbar.

Close Click to close the Customize dialog box. Inks or strokes added to the scrolling list remain in the list when you close the dialog box.

Saving document templates

You can use a special kind of Canvas document, called a template, as the basis for new documents. Canvas includes many ready-made templates, and you can create your own template documents. Then, when you use the New command, you can select a template — either one supplied with Canvas or one you have created — to create a new document based on the contents and configuration of the template.

A template document stores almost all preferences settings, as well as the settings you specify with the Document Setup command, and other document setup options, including the following:

- Document type
- Configuration of layers, slides, pages, sheets and frames
- Settings for rulers, grids, guides, and views
- Current inks and strokes settings
- Text styles and default text settings

Canvas stores some settings with the application and not in particular documents, so these settings are not included in a template document. The settings that aren't stored in a template include the position of palettes on the screen and the current set of external tools.

✔ Tip

If you create a template with a small amount of type, such as for a letterhead, convert the type to paths so the template can be used without particular fonts being available.

To save a template document

1 Use the New command in the File menu to create a new Illustration, Presentation, Animation, or Publication document.

2 Use the Document Setup command in the Layout menu to select measurement units, document size and orientation, and, for Publications, the margins and column layout.

3 Use the Preferences command in the File menu to set up preferences for the document.

4 Create or import objects that you want to store in the template.

5 Choose Save As in the File menu. In the "File Format" (Mac) or "Save as type" (Windows) pop-up menu, choose Canvas Template and click Save.

For more information, see "Saving Canvas documents" on page 4.5.

II

OBJECTS & ATTRIBUTES

CHAPTER 10

WORKING WITH OBJECTS

This chapter explains how to work with objects in Canvas. It tells you how to select objects with selection tools or the Find command. It describes common actions, including how to copy, group, lock, move, arrange, flip, and align objects, plus effects you can apply to all objects, including scaling, rotation, and skew. It also tells you how to use the object position data in the Object Specs palette.

Types of objects

An object is a distinct item such as a circle, an image, or a paragraph of text. There are different types of objects with unique properties, and some commands apply only to some types of objects. But objects in Canvas also share many properties. You can perform common operations, including selecting, moving, rotating, copying, and deleting, using the same methods for all types of objects.

The following object categories are used in Canvas:

Vector objects Geometric shapes such as lines, circles, rectangles, polygons, and smooth curves. Canvas defines them internally by formulas, and they print smoothly on all printers.

Paint objects Rectangular containers for pixel-based images, such as photos, screen captures, and scanned artwork. Each pixel that makes up an image has a color (or grayscale) value.

Text objects Containers for text that can be formatted at the character and paragraph levels. Text objects can be empty or contain up to a page of text, and they can be linked together.

Group objects Collections of objects that have been united with the Group command. A group object can be made from more than one type of original object.

Selecting objects

When you select an object, you distinguish it from other, unselected objects, so that when you choose a command or apply a color, Canvas knows to apply it to the selected object. In most cases, you select objects first, then apply a command or attribute. If you can't apply an

attribute, or a command is not available, check to be sure you have correctly selected an object first.

Canvas provides several tools and commands for you to select objects. You can use the most convenient method for each situation. The Selection tools in the toolbox are the primary object-selection tools. You can also use the Select All and Find commands to select objects. Refer to the table “Selection options” for a list of selection tools and commands.

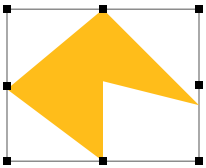
In some cases, you can select parts of objects. For example, you can select an anchor point within a vector object, a word within a text object, and an image area within a paint object. Selection techniques for various types of objects are described in the drawing, text editing, and image editing sections of the manual.

Selection options

To select	Do this
A single object	Click the object with a Selection tool.
Multiple objects	Shift-click each object with a Selection tool. Canvas for Windows users can also hold down the right mouse button while clicking objects with the left mouse button.
Objects using a selection box	Drag a box around the objects with a Selection tool.
All objects touched by a selection box	With a selection tool, press Option (Mac) or Ctrl (Windows) and drag out a box that touches the objects.
One object within a group object	Click the object with the Direct Selection tool (hollow arrow).
No objects (deselect all objects)	Click a Selection tool in a blank area, or press Enter (Mac) or Esc (Windows).
All objects	Choose Select All in the Edit menu.
An object behind another object	Tab-click the object’s location until it is selected.
Unfilled object	Click the object’s border, or press Tab and click inside the object.
An object on a layer other than the current layer, or an object on a master page	Tab-click the object with a Selection tool.
All objects created by a particular tool	Select the tool, then choose Select All in the Edit menu.
Objects based on their attributes	Use the Find command in the Edit menu.

◆ **To select all objects:** Choose Select All in the Edit menu. This command selects every object in a single-layer document. To select all objects on all visible layers in a multi-layer document, change the default selection setting in the Preferences dialog box; see "General preferences," page 9.1.

Selection indicators

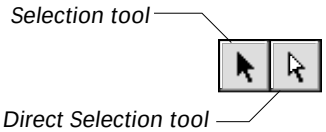


A bounding box with handles surrounds a selected object

Canvas indicates that an object is selected by displaying the object's bounding box. The bounding box is a rectangle with solid squares, called handles, at each corner and side midpoint. When an object is selected, its bounding box is visible even if it has attributes (the same color as the background, for example) that make the object itself invisible. Also, a selected object's bounding box is visible even if it's covered by other objects.

When one object is selected, Canvas displays the object type at the right end of the Status bar. When more than one object is selected, the Status bar shows the number of selected objects.

Selecting objects with selection tools



The Selection tool (a filled arrow) selects any object you click. The Direct Selection tool (a hollow arrow) lets you select individual objects within a group object, without first ungrouping.

The Selection tool is the default tool when you start Canvas. Both selection tools are in a toolbar at the top-left of the toolbox. If another tool was selected and you need to return to the Selection tool, click its icon in the toolbox.

◆ **To select one or multiple objects:** With the Selection tool, click an object. To select multiple objects, Shift-click each object you want to select. For Windows only, you can also hold down the right mouse button and click multiple objects to select them.

With the Selection tool, you can drag a selection box around objects to select them. Canvas selects all objects inside the selection box.

Editing objects

All types of objects in Canvas can be easily modified. In general, you place an object in *edit mode* when you want to modify it.

Edit mode lets you use various features to edit each type of object. For example, when a text object is in edit mode, you can use word-processing features to select, cut, copy, paste, and edit text. When a

vector object is in edit mode, you can modify anchor points and segments to reshape its path. When a paint object is in edit mode, you can use painting tools and commands to modify the image it contains.

Some other objects, including spirals, EasyShapes, objects that have transparency masks, and SpriteEffects, have special editing modes (besides their standard edit modes). For example, if you place a vector object in edit mode, you can edit the object's path. If the object also has a transparency mask, you can edit its path in path edit mode, or use the Sprite tool to edit its transparency mask in mask edit mode.

To place objects in edit mode

Do one of the following:

- Select an object and choose Object > Edit > Object to place it in object edit mode. To edit an object's transparency mask, choose Object > Edit > Transparency.
- Double-click the object.
- Point to a selected object, open the context menu and choose Edit. If the object has a transparency mask, choose Edit > Object to edit the object, or choose Edit > Transparency to edit the mask.
- Point to an object that is not selected, open the context menu and choose the object's name in the Edit submenu.
- For a vector object, select it and choose Object > Path > Edit Path.
- For a text object, click in the text with the Text tool.
- For a paint object, select a painting tool and click the object.
- For an object with a transparency mask, click the object with the Sprite tool.

◆ **To exit edit mode:** Press Esc.

Selecting and editing objects with the context menu

You can use the context menu to select an object or place an object in edit mode. Using the context menu can make it easier to select and edit objects that are covered by other objects.

To display the context menu, press Control and press the mouse button (Mac) or right-click the mouse (Windows).

◆ **To select objects using the context menu:** When no objects are selected or in edit mode, point to the object you want to select. If the object is hidden behind other objects, point to its location. Choose Select > *Object Name* in the context menu. Canvas selects the object whose name you choose in the Select submenu. You can choose a vector, text, paint, or group object.

◆ **To edit objects using the context menu:** When no objects are selected or in edit mode, point to the object you want to edit. If the object is hidden behind other objects, point to its location. Choose Edit > *Object Name* in the context menu. Canvas places the object whose name you choose in the Edit submenu into edit mode. You can select a vector, text, or paint object.

Selecting objects based on their properties

You can use the Find command in the Edit menu to select objects by type and attributes, such as rectangles with red fill ink.

In the Find palette, use the Objects tab to set up selection criteria.

Ⓐ To select objects by type, check Type and choose an object type icon in the pop-up menu. Selecting text or paint objects makes Fill, Stroke, and Pen options unavailable.

Ⓑ To select objects by fill or pen ink, check these boxes and choose the inks in the pop-up menus. Only inks used in the document, plus process colors and white, appear in the menus.

To select objects by stroke, check **Stroke** and choose the stroke in the pop-up menu. Only strokes used in the document appear in the menu.

To select objects by name, check **Object Name**. Type the name in the text box. Select "**Object #**" and type a number in the box to select an object by its number.

SpriteLayers: Use this option to select objects that have transparency effects.

SpriteEffects: Use this option to select objects (including lenses) that have SpriteEffects.

Lens Objects: Use this option to select objects that have been converted to lenses.

Search all visible layers: To select objects in the current layer only, uncheck this option.

Add to Selection: Check to select additional objects without deselecting objects that are already selected.

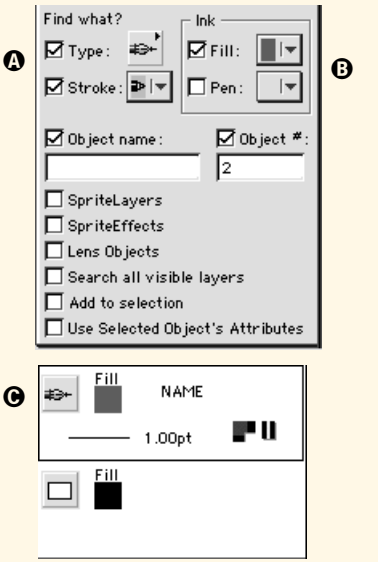
Use Selected Object's Attributes: When an object is selected, select this option to enter the object's properties in the Objects tab.

Select: Click to select objects based on the current settings.

Next Page: Click to advance to the next page and continue searching.

Using selection sets

Click to expand the palette to work with selection sets, which let you broaden a search.



Ⓒ Selection criteria symbols make up a selection set. The current selection set is boxed. Changing selection options updates this selection set. Click a set to make it the current selection set.

Or: Click to create an empty selection set.

Copy: Click to duplicate the current selection set.

Clear: Click to delete the current selection set. With only one set, Clear is unavailable.

Copying, cutting, pasting, and deleting objects

Once you select one or more objects, you can perform a variety of basic editing functions. The following are the basic editing commands in the Edit menu:

Command	Result
Copy	Copies a selection to the Clipboard
Cut	Removes a selection and places it on the Clipboard
Clear	Removes a selection without changing the Clipboard
Duplicate	Copies a selection into the same document without changing the Clipboard
Paste	Places the Clipboard contents into the active document
Paste and Place	Places the Clipboard contents into the active document with the upper-left corner at the point where you click

Using the Clipboard to copy objects

The Clipboard is a part of the system that temporarily stores selected objects when you choose the Copy or Cut command. The Clipboard stores the results of one editing action (which can include multiple objects). Whatever is on the Clipboard is replaced by the next selection you place there, including a selection placed by using the Cut or Copy command in another application.

- You can bypass the Clipboard by using the Duplicate command to quickly copy a selected object in the same document without replacing the Clipboard contents.
- Using the Clear command or the Delete keyboard key does not replace the contents of the Clipboard.

When you paste objects into other programs, the Clipboard uses a format that the receiving program understands. However, special types of objects and special object attributes can be lost when pasting objects into other applications. If you can't transfer an object successfully using the Clipboard, consider using a compatible file format to import the object as a file into other programs.

✔ Tip

You can display the contents of the Clipboard (Mac OS only) by choosing Show Clipboard in the Palettes submenu in the Window menu. Choose Hide Clipboard to close the Clipboard window.

Using Cut, Copy, and Paste commands

The Cut, Copy, and Paste commands let you make copies of objects using the Clipboard. You use Cut or Copy to place objects on the

Clipboard, and then choose Paste to place copies in the same document, other open Canvas documents, and also into other programs.

You select one or more Canvas objects before choosing Cut or Copy. You can select text objects, paint objects, vector objects, specialized objects such as dimensions, and group objects. When you choose Cut or Copy, the selected items appear on the Clipboard.

- The Cut command removes selections from the document.
- The Copy command leaves selections in the document.

Using the Paste command to insert the Clipboard contents into a document does not erase the Clipboard. You can use Paste to insert the Clipboard contents as many times as you want. The Clipboard contents remain intact until you use the Copy or Cut command in any application to replace the Clipboard contents with a new selection.

To copy objects by pasting

1 Select the objects that you want to copy.

2 Choose Edit > Copy. Canvas puts the selected objects on the Clipboard.

3 If you want to paste the copied selection into another document, switch to that document. You can switch to an open Canvas document by choosing its name at the bottom of the Window menu.

4 Choose Edit > Paste. Canvas pastes the Clipboard contents into the active document. Pasted objects appear selected in the center of the document window.

Options for copying objects

The Copy Options command lets you select formats when you copy objects to the Clipboard. This command is useful when you want to copy a selection using a format that can be pasted into another program

You can select the program you want to paste objects into. Canvas will select the best format for copying the selection to the Clipboard. You can select common programs, such as Microsoft Word and Adobe PageMaker.

These options have no effect when you paste selections in Canvas.

To use Copy Options

1 Select the items to copy and choose Edit > Copy Special > Copy Options.

2 Select options (described next) in the dialog box.

3 Click OK and Canvas will copy the selection to the Clipboard.

Configuring copy options

In the Copy Options dialog box, you can select a program or configure the options yourself.

Preset For Choose a program name. This sets up the dialog box so objects will be copied in the best format for pasting into the selected program.

If the program you want to use is not listed, you can use the other options to select the format for copying objects to the Clipboard.

Copy vector object(s) Uses the standard format to copy objects to the clipboard in Mac OS (PICT) and Windows (WMF). In most cases, this option is the same as using the standard Copy command. PICT and WMF do not support transparency; transparent Canvas objects are not rendered and will appear opaque when pasted into other programs.

Copy as Image Copies objects to the Clipboard as rasterized images. Select a resolution option, or select Other and enter the desired resolution. This option preserves transparency effects among Canvas objects. However, most programs do not support transparency, so Canvas objects pasted into other programs will not appear transparent relative to objects in the other programs.

Anti-Alias Softens the edges of objects copied to the Clipboard using anti-aliasing. Anti-Alias is available when you select Copy as Image. Anti-aliasing slightly blurs objects to reduce the jagged appearance of object edges.

Embed Canvas native data (Mac only) Embeds unique Canvas data in objects. This ensures that objects keep their Canvas properties if they're pasted into another program and then pasted back into Canvas.

Embed EPS (Mac only) Copies objects to the Clipboard with PostScript information.

- **Color Mode:** Select the color mode to be used in the PostScript information.

- **Transparency Rendering:** Select a method for rendering SpriteLayer effects.
- **Rendering Resolution:** Select a standard resolution or enter the desired resolution in the text box.

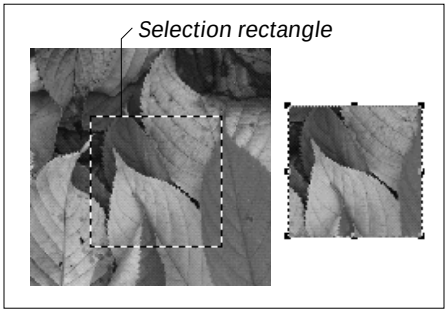
Apply settings to normal copy command Applies the dialog box settings to the Copy command. When you select this option, you don't have to choose Edit > Copy Special > Copy Options to use the same settings again.

Copying selections in objects

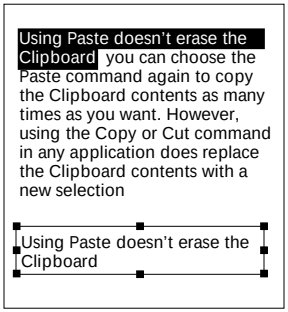
Besides using Cut or Copy to place entire objects on the Clipboard, you can use these commands to place selected parts of Canvas objects on the Clipboard, so you can copy a selection by pasting.

You can cut or copy the following parts of objects:

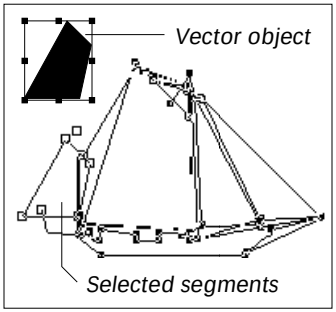
- text selections made by highlighting text in a text object
- image selections made by defining areas, ranges of colors, or loading alpha channels in a paint object
- segment selections made by selecting anchor points of vector objects in path edit mode



A selection copied from an image (left) creates a selected object (right) when pasted into a document



A text object (bottom) results from pasting a copied text selection (top)



A selected vector object (top) results from pasting copied segments of a path

Pasting selections and pasting into objects

When you paste a selection, the result depends on whether an object is in edit mode at the time:

- Pasting with no object in edit mode creates a new, separate object containing the selection.

- Pasting with an object in edit mode usually pastes the selection into the object.

For example, if you copy a highlighted text selection, and then choose Paste when no object is in edit mode, you create a new text object containing only the text you selected. If you choose Paste when a text object is in edit mode, the pasted text appears at the insertion point in the text object. If you choose Paste when a paint object is in edit mode, the selected text appears as a floating image selection in the paint object.

Pasting into text You can paste text into a text object in edit mode. This lets you insert new text cut or copied from another object, and move text from one place to another while editing a text object.

Pasting pixels into images You can paste an image selection into a paint object in edit mode. The pixels that you paste become a floating selection in the paint object.

Pasting objects into images You can paste a vector object or text into a paint object in edit mode. Canvas converts the object into pixels pasted as a floating selection in the paint object. In other words, Canvas rasterizes the Clipboard contents and then pastes an image selection into the paint object.

Placing objects while pasting

You can use the Paste and Place command to copy objects and position the copies anywhere in a Canvas document.

1 Copy the objects that you want to paste.

2 Press Option (Mac) or Ctrl (Windows) and choose Edit > Paste and Place. The Paste and Place command appears in the Edit menu only when you press the special key.

Place pointer 

3 After choosing Paste and Place, a Place pointer appears. Position the pointer in the document where you want the top-left corner of the Clipboard contents to appear. Do one of the following to paste the selection:

- Click to place the Clipboard contents at full size.
- To set the dimensions of the Clipboard contents, drag to create a bounding box to contain the selection.

Transferring object attributes

You can transfer attributes from one object to other objects using the Paste Attributes command. Transferring attributes can help you maintain consistency between objects.

You can transfer attributes from a source selection — an object or text that has been copied to the Clipboard — to a target selection, which is one or more objects selected in the document. Or, you can retain the source selection attributes as the current attributes — those attributes that you can apply to new objects.

You can use Paste Attributes to transfer inks and stroke settings, object dimensions, effects, and text attributes.

To transfer attributes

1 Select an object or text whose attributes you want to transfer.

- If you select multiple objects, only the dimensions of a rectangle encompassing all the objects will be available.
- If you select a group object, only attributes that apply to the entire group, including the bounding box size and transformations applied to the group object, will be available.
- If you select a text object, only the attributes common to the entire object will be available.

2 Choose Edit > Copy to place the selection on the Clipboard.

3 Select the one or more target objects to receive the attributes. If no objects are selected, the source attributes will be retained as the current attributes and can be applied to new objects.

4 Choose Edit > Paste Attributes. In the Paste Attributes dialog box, select the attributes to paste. Options that appear dimmed were not available in the source selection or cannot be applied to the target selection.

5 Click OK to paste the attributes and close the dialog box.

Vector object

Text object

Attributes pasted on text object

Paste Attributes options

Depending on the source selection and the target selection, you can choose options listed in the Paste Attributes dialog box.

An option is available if the attribute was copied from the source selection and can be applied to the selected target objects. The exception to this rule is the Text Style option. The Text Style option is available whenever the source selection is text, even if the target objects are not. In this case, no Text Style attributes will be applied to the target selection, but the Text Style attributes will be retained as the current attributes and can be applied to new text objects.

Fill ink Transfers the source selection's fill ink. You can transfer fill inks if the source selection is a vector object or text that has a fill ink, and the target objects are vector or text objects. If no target is selected, the source fill ink becomes the current fill ink.

Pen ink Transfers the source selection's pen ink. You can transfer pen inks if the source selection is a vector object or text that has a pen ink, and the target objects are vector or text objects. If no target is selected, the source pen ink becomes the current pen ink.

Stroke Transfers the source selection's stroke, including pen, dash, and arrow attributes. You can transfer strokes if the source selection is a vector object or text that has a stroke, and the target objects are vector or text objects. If no target is selected, the source stroke becomes the current stroke.

Dimensions Transfers the dimensions of a rectangle "bounding box" that encompasses the source selection. You can transfer bounding box dimensions from any source object to any selected objects, but not to text selected within a text object. This makes all target objects the same size as the source.

If the source object has been rotated or skewed, you can transfer its original dimensions by selecting Dimensions. To transfer its transformed dimensions, select Transform.

Transform Transfers rotation and skewing applied to the source selection's bounding box. You can transfer these effects to any selected objects.

Transparency Transfers the transparency effects applied to the source selection.

Text Style Transfers the following text attributes from a text source selection to a text target selection: font, type size, text style (bold, italic, and so on), leading, kerning, and justification. You can transfer text attributes when a particular attribute is uniform in the source selection. For example, if different kerning values are applied to characters in the source text, kerning will not be available for transfer to the target text. If no target text is selected, the source text attributes become the current text attributes.

Sprite Effects Transfers filters and adjustments that have been applied with the SpriteEffects palette or Add effect command, from the source to the target objects.

Special copy commands

Several commands let you perform special operations for copying objects to the Clipboard.

These commands are:

- Copy With EPS (Mac only)
- Copy As Image
- Copy at 4X
- Copy at 8X

Copy With EPS

Use the Copy With EPS command in the Edit menu to include Encapsulated PostScript (EPS) information when you copy an object to the Clipboard.

Including PostScript information can enhance the quality of illustrations.

For example, when you paste an illustration generated in Canvas from the Clipboard into documents created in other applications,

such as Microsoft Word and Adobe FrameMaker, the EPS information will improve the quality of the illustration.

The Copy With EPS command is available on Mac OS only.

To copy objects with EPS information

1. Select the objects to copy.
2. choose Edit > Copy Special > Copy with EPS.

Canvas places the selected objects on the Clipboard and includes PostScript formatting information.

Copy as Image

When you want to copy an object, and then paste it into a document created in another application, you can use the Copy as Image command to enhance the printed appearance of the Canvas object you intend to paste.

This procedure can smooth out jagged edges and help maintain the object's details.

◆ **To use the Copy as Image command:** Select the objects you want to copy, and then choose Edit > Copy Special > Copy as Image. When you choose Edit > Copy Special > Copy as Image, Canvas places the selected objects on the Clipboard. You can then use another application's Paste command to place the Clipboard contents into a document.

Copy at 4X, Copy at 8X

You can use the Copy at 4X command or the Copy at 8X command to place vector objects on the Clipboard as rasterized objects at specific resolution levels. You might want to do this if you are pasting Canvas vector objects into another program and the objects appear jagged when printed. This can happen when a program prints Canvas vector objects at the low resolution of the screen display.

The Copy at 4X and Copy at 8X commands place selected objects on the Clipboard at specific resolution levels: "4X" indicates resolution 4 times greater than screen resolution and "8X" indicates resolution 8 times greater than screen resolution. 4X approximates the resolution of a 300 dpi printer; 8X approximates the resolution of a 600 dpi printer. Choose the resolution level based on the printing device you are going to use.

When copying and pasting within Canvas documents, these commands perform the same function as the standard Copy command. Using these commands is not recommended for copying paint objects, which are already rasterized at a specific resolution.

◆ **To copy vector objects at increased resolution:** Select the objects to copy and choose Edit > Copy Special > Copy At 4X or Edit > Copy Special > Copy at 8X. Canvas places the selected objects on the Clipboard. You can then paste the Clipboard contents into other applications.

Creating links when pasting on Windows

With Canvas for Windows, you can use the Clipboard to place objects into other documents and create links to Canvas as the source application. The Paste command creates a link between a pasted object and the application that created it, using Object Linking and Embedding (OLE), a technology built into the Windows operating system.

Making multiple copies

You can use the Copy and Paste commands to make multiple copies of selected objects through the Clipboard. If you want more control over placement, number of copies, scaling or rotation, you can use the Duplicate and Replicate commands to make multiple copies.

- With a selection on the Clipboard, choose Paste to insert the selection in the center of the active document's current view. Repeat the Paste command to make multiple copies.
- The Duplicate command copies selections immediately and lets you space copies evenly. The Replicate command lets you scale, rotate, and offset multiple copies.

Duplicating selections

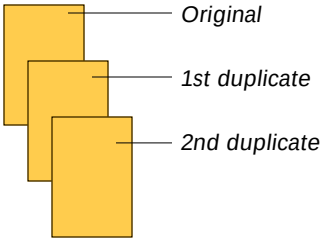
The Duplicate command quickly copies selected objects into the same document, without affecting the contents of the Clipboard.

◆ **To copy objects into the same document:** Select the objects you want to copy and choose Edit > Duplicate. Canvas creates, offsets, and stacks a copy of the selection in front of the original. To make additional copies, choose Edit > Duplicate again.

The Duplicate command offsets copies a preset distance horizontally and vertically from the original. You can move the copy (without

deselecting it) to adjust the offset distance and direction and then repeat the Duplicate command to make more evenly-spaced copies.

You can change the Duplicate command's preset offset values; see "When duplicating objects offset" on page 9.4.



Canvas offsets and stacks duplicates, placing the newest copy in front of the stack.

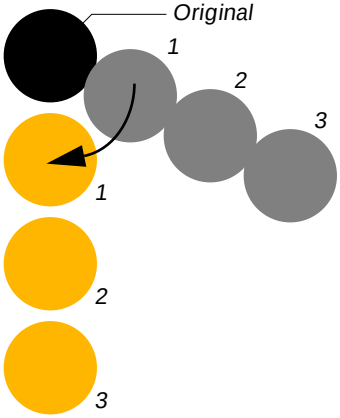
To duplicate and space copies evenly

1 Select one or more vector, text, paint, or group objects to copy.

2 Choose Edit > Duplicate. Canvas duplicates the selection and offsets the copy a preset distance from the original.

3 The copy must remain selected as you drag it or use the keyboard arrow keys to move it into position. The new position establishes the offset distance and direction from the original selection.

4 Choose Edit > Duplicate again. Canvas creates the next copy using the offset defined from the original selection to the first copy. Repeat this step to create additional evenly-spaced copies.



Duplicated objects are offset a preset amount (gray circles). By moving the first copy and repeating Duplicate, you can set a custom offset distance and direction (orange circles).

Duplicating objects with the mouse

You can duplicate an object by pressing a modifier key as you drag the object. When an object is selected, you can press a modifier key to duplicate and resize it as you drag a handle. In Freeform mode, you can press a modifier key to duplicate while rotating or skewing an object.

◆ **To duplicate objects by dragging:** Select the objects you want to duplicate. Press Option (Mac) or Ctrl (Windows) as you drag the objects.

◆ **To make multiple copies while dragging:** Select the objects you want to duplicate. Press Option+Command (Mac) or Ctrl+Alt (Windows) as you drag the objects.

To duplicate while resizing

1 Select an object to duplicate.

2 Begin to drag a handle on the object's bounding box to the size you want the duplicate to be.

3 As you drag, press and hold Option (Mac) or Ctrl (Windows). When you release the mouse button and the modifier key, the duplicate object appears in front of the original.

To duplicate while rotating or skewing

1 Select an object and choose Effects > Freeform to put the object in Freeform mode.

2 Point to a handle and press Option (Mac) or Ctrl (Windows) as you drag the handle.

- To rotate the object, drag one of the four corner handles.
- To skew the object horizontally, drag a horizontal skew handle to the left or right. To skew vertically, drag a vertical skew handle up or down.

The duplicated object rotates or skews depending on which handle you drag. You cannot rotate and skew the object at the same time. When you release the mouse button, the duplicate object is in front of the original.

Creating multiple duplicates

After you duplicate an object using a modifier key, you can make more copies with the same offset distance, angle of rotation, or skew factor.

With a duplicated object still selected, choose Edit > Duplicate. Canvas creates another duplicate and applies the same offset distance, angle of rotation, or skew factor.

Scaling, rotating, and offsetting copies

The Replicate command offers powerful capabilities for duplicating objects. You can use the Replicate dialog box to set the number of copies and to rotate, scale, and position copies with one command.

To replicate a selection

1 Select one or more objects to copy and choose Edit > Replicate.

2 In the Replicate dialog box, specify the number of copies. Enter the scaling, rotation, and offset values you want to apply. For information on these settings, see “Options in the Replicate dialog box” on page 10.19.

- To preview the replication, click Apply. Canvas draws the copies and the dialog box stays open. You can change settings and click Apply to preview the new settings.

- To cancel the replication, click Cancel. Canvas closes the Replicate dialog box and erases preview copies.

3 Click OK to copy the selection and close the Replicate dialog box. The original object is deselected and the copies are selected.

Options in the Replicate dialog box

The Replicate dialog box lets you rotate, scale, and duplicate selected objects.

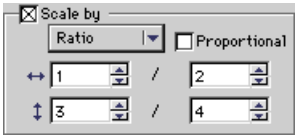
Copies. Enter the number of objects you want to create.

Rotate. To rotate each copy relative to the preceding object, select Rotate. Type the rotation amount from (minus) -359.0 to 359.0 degrees. The center of rotation is shown in the "Around" box by a hollow handle; click to select another handle as the rotation center.

Scale by. To incrementally change the size of each copy, select Scale by. In the pop-up menu, choose Percentage, Length, or Ratio. In the text boxes, enter horizontal (↔) and vertical (↕) scaling factors.

Percentage scales each copy by the specified percentages of the proceeding object's dimensions. Enter whole numbers from 1% to 999%.

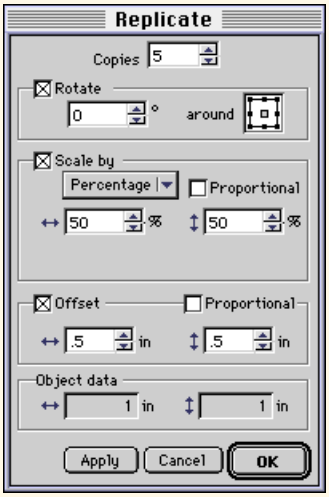
Ratio lets you resize copies by fractional amounts. Canvas scales each copy to ratios of the previous object's horizontal and vertical dimensions.



Type ratios with whole numbers from 1 to 999. The left number represents the copy; the right number represents the previous object. A 1/1 ratio maintains dimensions; 1/2 halves dimensions; 2/1 doubles dimensions.

Length increases or decreases by a fixed amount each copy of the object using the values in the horizontal and vertical text boxes.

Proportional. If selected, Canvas makes the vertical value in the Scale by or Offset area equal to the horizontal value.



Offset. Check this option to place copies a specified distance from the previous object. In the text boxes, enter the horizontal and vertical offset distance. Positive numbers offset copies up and right; negative numbers offset objects down and left.

Object data. Displays the selection's height and width. These values can't be edited.

Grouping and ungrouping objects

You can use the Group command to unite objects that you want to keep together as one unit. You can group individual objects as well as already-grouped objects. When you no longer want to keep a group

together, you can separate the original objects with the Ungroup command.

- **To group objects:** Select the objects that you want to group. Choose Object > Group. Canvas replaces the bounding boxes of the individual objects with a single bounding box.

- **To ungroup objects:** Select one or more grouped objects that you want to separate. Choose Object > Ungroup. Canvas separates the group and leaves the individual objects selected. If any of these objects are group objects, you can further ungroup them by choosing Object > Ungroup again.

✔Tip
After you group objects, you can select individual objects in the group with the Direct Selection tool.

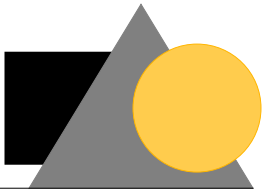
When you apply a command to a group object, the effect in most cases is the same as if you applied the command to each object in the group individually.

Grouping and stacking order

Grouping objects can change the stacking order of the objects relative to objects outside the group.

For example, you have three overlapping objects. If you group the front and back objects, the group moves to the back and the middle (not grouped) object becomes the frontmost object.

The black square is behind the gray triangle, which is behind the orange circle in the stacking order



After selecting the square and circle and grouping them, the group goes behind the triangle in the stacking order

Moving objects

You can move objects by dragging them, by using the keyboard arrow keys, and by using the Transform palette. You can also use the Move command to specify a position change, and the Object Specs palette to specify exact coordinates.

When you drag an object, the Status bar shows the change in the object's x- and y-coordinate position. You can specify the format and precision of this data in the Preferences dialog box.

You can make precise positioning easier by turning on the autogrid so that objects you drag snap to preset ruler increments. You can also place alignment guides that objects will snap to in a document.

◆ **To move an object using the Selection tool:** Position the pointer on the object and drag. If you drag as soon as you press the mouse button, an outline of the object follows the pointer. To see the entire object as you drag, pause after you press the mouse button, and then drag.

You can press modifier keys as you drag objects to constrain movements and perform other functions.

To	Do this
Constrain movement to 45 degree increments	Press Shift while dragging
Copy objects by dragging	Mac: Press Option while dragging Windows: Press Alt while dragging
Leave a trail of object copies	Mac: Press Command + Option while dragging Windows: Press Ctrl + Alt while dragging

◆ **Moving objects using the keyboard:** To move objects left, right, up, or down, press the corresponding arrow key. You can use the modifier keys shown in the following table to move greater distances.

To move objects	Do this
1 pixel to the left, right, up or down	Press left, right, up or down keyboard arrow key
10 pixels to the left, right, up or down	Mac: Press Option and an arrow key Windows: Press Alt and an arrow key
50 pixels to the left, right, up or down	Mac: Press Command and an arrow key Windows: Press Ctrl and an arrow key

You can change the default distances that keyboard keys move objects; see “When moving objects offset” on page 9.4.

Moving objects a specified distance

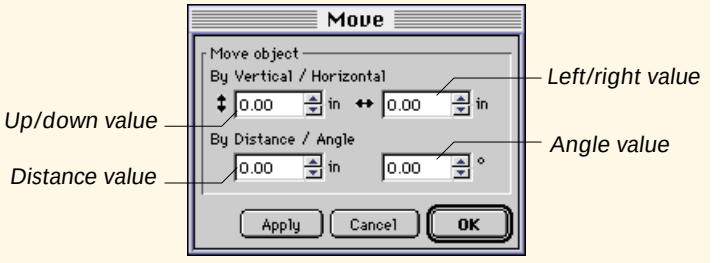
Use the Move command to specify distance and direction.

1 Select the objects you want to move and then choose Object > Move.

2 In the Move dialog box, enter values in the first or second row of text boxes. Use negative numbers to move up and to the left. Use positive numbers to move down and to the right.

3 Click Apply to preview or OK to implement the Move settings.

✔ Tip
You can specify angular movement in 0.01 degree increments. The movement direction depends on the Coordinate System setting in the Preferences dialog box; see "Coordinate System" on page 9.3.



Arranging objects in the stacking order

Each object in a Canvas document is part of a stack of objects on the same layer. Each object has a position in the stack. Unless you rearrange objects, the newest object is in front of the stack and the oldest object is in the back. An object that you create or paste appears at the front of the stack.

Stacking order affects the appearance of objects when you view and print them. Like actual objects placed in a stack, the front object in the stack blocks objects behind it. An object's position in the stack also is a factor in alignment and combining operations.

Commands in the Arrange submenu in the Object menu let you change an object's position in the stack. You can move objects to the front or back, and you can move objects one level at a time toward the front or back of the stack.

◆ **To change an object's position in the stack:** Select the object and choose a command in the Object > Arrange submenu.

Command	Result
Bring to Front	Moves selected objects to the front of the stack
Send to Back	Moves selected objects to the back of the stack
Shuffle Up	Moves selected objects one step toward the front
Shuffle Down	Moves selected objects one step toward the back

Arranging objects on layers and pages

Commands in the Arrange submenu in the Object menu let you move and copy selected objects to other layers on the same page and to layers on other pages.

To send or copy objects to another location

1 Select the objects, and then do one of the following:

- Choose Object > Arrange > Send to Layers to move objects to new locations.
- Choose Object > Arrange > Copy to Layers to copy objects to new locations.

2 In the Layer Select dialog box, click one or more layers to designate them as the destination for the selected objects.

3 Click Select. Canvas copies or moves the selected objects to the destination layer or layers.

Note: The destination layer for the objects cannot be locked.

Locking and unlocking objects

When you want to secure objects from unintentional changes, you can lock them. Once an object is locked, it can only be selected by Tab>clicking the object. However, if the “Canvas 6-style object locking” option in the Preferences dialog box is selected, you can select locked objects by clicking on them. Locked objects can be copied and the copies won’t be locked.

To lock or unlock objects:

Select the object(s) that you want to lock or unlock. Choose Object > Lock or Object > Unlock (Unlock All, if no objects are selected).

How commands affect locked objects

If you apply the Align command to several selected objects, and one object is locked, the other objects align to the locked object.

If you group several objects and one of the objects is locked, all the objects are positioned behind the locked object in the stacking order.

Aligning and distributing objects

You can use the Align submenu and the Align palette to quickly and precisely position objects.

Using the Align submenu

The Align submenu lets you quickly align selected objects. The submenu includes these common alignment commands: Top, Left, Bottom, Right, Center, Center Vertical, and Center Horizontal.

The Align submenu is in the Object menu, and is also available in the context menu when multiple objects are selected. The submenu also includes the Show Palette command, which displays the Align palette.

To use the Align submenu, select two or more objects. Choose Object > Align and choose an alignment option. Or, open the context menu and choose an alignment option.

Using the Align palette

The Align palette is a floating palette that provides additional alignment and distribution options. The palette can stay on screen as you work, making it easy to access alignment features.

You can apply alignment and distribution options to vector objects, group objects, paint objects, and text objects. You can align and distribute objects in separate or combined operations. As the reference point for alignment and distribution, you can choose points on the objects or the document.

Aligning objects When aligning objects, Canvas lines up key points on the objects in relation to the reference point you choose. You can choose left, right, top, bottom, or center alignment.

Distributing objects When distributing objects, Canvas spreads them out over a specified area and equalizes the space between the key points. You can choose left, right, top, bottom, inside, outside, or center as methods for distribution. For example, if you choose left edges for distribution, the left-most point in each object is an equal distance from the leftmost point in each of its neighbors.

If one of the objects you select for alignment is locked, other objects align relative to it. When distributing objects, Canvas places all objects relative to each other.

Align palette

Choose Object > Align > Show Palette to open the palette. Select the objects you want to arrange. Click Apply to implement the current settings.

Align to: Choose the reference for alignment and distribution:

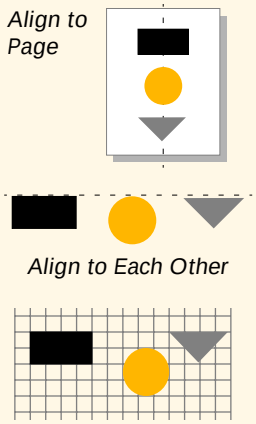
Each Other: With respect to the other selected objects.

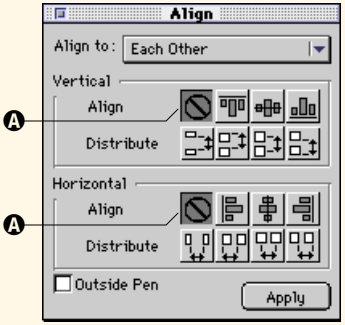
Grid: To the nearest grid increment.

Printable Area: With respect to the printer page or tile.

Document: To a specified location in the document. If you center an object in a multipage illustration, portions can appear on multiple tiles.

In the Vertical and Horizontal areas, click buttons for alignment and distribution options. Active buttons are recessed.





You can select an alignment or distribution option, but not both, in each area.

Ⓐ For no change in position, click the first button in either the Vertical or Horizontal area.

Vertical Align. (Left to right) None, top, center, and bottom.

Vertical Distribute. Inside, top, center, and bottom.

Horizontal Align. None, left, center, and right.

Horizontal Distribute. Inside, left, center, and right.

Outside Pen. Check this option to use the outside edge of objects' strokes when aligning or distributing objects. Otherwise, Canvas uses the center of the stroke.

Rotating, skewing, and flipping objects

You can rotate Canvas objects clockwise or counter-clockwise, flip them on one or both axes, and skew their bounding boxes. You can rotate and skew around an object's center, or move the centerpoint to any location.

When you rotate an object, the object's bounding box also rotates. If you drag a selection handle of a rotated object, the bounding box changes shape in the rotated orientation, so you can resize an object without distorting its basic shape. If you need to, you can also return the rotated bounding box to its original orientation by choosing Object > Paths > Convert To Paths.

◆ **Removing effects:** After you rotate, skew, or flip objects, you can return them to their original orientation and shape. Select the objects and choose Effects > Remove Effects.

Rotating and skewing in freeform mode

When you put an object in freeform mode, you can rotate and skew it by dragging special handles.

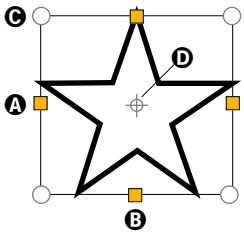
◆ **To put an object in freeform mode:** Select the object and choose Effects > Freeform. Rotation and skewing handles and the object's centerpoint appear.

You can also put a selected object in freeform mode by clicking it. This depends on a setting in the Preferences dialog box; see "General preferences" on page 9.1.

◆ **To end freeform mode:** Click away from the object, or press Enter (Mac) or Esc (Windows).

Freeform mode

Ⓐ *Vertical skew handle*
Ⓑ *Horizontal skew handle*
Ⓒ *Rotation handle*
Ⓓ *Rotation center*



Rotating objects in freeform mode

In freeform mode, the circular handles at each corner of the bounding box are rotation handles. The circle and crosshair in the center of the object is the point around which the object rotates.

◆ **To rotate an object in freeform mode:** Drag one of the four corner handles. An outline of the object rotates as you drag a handle.

◆ **To set the center of rotation:** Drag the centerpoint to a new location anywhere on the screen. To make the centerpoint snap to one of the handles or the center, press Shift as you drag.

Skewing objects in freeform mode

When an object is in freeform mode, you can slant its shape by dragging the horizontal and vertical skew handles. Skewing an object

reshapes it by changing the relationship of the horizontal and vertical axes to the skew centerpoint.

Canvas skews objects around a centerpoint that you can position to achieve the effect you want. You can drag the centerpoint to any position inside or outside the object. The location of the skew centerpoint changes the effect of dragging a skew handle on the object.

To position the centerpoint on one of the freeform handles or in the center of the object, Shift-drag the centerpoint to place it.

◆ **To skew an object horizontally:** Drag a horizontal skew handle to the left or right.

◆ **To skew vertically:** Drag a vertical skew handle up or down.

Freeform editing of floating image selections

Use the Freeform command to place floating image selections in freeform edit mode. When you put an image selection in freeform mode, you can rotate and skew it by dragging special handles.

To float a copy of a selection

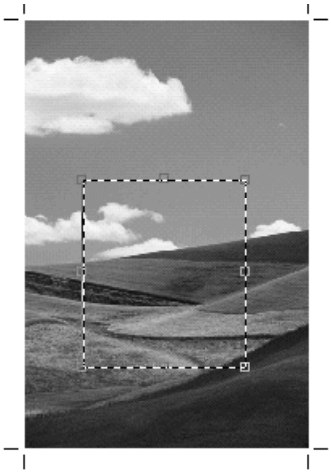
1 With a paint object in edit mode, make a selection with the Marquee or Lasso tool. The selection can encompass the entire paint object.

2 Do one of the following:

- Choose Image > Select > Float.
- Option-drag (Mac) or Ctrl-drag (Windows) the selection. This moves the selection and puts it in freeform mode.

You can also paste an object into an image in edit mode. The object pastes into the image as a floating selection.

For more information on image selections see, “Working with image selections” on page 26.9.



◆ **To put a floating image selection in freeform mode:** While a floating image selection is active, choose Effects > Freeform. Handles appear on the corners and sides of the floating selection.

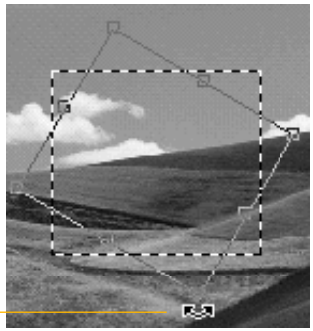
◆ **To move a selection in freeform mode.** Place the pointer inside of the selection. The pointer becomes an arrow head. Drag to move an outline of the selection.

Rotating selections in freeform mode

In freeform mode, while the pointer is outside of the selection, the pointer is a curved line with an arrow at both ends. This is the rotation pointer.

Drag around the selection in the direction you want it to rotate. An outline of the selection rotates as you drag.

- Press the Shift key to constrain the rotation to 15-degree increments.



Rotation pointer

Scale pointer

Scaling selections in freeform mode

You can scale a floating selection in freeform mode by dragging the corner or side handles.

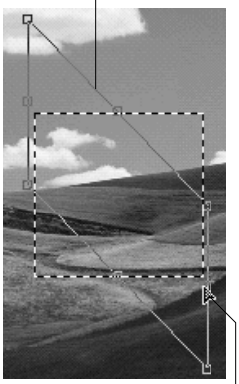
◆ **To scale a selection:** Point to one of the handles at the edges of the selection. The pointer changes to a straight line with an arrow at each end. Drag any of the handles. The selection scales as you drag.

- If you drag a side handle, the scaling is constrained to the direction of the arrows in the pointer – the direction perpendicular to the handle side.
- If you drag a corner handle, the scaling is unconstrained unless you press the Shift key.

- Press the Command key (Mac) or the Alt key (Windows) to mirror the scale on the opposite side of the selection.

Skewing selections in freeform mode

When a selection is in freeform mode, you can slant its shape by dragging the side handles with the Ctrl key pressed. Skewing a selection reshapes it by changing the relationship of the sides of the selection.



◆ **To skew a selection:** Press the Ctrl key and move the pointer over one of the side handles. The pointer changes to an arrow head. Drag the handle to skew the selection freely.

- Press the Shift key to constrain the skew along the axis of the handle side.
- Press Command (Mac) or Alt (Windows) to have the opposite side of the selection skew to maintain its relationship to the side you are skewing around the center of the selection.

The modifier keys can be combined to produce both skewing effects simultaneously.

◆ **To end freeform editing:** Double-click inside the selection or press Enter twice. The floating selection is still active. Then double-click outside the paint object or press Enter twice to paste the pixels as defined by the floating selection into the image.

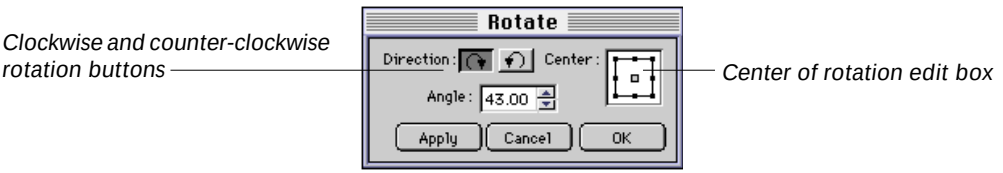
If you do not want to change your original image, press Esc to leave freeform mode. Canvas makes no changes to the image.

Rotating objects with the Rotate command

For precise rotations, you can use the Rotate command to rotate selected objects in 0.01 degree increments around a center of rotation you specify. This command is useful when you need to rotate multiple objects an exact amount.

1 Select the object you want to rotate.

2 Choose Effects > Rotate.



3 In the Rotate dialog box, click the clockwise or counter-clockwise button to choose a rotation direction.

4 Enter the rotation angle in degrees in the Angle text box.

5 The Center edit box shows the center of rotation as a gray handle. To change it, click one of the black handles on the bounding box; the gray handle snaps to the new location.

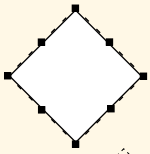
6 Click Apply to preview the settings, or click OK to implement the settings and close the dialog box.

Editing rotated objects

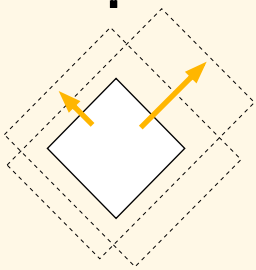
When you rotate an object, the object's bounding box also rotates, so you can reshape and resize the object in rotated space. If you drag a handle, the object's sides keep their rotated orientation. This prevents distortion of the original shape.

Rotated bounding box

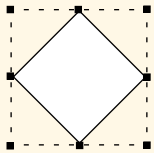
The bounding box of a rotated square has the same orientation as the rotated object...



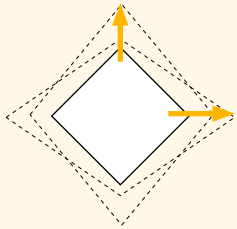
... so the object maintains its rectangular shape, shown by the dotted lines, when you drag the bounding box handles.



Unrotated bounding box



If you choose Convert to Paths, Canvas re-orients the bounding box of a rotated object...



... so the object's rectangular shape distorts when you drag a handle on the bounding box, as shown by the dotted lines.

Flipping objects

You can flip objects horizontally, vertically, and both horizontally and vertically, with the Flip commands in the Effects menu. You can flip individual objects, multiple selected objects, or grouped objects. When you flip a group object, objects included in the group flip around the axes of the group's bounding box.

Original

Flip > Horizontal

Flip > Vertical

Flip > Both Axes

- **To flip a selected object from top to bottom:** Choose Effects > Flip > Vertical. The Vertical command flips the selection's vertical coordinates over its horizontal axis.
- **To flip a selected object from left to right:** Choose Effects > Flip > Horizontal. The Horizontal command flips the selection's horizontal coordinates over its vertical axis.
- **To flip a selection around both axes:** Choose Effects > Flip > Both Axes. Canvas flips the selection's horizontal coordinates over its vertical axis and its vertical coordinates over its horizontal axis.

Scaling objects

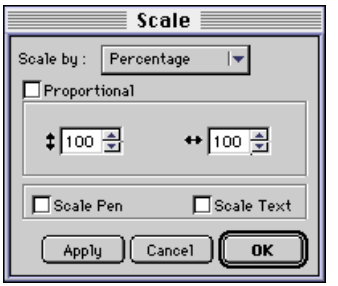
The Scale command in the Object menu provides several options for enlarging or reducing objects. You can scale by a percentage or ratio, horizontally and vertically. You can also scale text and stroke weights when you scale objects.

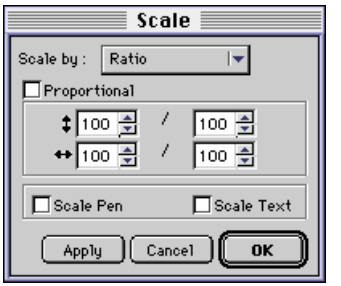
To scale an object

1 Select one or more objects and choose Object > Scale to open the Scale dialog box.

2 Select a scaling method in the Scale By pop-up menu. The configuration of the dialog box depends on which option you choose.

Depending on the Scale by method you choose, the Scale dialog box displays different options.





Percentage You can specify vertical and horizontal percentages. Scaling an object 150 percent is the same as increasing the object's size by a factor of 1.5, for example.

Ratio You can specify horizontal and vertical scaling factors as ratios by entering numbers in each set of two boxes.

For example, to scale an object to one-third its original height, enter "1" in the first text box, and "3" in the second.

3 To scale an object vertically and horizontally by the same amount, turn Proportional on.

4 To maintain the proportion between an object's pen size and the overall size of the object, turn Scale Pen on.

5 If one of the selected objects contains text, you can turn Scale Text on to change the size of the characters. Otherwise, text remains the same size.

6 Click Apply to implement the settings.

7 Click OK to scale the object.

✔ Tip
You can also scale an entire document when you print it, without changing the objects in the document, by specifying a scaling factor in the Print dialog box.

Using the Object Specs palette

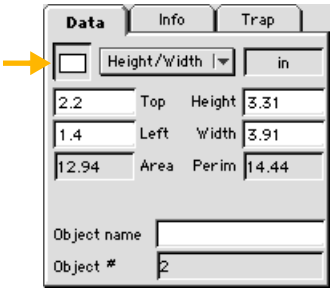
The Object Specs palette provides several important features for working with objects.

The Object Specs palette displays data for selected objects and lets you modify settings for selected objects. It also lets you create objects by specifying size, position, and object type.

The Object Specs palette contains tabs labeled Data, Info, Trap, and Style.

- The Data tab lets you create objects, and edit the size, position, and other data for a selected object.
- The Style tab lets you create, modify, and apply object styles.
- The Trap tab lets you set printing options, including overprinting and trapping for color separations.
- The Info tab lets you control the attributes (inks, pen stroke, dash, arrow, opacity, and transfer mode) of a selected object.

Object Type palette



To display the Object Specs palette

Choose Object > Object Specs. The palette can remain open while you work. You can change coordinates, dimensions, or other settings, and then click Apply to implement them.

To create an object

1 On the Data tab, choose an object type from the Object Type palette. You can create rectangles, ovals, arcs, polygons, and lines.

2 Enter values for the object's size and position in the text boxes. The type of data you can enter depends on the object type.

3 Click Create to create the object.

Editing object data

You can use the Data tab to create objects, and to view and edit data for selected objects.

The Data tab displays information for a selected object or group object. If you select a group object, you can change the group's size and coordinates, but not an individual object within the group.

When more than one object is selected, the boxes on the Data tab are not available, because you can't edit the position or dimensions of multiple selected objects.

After you edit the values on the Data tab, click Apply to apply the changes to the selected object.

Data display options

You can choose the type of data to display on the Data tab. You can choose Height/Width or Top/Bottom for all objects except lines. For lines, you can choose Start/End, Delta V/H, or Length/Angle.

Height/Width Type values in the text boxes to specify the vertical and horizontal dimensions of the object.

Top/Bottom Type values in the text boxes to specify the position of the top, bottom, left, and right edges of the object, relative to the document rulers.

Start/End Type values in the text boxes to specify the position of the first and last endpoints of a line.

Delta V/H Type values in the text boxes to specify the position of the first endpoint, and the distance from the first endpoint to the last endpoint of the line.

Data tab settings

The Data tab includes object size and position data and related options. The tab displays additional options when you select text. The text options let you change the shape of a text object or change the way text wraps in its bounding box.

Ⓐ For a selected object, shows the object type, usually an icon of the tool that created the object. To create an object, select oval, rectangle, arc, line, or polygon.

Ⓑ Select the type of data to display. You can choose Height/Width or Top/Bottom for all objects except lines. For a line, you can choose Start/End, Delta V/H, or Length/Angle.

When an object is selected, you can change the values in the text boxes to resize or reposition the selected object. If Keep Proportions is checked, Canvas maintains the proportion of the object if you change either the height or width (on Mac, the calculation occurs when you press the Tab key or click Apply).

Ⓒ Displays the document's measurement units.

Ⓓ **Position data.** The type of data that appears in the boxes, and their labels, depends on whether you choose Height/Width or Top/Bottom, Start/End, Delta V/H, or Length/Angle.

Area. Shown when Canvas can calculate the area occupied by a selected object's bounding box. When you select text, the horizontal insets text box replaces the Area text box.

Perim. Shown when Canvas can calculate the perimeter, or distance around, a selected object's bounding box. When you select text, the vertical insets text box replaces the Perim text box.

Object name. Type a name for the object.

Object #. The object number assigned by Canvas.

Keep Proportions. Select this option to keep an object's height and width proportional when you are editing the object's dimensions.

Apply. Click to apply the current settings. The Apply button changes to Create when no object is selected and you choose an object type to create.

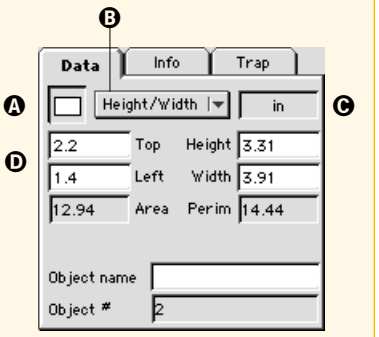
Text object settings

Insets. Change the proportions of a text object's background. Type values, in pixels, in the text boxes to specify the horizontal and vertical size of the text object's background.

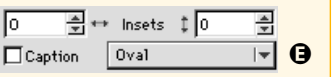
Ⓔ Change the shape of the text object's background to a rectangle, round rectangle, oval, or diamond.

Caption. Select or deselect to change the way text wraps in its bounding box. Text that is not captioned wraps to the next line based on the boundaries of the text's bounding box.

You cannot use the Caption or Insets options with text that you created using the Path Text tool, or text that you converted to paths.



Text object settings



Length/Angle Type values in the text boxes to specify the position of the first endpoint, and the length and angle of the line.

Position data

The type of data that is displayed on the Data tab depends on whether you choose Height/Width or Top/Bottom, Start/End, Delta V/H, or Length/Angle.

Left Type the horizontal distance from the ruler's zero point to the left edge of the object.

Top Type the vertical distance from the ruler's zero point to the top edge of the object.

Height Type the height of the object, relative to the top edge of the object.

Width Type the width of the object, relative to the left edge of the object.

Bottom Type the vertical distance from ruler's zero point to the bottom edge of the object.

Right Type the horizontal distance from the ruler's zero point to the right edge of the object.

St V Type a value to position the first endpoint of a line, relative to the vertical ruler's zero point.

St H Type a value to position the first endpoint of a line, relative to the horizontal ruler's zero point.

End V Type a value to position the last endpoint of a line, relative to the vertical ruler's zero point.

End H Type a value to position the last endpoint of a line, relative to the horizontal ruler's zero point.

Delta V Type a value to position the last endpoint of a line, relative (vertically) to the first endpoint of the line.

Delta H Type a value to position the last endpoint of a line, relative (horizontally) to the first endpoint of the line.

Length Type a value to specify the length of a line.

Angle Type a value to specify the angle of a line.

X Type a value to position a handle of a polygon, relative to the horizontal ruler's zero point.

Y Type a value to position a handle of a polygon, relative to the vertical ruler's zero point.

Start Type a value to specify the starting point of an arc in degrees.

Delta Type a value to specify the length of an arc segment in degrees.

Diag Type a value to specify the roundness of the corners of a rounded rectangle.

Working with object styles

An object style is a set of attributes you can save and then apply to objects. Object styles help you maintain consistency and make applying attributes easier. You can edit and reapply styles to objects, rather than editing each attribute.

To create an object style

1. Display the Object Specs palette and select the Style tab.
2. Select an object on which you want to base a style.
3. Click the Create button in the Object Specs palette.
4. In the dialog box, type a style name in the Name text box.
5. Select the check boxes for attributes you want to include in the object style and click OK to save the style.

Object styles

The Style tab in the Object Specs palette lets you create, apply, and edit object styles.

Object style. This pop-up menu contains the names of object styles saved in the document. To apply a style to selected objects, choose the style from the pop-up menu.

Previews of selected styles appear in the area under the Object Style menu.

Style descriptions are listed under the style preview. The list describes the fill, stroke, pen size, miter, dash, arrow, and arrowhead settings for the selected style.

Create. To create an object style from a selected object, click Create. In the Create Object Style dialog box, name the style and specify the attributes to include. Creating a style does not apply it to the selected object.

Edit. To change attributes of the current style, click Edit.

Delete. To delete the current style, Click Delete.

Apply. To apply the current style to selected objects, Click Apply.

The following attributes of a selected object can be saved as a style.

Fill Ink The fill ink of the object in the style. The name of the fill ink appears to the right of the check box.

Pen Ink The pen ink of the object in the style. The name of the pen ink appears to the right of the check box.

Stroke The stroke attributes of the object, such as pen size and miter, in the style.

Dash The dash pattern of the object in the object style.

Arrow The arrowhead style of the object in the style.

To delete an object style

1 Display the Object Specs palette and select the Style tab.

2 Choose the Object Style to delete from the pop-up menu. A preview and the style's description appear on the tab.

3 Click the Delete button. Canvas removes the style's preview and description, and removes the style's name from the Object Style pop-up menu.

To edit a saved object style

After you create an object style, you can modify it at any time.

1 To edit an object style, choose the style to edit in the Object Style pop-up menu.

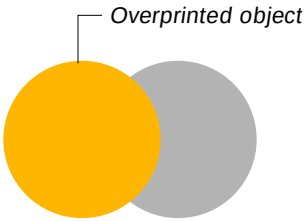
2 Click the Edit button to open the Edit Object Style dialog box, which shows the selected style settings. You can change which attributes are part of the style, and the attributes' settings:

- To add or remove attributes from the style, select or deselect the Fill, Stroke, Pen, Dash, or Arrow checkboxes.
- To change attribute settings, use the Fill, Stroke, Pen, Dash, or Arrow pop-up menus.
- To prevent creation of a new object style while you edit an existing one, the Name text can't be changed.

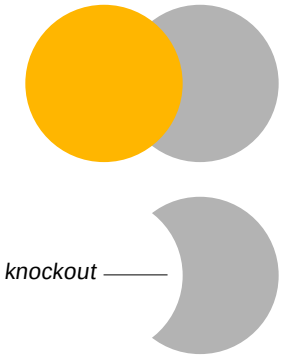
Setting print properties for objects

The Trap tab in the Object Specs palette lets you set overprinting and trapping options for color separations. You can apply the settings to selected objects by clicking Apply in the Object Specs palette.

Overprinting in color separations



Overprinting produces a color mixture where the orange circle overlaps the gray circle. This effect isn't visible on screen.



Without overprinting, the orange circle knocks out part of the gray circle.

When you output color separations in Canvas, you can specify that an object should overprint, rather than knock out, objects behind it.

In color separations designed for commercial printing, a front object usually "knocks out" a hole where it overlaps other objects. However, you can apply the Overprint Object option to an object to prevent it from creating knockouts in objects behind it. This can compensate for registration problems on some printing presses.

For example, if you draw a cyan circle on a yellow background, Canvas knocks the circle out of the background in color separations so cyan and yellow do not mix in the circle. If you select the circle and use the Overprint Object option, the circle will print over a solid yellow background, and the cyan in the circle will mix with the background yellow, resulting in a green circle.

The effect of the Overprint Object option is not visible on screen. This effect is visible only in the printed output when you produce color separations. You can verify the settings for a particular object by viewing the Options tab in the Object Specs palette and then selecting the object.

Color mixing as described in the previous example is not the primary reason for overprinting. It's more common for designers to overprint dark objects on lighter backgrounds as a way to prevent a gap from appearing between the colors if the press registration (alignment) isn't perfect.

To specify overprinting for objects

1 Select the vector or text objects to be overprinted.

2 Select the Overprint Object checkbox on the Trap tab in the Object Specs palette.

3 Click Apply. The appearance of the selected objects does not change on screen, but the objects will be overprinted in color separations.

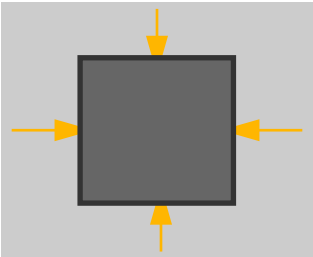
◆ **To remove overprinting:** Select the objects, clear the Overprint Object checkbox on the Trap tab, and then click Apply.

Trapping in color separations

When objects of different colors touch, there is the potential for an unsightly gap to appear between the colors if the piece isn't printed precisely aligned, or "in register."

Trapping is a technique that purposely distorts the shapes of objects in color separations where different colors meet. The slight distortion creates tiny areas called "traps" where colors overlap. The trap areas can help avoid the appearance of gaps if the page is printed slightly out of register.

Before you use trapping in color separations, you should determine how likely it is that the piece will not be printed in register. You should consider how beneficial it will be to distort the shape of some objects to compensate for possible misregistration. For example, trapping type can ruin the appearance of the text, and probably isn't necessary.



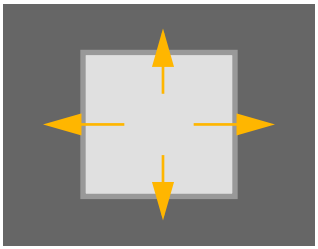
Choke trapping reduces the background knockout slightly to trap into a dark foreground object.

Trapping choices

Canvas lets you specify two types of trapping, Choke and Spread.

Choke trapping is used to make light background colors trap to dark foreground objects. Canvas creates a choke trap by slightly reducing, ("choking") the knockout area in the light background object.

For example, if a dark blue "A" is printed on a pale yellow background with choke trapping applied to the "A," the "A" remains exactly the same, but the knockout area in the yellow background becomes a slightly smaller "A" shape. The result is that some of the yellow overlaps the edges of the dark blue "A."



Spread trapping enlarges the stroke of a foreground object slightly to trap into a dark background object.

Spread trapping is used to make light foreground objects trap into dark backgrounds. The trap is created by slightly enlarging the foreground object without changing the knockout in the background color. For example, if a light circle is printed on a dark background with spread trapping applied to the circle, the circle expands slightly to overlap, or trap into, the circle knockout in the dark background.

Trapping limitations

Whenever possible, you should design illustrations to avoid certain trapping problems, and always discuss trapping with your service bureau and printer to avoid unnecessary expense and inferior results.

In Canvas, trapping is best applied to vector objects that use a solid pen stroke and solid pen ink color. The following limitations apply to trapping:

- Canvas will not create a choke trap for text.
- Canvas will not create a choke trap for a vector object that has no stroke or has a stroke that is not a solid pen stroke.
- Canvas will not create a choke trap for an object that has a gradient pen ink.
- Canvas will not create a spread trap for a paint object.

To specify trapping for objects

1 Select the object you want to trap. In most cases, this will be a foreground object that touches a highly contrasting color.

2 Choose Object > Object Specs to open the Object Specs palette and click the Trap tab, if necessary.

3 Click the Trap Object check box, and then select the Choke or Spread option button, depending on the type of trap to create.

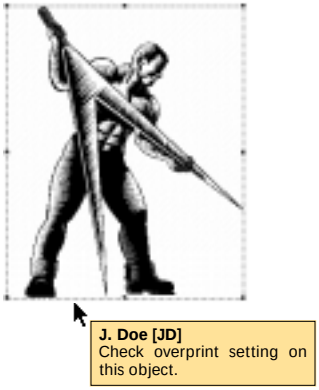
4 Click Apply to set the trapping option for the selected object. No change is apparent in the object on screen, because the trap is created only when you print color separations.

◆ **To apply trapping to selected text:** You can apply trapping options to text that you select within a text object using the Overprint and Spread options in the Text > Style submenu.

To adjust the trap size

Before printing color separations, you can specify the trap size. Click Separations Setup in the Print dialog box to change the trap size value.

Attaching comments to objects



Comments example

You can attach written notes called *comments* to any object in a Canvas document. This can be useful for individuals and workers in groups who share documents. Anyone who works on a document can attach one or more comments to any object.

You can attach comments to any type of object, including paint objects, vector objects, and text objects.

When you open a document, you can view all comments attached to objects. You can edit comments that you create, but you can't change comments made by others.

When you select an object that has one or more comments attached to it, the object displays yellow selection handles (Windows) or gray selection handles (Mac).

You can view comments by pointing to objects. When the pointer is on an object, the object's comments appear in a pop-up window. If comments do not appear when you point to commented objects, be sure that "Show information tooltips" is selected on the General tab in the Preferences dialog box.

To attach comments

1 To attach a comment to an object, select the object.

2 Choose Object > Options > Comments to display the Comments palette. In the Comments palette, click New.

3 In the New Comment dialog box, type the comment text. When you finish, click OK to attach the comment to the selected object. The comment appears in the Comments palette.

You can click New in the Comments palette to attach additional comments to the selected object.

A comment can contain up to 64 kilobytes of text (about 65,500 characters). The text appears in a fixed size and typeface.

When you create comments, you can select, copy, cut, and paste text using the standard keyboard shortcuts. Spell checking, text formatting, and text colors can not be applied to the text of comments.

Viewing and editing comments

You use the Comments palette to view, edit, and delete comments.

1 Choose Object > Options > Comments to display the Comments palette. All comments attached to objects in a document appear in the Comments palette.

2 Select an author's name in the pop-up menu to display only that author's comments in the list. To show all comments, choose All Reviewers.

The scrolling list displays the first lines and the author's initials for each comment. The initials preceding comments are from the user name entered during Canvas installation. You can edit the initials on the User Info tab in the Preferences dialog box.

3 Click a comment to select it. When you select a comment, Canvas selects the commented object in the document. Yellow (Windows) or gray (Mac) selection handles appear around the object to indicate that the object has one or more comments.

4 To view, edit, or remove a selected comment, choose one of the following options:

View To view a selected comment, click View. The comment text appears in the View Comments dialog box. You can select text and copy it to the Clipboard using standard keyboard shortcuts. You can edit your own comments in the View Comments dialog box, but you can't edit or remove comments made by others.

The pencil icon at the bottom-left corner of the dialog box indicates that you can edit a comment. When you view a comment that you can't edit, a slash appears on the pencil icon.

When you finish viewing a comment, click OK or Cancel to close the dialog box. If you have made changes to a comment, click OK to save the changes or click Cancel to discard them and close the dialog box.

Remove Select a comment you created. Click Remove to delete the comment from the object and the Comments palette.

Comments remain attached to objects until you remove the comments. However, comments are not preserved by operations that convert objects to different forms. These operations include Knife, Combine, Extrude, Fractalize, Join, Make Composite, Convert to Paths, and Insert Picture.

CHAPTER 11

MACRO OBJECTS AND CLIP ART

You can speed up many projects by taking advantage of reusable macro objects and ready-made illustrations. This chapter describes how to use macro objects and the Canvas clip art collection.

Macro objects are illustrations that you store in the Macros palette. You can create a macro object from any vector, text, group, or paint object. After storing a macro object, you can use the Macros tool to place copies that are linked to the stored macro. If you change the macro in the palette, all the copies in the document will also change.

Macro objects make it easy to place and change frequently used illustrations. You can save time by creating macro objects from elements you intend to use repeatedly, such as logos, symbols, and floor plans. For example, after designing a logo, you can make the illustration a macro object and use the Macros tool to place copies in your document. If you decide to change the logo, you can change all the copies at once by replacing the original macro object in the Macros palette.

Using Canvas clip art

The Clip Art palette lets you browse, select, and place Canvas clip art

The Canvas package includes an extensive collection of clip art. Subjects range from animals and plants to business images and technical symbols. The clip art is stored in Canvas files on the Canvas distribution CD-ROMs.

The Clip Art palette lets you browse Canvas clip art files, select illustrations and place them in your documents. In addition, because Canvas clip art files are indexed, you can perform keyword searches to locate all clip art files pertaining to a particular topic.

◆ **To display the Clip Art palette:** Choose Window > Palettes > Clip Art.

To select a clip art file

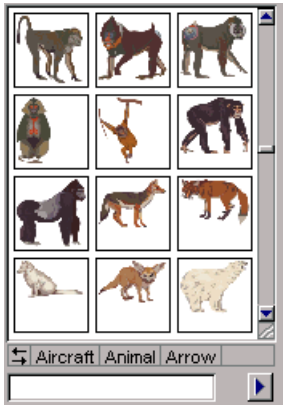
One way to select clip art in the Clip Art palette is to enter the ID string printed beneath an illustration in the Canvas Clip Art book.

The first digit in the ID string is the number of the CD that contains the file. Insert the CD in your CD drive. Then, type the ID string in the palette's text box and press Enter. This will display and select the

file's preview in the palette. Click in the document to place the file, or drag in the document to scale the file and place it.

Note: To use Canvas clip art CDs with Mac OS, the Foreign File Access and ISO 9660 File Access extensions are required.

Browse and select clip art in the scrolling grid



Choose options from the palette menu

To browse clip art

If a Canvas clip art CD is in the CD drive, the Clip Art palette displays the preview images from the CD. If the previews don't appear, choose Open Library in the palette's menu. In the directory dialog box, select the Canvas Index (.ndx) file on the CD and click Open.

Tip
To save Canvas documents with previews, in the Save As dialog box, select "Create Preview" (Mac) or "Save Preview" (Windows).

To browse a directory

1 In the Clip Art palette, choose View Directory from the palette's menu.

2 In the directory dialog box, select any Canvas file in the folder you want to browse and click Open. Previews of all Canvas documents in the folder will appear in the Clip Art palette.

◆ **To toggle between large and small previews:** In the palette's menu, choose Toggle Cell Size.

To search the clip art index using keywords

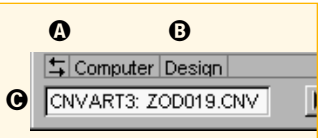
You can enter keywords to search the entire Canvas clip art collection and locate clip art by subject.

1 Choose Search Options in the Clip Art palette's menu.

2 In the Search Options dialog box, choose a search option.

Choose	To find
Matches	Exact matches of the name you type
Contains	Any name that contains the text you type
Starts With	Any name that begins with the text you type
Ends With	Any name that ends with the text you type

3 You can tell Canvas to find art with *all* or *any* of the keywords with the "Search using AND criteria" option. When this option is *not* selected, Canvas searches for clip art that matches *any* keyword in the text box. When this option is selected, Canvas searches for clip art that matches *all* the keywords you type.



A Click an arrow to scroll the clip art index

B Click a subject to show previews

C Type keywords in the box to find clip art

4 Click OK to apply the search options. These options will remain in effect unless you change them.

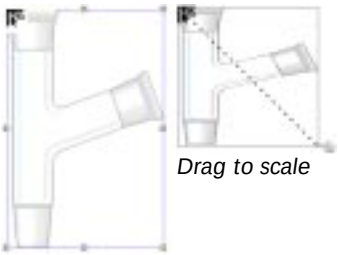
5 Type keywords in the text box in the Clip Art palette. You can type multiple keywords separated by spaces.

6 To begin searching, press Tab or Enter. Canvas displays thumbnail previews of all illustrations that meet the search criteria.

Placing clip art

After finding an illustration you want to insert, you can place the illustration at its original size, or scale it as you place it.

When you browse or search for clip art, the palette shows all files, regardless of which CD the files are stored on. If you select a file that isn't on the current CD, Canvas tells you which CD to insert when you click to place the file in the document.



To place clip art

Click a preview image in the Clip Art palette to select an illustration to place. A box appears around the selected illustration.

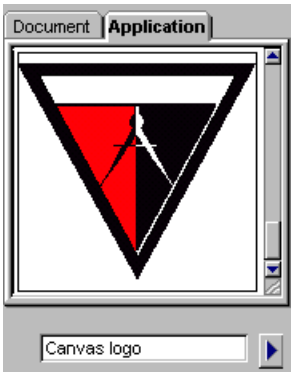
- To place the illustration at its original size, click in the document where you want to place the upper-left corner.
- To scale the illustration, drag the pointer to set the bounding box size. Canvas fits the illustration to the bounding box.

Using commercial clip art packages

You can purchase many commercial clip art packages of illustrations and raster images. Commercial packages use standard and proprietary file formats. If you want to use third-party clip art, ask the manufacturer about the file format and verify that Canvas can successfully open the files. For more information, refer to the chapter “File and data exchange” on page 7.1.

Using macro objects

Macro objects can help you create illustrations quickly, uniformly, and precisely. Macro objects are especially useful for technical drawings, diagrams, and other frequently used illustrations. For example, a landscape designer can create sets of macros for trees, shrubs, and structures. An electrical engineer can create macros for gates, resistors, and other circuit components. Project managers can build organizational charts with macros for shadowed text boxes.



Macros palette

You can create, delete, and modify individual macro objects, and also save them as macro sets. You can store sets for specific projects, and load sets as you need them.

You can store two categories of macros in the Macros palette.

Document tab Macros stored on the Document tab are available in the current document only. The available macros change when you switch documents. You can update macros placed in a document by replacing the original macro in the palette.

Application tab Macros stored on the Application tab are available in all Canvas documents. These macros can not be replaced to update copies that you have placed in documents.

To create a macro object

You can convert nearly any Canvas object into a macro object by dragging it to the Macros palette.

Note: If the Macros palette is docked on the Docking bar, you can’t drag objects into it to create macros.

1 Create the illustration that you want to use as a macro.

2 To open the Macros palette, choose Window > Palettes > Macros. Or, press the Macros tool in the Object Tools palette, and drag the Macros palette away from the toolbox.

3 Drag the object into the Document or Application tab in the Macros palette.

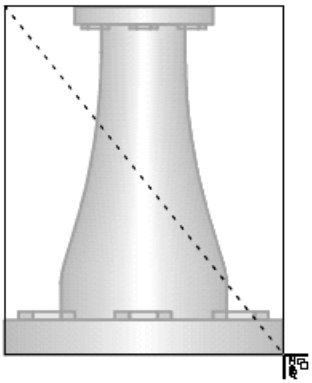
- If you drag the Macro onto a stored Macro in the palette, Canvas asks if you want to replace the Macro.To create a new Macro, click No.

4 A message requests a name for the new macro. Type a name and click OK. A preview of the macro appears in the palette.

◆ **To delete a macro:** In the Macros palette, select the macro you want to delete. Choose Delete in the palette's menu. The macro is removed from the palette, but copies in the document aren't affected.

◆ **To toggle between large and small macro previews:** Choose Toggle Cell Size in the palette's menu.

Placing macro objects



Click to place a macro, or drag to scale and place it. The object appears when you release the mouse.

After you create a macro, you can place it in a Canvas document. You can insert a macro at its original size, or scale the macro as you place it.

To place a macro object

Click a preview in the Macros palette to select the macro you want to place. A box appears around the selected macro.

- To place the macro at its original size, click in the document where you want the top-left corner of the macro to appear.
- To scale the macro as you place it, drag the pointer to set the size of the bounding box of the object you are placing. Canvas scales the object to fit the bounding box.

To find a macro in the palette

1 In the text box, type the text you want to search for. When you perform the search, Canvas will find the macro in the palette that starts with the text you type.

2 To begin searching, press Enter. Canvas selects the macro in the palette that starts with the text you typed. If more than one macro meets the criteria, Canvas selects the first macro it finds.

Editing macro objects

If you want to update all copies of a macro in a document, you can replace the original on the Document tab in the Macros palette. If you

want to replace a macro with a copy based on that macro, you must first unlink the copy from the original.

To edit the path of a macro copy, first select the copy and then choose Object > Path > Convert to Paths, or unlink the object. Both methods let you edit the object as a path, but they also unlink the object from the original macro.

To replace a macro in the palette

1 Create the object you want to use to replace a macro.

2 Drag the object to the Document tab in the Macros palette and drop it on the macro you want to change.

3 When Canvas asks if you want to replace the existing macro, click Yes to change all copies of the macro to the new object.

Unlinking macros

By unlinking placed macros, you can prevent them from changing when the macro in the palette is modified. You also make it possible to use a placed macro to modify its parent macro and to use path-editing techniques.

◆ **To unlink a macro copy:** In the document, select the macro copies you want to unlink from the original. In the Macros palette, choose Unlink in the palette's menu.

Using macro sets

You can save macros in named sets for use with specific projects or types of illustrations. Using this feature, you can load only the macros that you need at the time.

◆ **To save all macros as a set:** In the Macros palette menu, choose Save Set. In the dialog box that appears, type a name for the set, specify a location to save the set, and click Save.

◆ **To load a macro set into the palette:** Choose Append Set in the palette's menu. In the dialog box that appears, specify the file name and location of the macro set you want to load, and click Open. The macro set is added to the current tab in the palette.

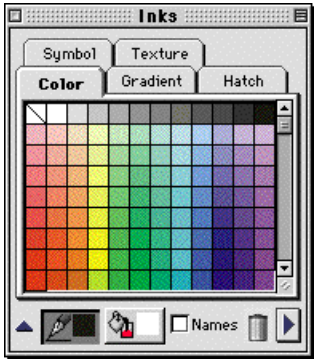
CHAPTER 12

INKS: COLORS AND PATTERNS

Inks in Canvas are solid colors, or multiple-color patterns that you apply to vector and text objects. You can apply inks to the interiors and outlines of vector objects and text.

This chapter describes how to create and apply inks, from basic solid color inks to custom multicolored inks. It also explains how to use various color systems to define inks.

The Inks palette



Inks palette with Color tab selected

You use the Inks palette to apply inks to objects, select the current inks for new objects, and create new inks. To open the Inks palette, press the pen or fill ink icon at the bottom of the toolbox. For details, see "Applying preset inks" on page 12.6.

The Inks palette contains five types of inks on separate tabs. Each tab has inks and a manager you can use to customize inks.

Color inks Color inks (on the Color tab) are solid colors. You can use CMYK, RGB, and commercial color reference systems to define color inks.

Gradient inks Gradient inks (on the Gradient tab) are smooth blends between two or more colors.

Hatch inks Hatch inks (on the Hatch tab) are patterns of lines. Hatch inks can incorporate other pen and fill inks.

Symbol inks Symbol inks (on the Symbol tab) are patterns of vector objects. Symbol inks can include any other ink as a background.

Texture inks Texture inks (on the Texture tab) are patterns of raster images. Texture inks can include other inks as backgrounds.

How inks apply to objects

You can apply inks to two areas of vector objects and text: *Fill inks* cover the interior of objects and text characters. *Pen inks* cover the outline stroke of objects and text characters. You can apply one fill ink and one pen ink to an object and to a text character.

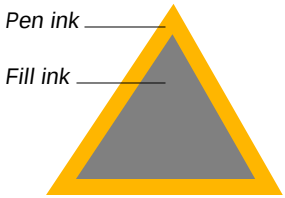
You can apply different types of inks to an object — a gradient fill ink and a texture pen ink, for example. If an object has neither a pen ink nor a fill ink, the object is not visible.

In addition, you can apply inks to the backgrounds and outlines of text objects.

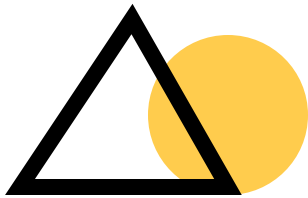
Remember that you don't apply inks to paint objects. Instead, you use painting tools to paint in a paint object and give it color.

Applying fill inks to open and closed paths

Whether a vector object path is open or closed affects the appearance of its fill ink. In a closed path, the ink completely fills the object's interior; in an open path, the ink fills inside the path as if the path were closed by a straight segment between its endpoints.



This object has a pen ink and a fill ink; both are basic color inks.



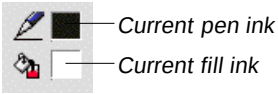
The triangle has a pen ink but no fill ink, so the circle in back is visible through it.

This path has a pen ink and no fill ink.

The path above has a pen ink and a fill ink.

Default and current inks

By default, Canvas applies white fill ink, black pen ink, and a 1-point pen stroke to new vector objects. For new text, Canvas applies black fill ink, no pen ink, and no stroke to the text characters.



The *current inks* are the inks that Canvas applies to new vector objects you draw. The squares in the pen ink and fill ink icons in the toolbox display the current inks. When you apply inks to existing objects, the current inks do not change.

◆ **To change the current pen or fill ink:** Make sure no objects are selected in the document, then press the pen ink or fill ink icon to select a current ink in the Inks palette.

Using the Color Dropper

Color Dropper tool 

You can use the Color Dropper tool to select and apply colors. The Color Dropper tool is located in the toolbar containing Effects tools in the toolbox.

The Color Dropper can select colors from any object in a document and from anywhere on screen, even outside of the Canvas application window.

Colors you select with the Color Dropper become the current foreground or background colors for painting and the current pen inks and fill inks for new vector objects.

The Color Dropper helps you use colors consistently throughout a document. It can also help you identify colors from documents that you import into Canvas. By letting you match colors, the Color Dropper can be useful for photo retouching.

The Color Dropper has two modes: Object Ink and Pixel Color. The tool selects the actual color at the point you click, taking into account transparency effects. Or, it selects the ink (in vector and text objects) or the paint color (in images). See “Color Dropper modes” on page 12.5.

To select an ink

In vector objects and text, the Color Dropper can pick up texture, gradient, hatch, and symbol inks; in paint objects, the Color Dropper selects the original color applied to the pixel you click.

1 Double-click the Color Dropper icon. In the dialog box, select Object Ink and click OK.

2 Select the Color Dropper tool.

To set the fill ink, click an ink to make it the current fill ink. You can click a pen ink or a fill ink; in either case, the ink you click becomes the current fill ink.

To set the pen ink, Option-click (Mac) or right-click (Windows) an ink to make it the current pen ink. You can click a pen ink or a fill ink; in either case, the ink you click becomes the current pen ink.

When you click a vector object or text, you get the actual ink, not the color at the point where you click. For example, if the object contains a symbol ink of white stars on a blue background, this becomes the current ink, whether you click a white or blue area.

To select a color

In all objects, the Color Dropper can pick up the color at the tip of the pointer. In this mode, the tool selects apparent colors, which is the color you actually see.

1 Double-click the Color Dropper icon. In the dialog box, select Pixel Color and click OK.

2 Select the Color Dropper tool. Click a color to set the current fill ink color and background color. Option-click (Mac) or right-click (Windows) to set the current pen ink color and foreground color.

To select colors outside Canvas

With the Color Dropper selected, you can drag from the Canvas window to anywhere on screen. As long as you press the mouse button, the Color Dropper remains active; the ink icons in the toolbox show you the colors the tool can select. Release the mouse button to select the color under the tip of the pointer.

The color you select becomes the current fill ink and background color. You can't use this method to select the pen color.

✔ Tip

While editing an image with a painting tool, you can quickly switch to the Color Dropper. Press Option (Mac) or Alt (Windows) to display the Color Dropper, and click to select a foreground color for painting.

To apply colors to objects

You can apply the current inks to vector objects and text with the Color Dropper. This makes it easy to quickly transfer inks from one object to another.

Mac Control-click a vector or text object to apply the current fill ink to the object. Control+Option-click to apply the current pen ink to the object.

Windows Ctrl-click a vector or text object to apply the current fill ink to the object. Ctrl-right-click to apply the current pen ink to the object.

Note: The Color Dropper mode does not affect the application of colors. Also, you cannot apply colors to paint objects using the Color Dropper tool.

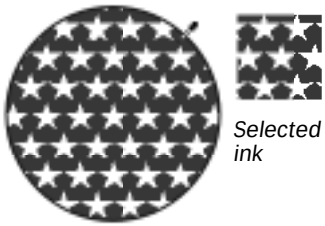
Color Dropper modes

The Color Dropper selects either actual colors where you click, or it selects the inks applied to vector or text objects. To set the mode of the Color Dropper, double-click the Color Dropper tool icon. In the dialog box, select an option and click OK. The mode remains set unless you use the dialog box to change it.

Object Ink

Selects inks and actual colors, not the apparent color that you click.

In vector or text objects, the Color Dropper selects object inks — color, gradient, symbol, texture, and hatch inks. It does not take into account transfer modes or transparency effects.



Object Ink mode

If you click an object's stroke, you select its pen ink; if you click an object's interior, you select its fill ink. In the case of paint objects, which do not have inks, the color you click is selected as a color ink.

For example, if you click a gradient ink with the Color Dropper, it selects the gradient ink, not the color under the pointer. If you click a dotted symbol ink, the tool selects the symbol ink, not the color where you click.

In paint objects, the Color Dropper selects applied paint colors, not colors you see because of transfer modes, channel masks, or other transparency effects. For example, if you click a black area that is 50% transparent against a white background, you select solid black, not the 50% gray that you see.

Pixel Color mode

Pixel Color

Selects the apparent color that you click at the tip of the Color Dropper pointer. This mode works the same whether you click a paint, vector, or text object.

For example, if you click a gradient ink in a vector object, you select the exact color you click, not the gradient ink. If you click in an object that has transparency and transfer mode effects, you select the exact color you see.

Selecting a color in Pixel Color mode lets you identify the color's values. When you click a pixel, the Color manager in the Inks palette shows the color values.

Color mode

When you select Pixel Color in the Dropper dialog box, you can choose a color system in the pop-up menu. You can select RGB, CMYK, or Grayscale.

The Color Dropper converts any color you click to the selected color system.

For best performance, choose the color system that matches the colors you are sampling. For example, if you sample colors in complex RGB images with CMYK selected, slight delays can occur because Canvas must convert the image's RGB values to CMYK values.

However, you might want to select a color system that differs from an image. You might do this to see the effect of a color conversion, such as RGB to CMYK for printing, for example.

Applying preset inks

Each tab in the Inks palette holds inks that you can apply as pen or fill inks.

A Pen ink icon. Press to select pen inks for object outlines.

B Fill ink icon. Press to select fill inks for the insides of objects.

C Ink tabs. Select the type of ink you want to apply.

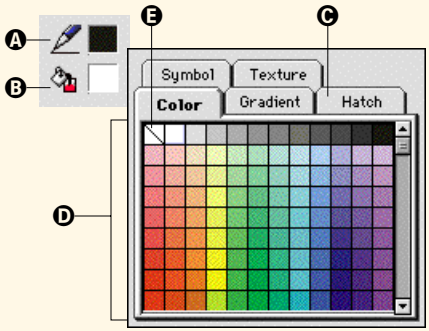
D Preset inks. Select an ink in the grid. Use the scroll bars if all the preset inks aren't visible.

E No ink. Click this tile to apply no inks, or to make the current ink for new objects "no ink."

• To apply inks to existing objects, select the objects and then choose pen and fill inks.

• To change the inks that Canvas applies to new vector and text objects, deselect all objects, then choose pen and fill inks. The ink icons in the toolbox show the current inks.

Because pen inks are applied to the strokes of objects, the appearance of an object's pen ink is affected by the shape of the object's stroke. For more information, see "How inks affect strokes" on page 13.1.



The Inks palette opens when you press either ink icon in the toolbox. Select a tab and then an ink in the grid.

Inks on the Color, Gradient, Texture, Symbol, and Hatch tabs

Using the Inks palette in a floating window

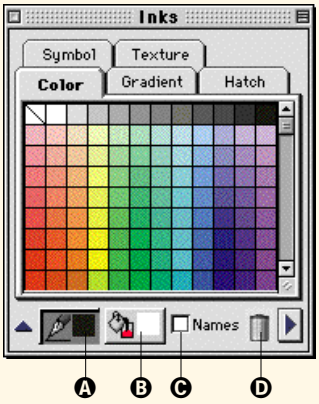
To keep the Inks palette open, press either ink icon in the toolbox and drag the palette away. The palette remains open in a floating window.

To apply inks to selected objects: Click the pen ink (Ⓐ) or fill ink (Ⓑ) icon, then click an ink. If you click an ink with no objects selected, the ink becomes the current ink applied to new objects.

To drag and drop inks: Drag an ink from the grid to an object's outline (for a pen ink) or the inside of the object (for a fill ink).

Names: Check this box (Ⓒ) to show the names of inks in the grid.

To remove an ink from the palette: Drag it to the trash can (Ⓓ).



Creating and customizing inks

You can use the Inks configuration managers to create your own inks. Managers are sets of controls at the bottom of the tabs in the Inks palette. You can flip open the managers to create inks, adjust inks in objects, and change the palette's inks.

Described next are ways to change the Inks palette and use Inks managers in general. The rest of the chapter explains how to customize color inks, gradient inks, hatch inks, symbol inks, and texture inks.

Changing the Inks palette

You can do the following to customize the Inks palette:

- Delete inks you no longer want to use.
- Add new inks to the palette.
- Save the inks on each tab in an inks file.
- Load inks from a file to replace the current inks.
- Append inks from a file to add them to the palette.

When you add or delete inks in the palette, the changes are recorded in a Canvas Settings file, not in the Canvas document, so the palette contents remain the same the next time you use Canvas.

◆ **To save, load, or clear inks:** Press the button at the bottom-right corner of the palette and choose a command in the pop-up

menu. The commands include the name of the current ink tab, so the command on the Color tab is Load Colors, for example.

You can save, load, and append inks on one tab at a time in the Inks palette. When you load or append inks, if you select a file that doesn't contain inks from the current tab, Canvas won't load the inks.

Load... Loads inks from a palette file, replacing the tab's inks. In the dialog box, select a file and click Open.

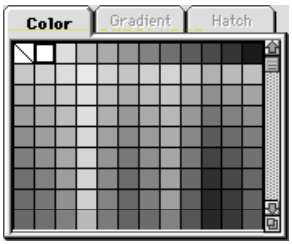
Append... Adds inks from a palette file to the inks on the current tab. In the dialog box, select a palette file and click Open.

Save... Saves the current tab's inks in a palette file. In the dialog box, select a location, type a file name, and then click Save.

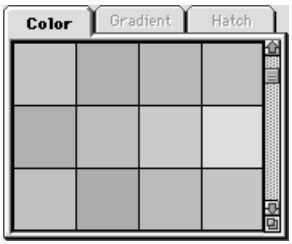
Clear... Removes the inks (except "no ink") from the current tab. On the Color tab, Canvas restores black and white (CMYK) inks after clearing all the inks.

Setting the size of tiles

You can chose two sizes of tiles for the preset colors in the Inks palette. To change the tile size, choose Large Tiles or Small Tiles in the palette's pop-up menu. The size setting affects the Color tab, but not the other tabs in the Inks palette.



Small color tiles



Large color tiles

Arranging ink tiles

To rearrange tiles in the Inks palette, drag an ink tile on any inks tab and drop it where you want to place it.

You can also move multiple ink tiles to a new location in the palette. Click an ink tile, and then Shift-click another color tile. Canvas highlights all tiles between the colors you click. To select non-contiguous tiles, Ctrl-click the tiles you want to select. Drag the selected tiles to a new location in the palette.

Using Inks managers

Open the Inks managers when you want to create inks or change the preset inks on the tabs in the Inks palette.

Ⓐ Click to flip the managers open or closed. If the Inks palette isn't open, first press either of the ink icons in the toolbox and drag the palette away.

Ⓑ **Preview.** This box shows the current ink. The preview changes as you modify the ink. When you click the Apply button, Canvas applies this ink. You can also drag the ink from the preview box to objects and into the grid of preset inks.

To edit an object's ink:
Click the pen (Ⓒ) or fill icon (Ⓓ), then select an object; its ink becomes the current ink in the manager. Modify the ink, then click Apply to apply the modified ink to the object.

To make a new ink:
Use the manager to customize the current ink. To name it, type in the text box (Ⓔ). Then do any of the following:

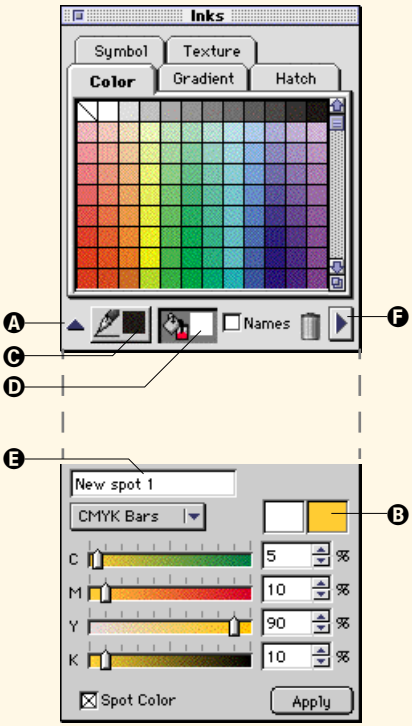
• To add the ink to the palette, drag from the preview box (Ⓑ) to the grid of preset inks.

• To make the ink the current ink, click the pen (Ⓒ) or fill (Ⓓ) icon, then click Apply when no objects are selected.

• To apply the ink to a non-selected object, drag from the preview box (Ⓑ) to the inside or outline of the object.

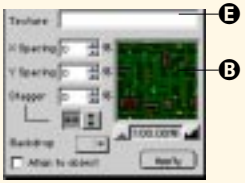
When you create a new ink, be sure to add it to the palette or drag it to an object before selecting anything. Otherwise, the selection's ink replaces the new ink in the manager.

A pop-up menu (Ⓕ) contains commands that let you save inks and load inks on the current tab. You can also clear the current tab's inks to start with an empty palette.

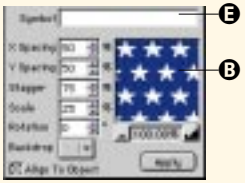


Color manager

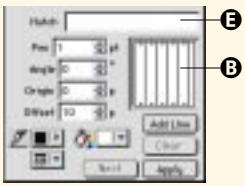
Gradient manager



Texture manager



Symbol manager



Hatch manager

Getting inks from vector and text objects

Canvas lets you add inks from vector objects and text objects to the Inks palette. If a text object contains more than one fill or pen ink, all colors will be added to the palette. You can also add the inks of multiple selected objects; however, the inks from group objects and macro objects cannot be added.

◆ **To add inks to the Inks palette:** In the Inks palette, select the Pen Ink or Fill Ink icon, depending on the type of ink you want to add. Then, drag the vector or text object onto the preset inks area of the appropriate tab in the Inks palette.

For example, to add an object's gradient fill ink to the Gradient tab, click the Gradient tab to bring it to the front. Next, click the Fill Ink icon, and then drag the object onto the gradient tiles.

Creating color inks

You can create new inks to expand the inks selection and convert inks from one color system to another.

1 If necessary, select the Color tab and open the Color manager in the Inks palette. The current ink appears in the preview box.

2 Choose a color system and model in the pop-up menu. See "Color systems" on page 12.11.

3 Use the Color manager controls to change the ink's color values. To restore the original ink, click the left preview box.

4 To name the ink, type the name in the text box. To define it as a spot color, check the Spot Color box.

5 To apply the ink to non-selected objects, drag it from the preview box to the objects. To add the ink to the palette, drag it from the preview box to the grid at the top of the tab. Canvas adds the color at the end of the inks grid.

Color systems

When you define colors in Canvas, you can use CMYK, RGB, and Grayscale color systems. Or, you can use a color matching system to select colors for commercial printing.

✔ Tip

Colors displayed on a monitor can only approximate the appearance of printed colors. Be sure to discuss color reproduction with your commercial printer and obtain accurate proofs for color projects.

CMYK colors

The CMYK color system is used in four-color process printing. In this system, you define colors as mixtures of Cyan (C), Magenta (M), Yellow (Y), and Black (K) printing inks.

For example, to create green, you mix cyan and yellow.

The CMYK system is appropriate for illustrations that will be separated for commercial printing.

RGB colors

The RGB color system is used in computer monitors. In this system, you define colors as mixtures of Red (R), Green (G), and Blue (B) light.

For example, to create purple, you mix red and blue.

The RGB system is appropriate for graphics displayed on a monitor, such as presentations and web pages.

You should avoid RGB colors in documents intended for commercial printing. Canvas will convert RGB colors to CMYK colors if you output color separations.

The HSL models in the Color manager let you define RGB colors using Hue (H), Saturation (S), and Lightness (L) values. This way of defining colors is familiar to artists. HSL models let you adjust saturation and lightness, without changing a basic hue, such as red or green.

Grayscale colors

The Grayscale model lets you define shades of gray. Grayscale colors are neutral when used with RGB or CMYK colors. For example, in RGB Color images, grayscale colors are equal amounts of red, green, and blue. In image channels, Grayscale colors are pure gray. In vector objects, text, or CMYK Color images, Grayscale colors are percentages of black. In color separations, Grayscale colors appear as percentages of black.

Specifying tints

You can specify a tint color and amount in the CMYK or RGB system. Tinting with white screens the original color. The screen percentage is 100 minus the tint value. For example, 80 percent white tint results in 20 percent of the original color.

For other tint colors, Canvas multiplies the tint values by the difference between the original and tint color values, and then adds the result to the original color values.

Commercial color reference systems

You can use commercial reference system colors for process and spot colors. You can choose PANTONE, Toyo, and Trumatch color systems in the pop-up menu in the Color manager. See “Color reference systems” on page 12.14.

Remember that the appearance of a commercial color on screen can differ from its appearance when printed. To view the printed appearance of a commercial color, consult your manufacturer’s reference documentation. For more information on process and spot color printing, see the *Color Printing Guide*.

PANTONE The PANTONE System includes hundreds of spot colors designed to be printed with special inks. You should select the correct color group for the paper stock on which the colors will be printed. For example, the PANTONE CVC colors are calibrated for printing on coated paper stock. The PANTONE Pro-Sim colors are not spot colors. These colors are designed to be printed with standard process inks.

Toyo The Toyo Ink system provides more than 1,000 colors in nine sets for process-color printing on various paper stocks.

Trumatch Trumatch is a four-color process matching system, which means that its colors are not spot colors that must be printed with special inks. Trumatch lets you select more than 2,000 colors based on 50 hues and tints and shades of each hue, in addition to four-color grays.

Color manager controls

The Color manager controls depend on the selected color system and model. Some controls are common among the different color models.

Ⓐ Current ink.

Ⓑ Last-applied ink.

Ⓒ Bars. Use the sliders, or enter values in the text boxes, to specify color values.
• RGB values go from 0 to 255.
• CMYK values go from 0 to 100 percent.
• HSL values go from 0 to 360 degrees (hue) and 0 to 100 percent (saturation and lightness).

Ⓓ Spot Color. Select to set up a spot color. Type a color name in the text box. Spot colors print on separate plates when you make color separations.

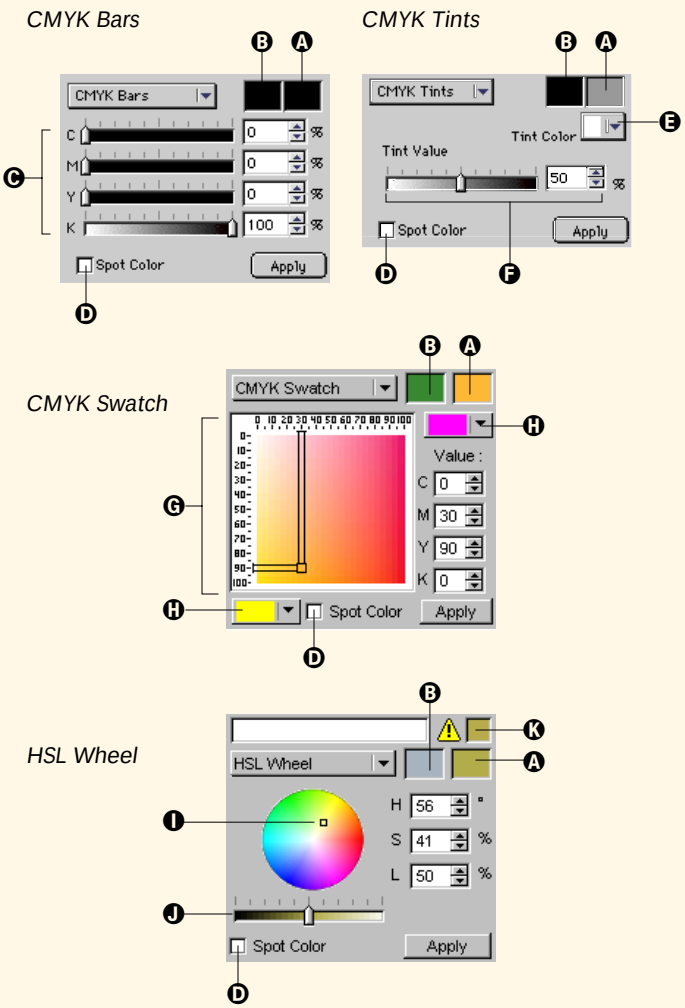
Ⓔ Tint Color. Select the color to apply to the current color.

Ⓕ Tint value. Enter the percentage of tint to be applied.

Ⓖ Swatchbook. Shows colors made from 0-100% mixtures of two CMYK colors. To select a color, click in the swatchbook; the color values appear in the text boxes.

Ⓗ Select the two colors for the swatchbook. To add a third or fourth color, enter percentages in the C M Y K text boxes.

Ⓘ Color wheel. Click in the wheel or drag the selector to pick a color, or enter values in the H S L text boxes.



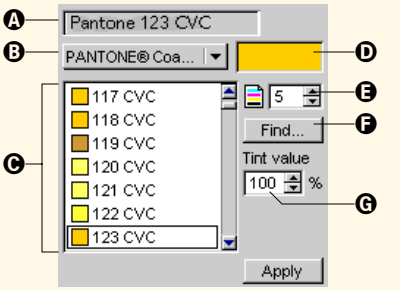
Ⓙ Lightness. Drag the slider, or enter a number in the L text box, to set the lightness for the entire color wheel.

Ⓚ Gamut warning. When the current color can't be printed with CMYK inks, a warning symbol and color box appear. Click the color box to replace the current color with the closest color that is within the CMYK gamut.

Gamut warnings appear only in RGB and HSL systems.

Color reference systems

When you choose a PANTONE, Toyo, or TRUMATCH reference system color set in the Color manager, you can search for and select colors by name.



A Color name. The selected color's name. Names of reference colors can't be changed.

B Color system. Choose the reference system you want to use in the pop-up menu.

C Color list. Click a color in the list to select it. Use the scroll bar to scroll the list.

D Current color preview.

E Page. The page number of colors shown in the color list. Type a number to go to the page.

F Find. Click to select a color by name. In the Find dialog box, type the color name or number and click OK. Canvas selects the color (if found) in the color list.

G Tint Value. For PANTONE colors (except process colors), enter a screen percentage to apply to the selected color. Use 100% for solid color and lower values for screens of the solid color.

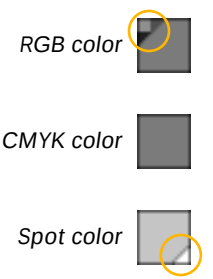
Spot Color option. Available with some color systems, this option lets you specify colors to use as spot colors in separations.

Identifying colors

You can display symbols that identify the color inks that are stored on the Color tab in the Inks palette. To identify color inks, choose Show Color Icons in the palette's pop-up menu. To hide the symbols, choose Hide Color Icons in the pop-up menu.

Note: If the Color tab contains only CMYK colors, no symbols appear when you choose Show Color Icons.

The Color tab can contain color inks defined with RGB, CMYK, grayscale, and spot colors.

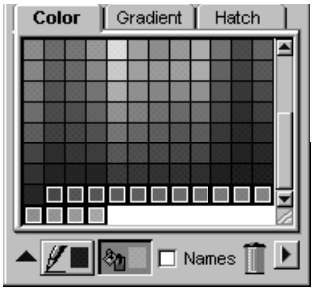


The symbol that identifies RGB color inks has tiny red and blue triangles and a green square. The symbol appears at the upper-left of RGB color tiles.

The symbol that identifies spot color inks is a white triangle. The symbol appears at the lower-right of spot color tiles.

No symbol appears on CMYK or Grayscale ink tiles.

Creating blends of color inks



Blended colors

You can select two color tiles and create a blend of colors to add to the Inks palette.

To blend colors

1 In the Inks palette, click the Color tab to bring it to the front.

2 Click the tile you want to start the blend, then Ctrl-click the tile you want to end the blend.

3 Choose Blend in the pop-up menu. A dialog box appears. Enter the number of steps you want in the blend, and then click OK. Canvas creates the blend and adds the new tiles to the Color tab.

Creating custom colors in pop-up palettes

Color icon

In Canvas, dialog boxes and palettes that let you choose colors have a color icon that opens a pop-up palette. This color icon appears throughout the program, including the Channel Options dialog box, the Extrude palette, and the Gradient manager.

When you press (Mac) or click (Windows) the color icon to open the palette, you see the colors currently on the Color tab of the Inks palette. If the color you want isn't in the pop-up palette, select the Custom button to open the Color Editor dialog box, where you can create a new color without adding it to the palette. Use this method if you don't need to use the color again.

The Custom box appears in pop-up color palettes in the following dialog boxes and palettes:

Inks	Gradient manager Hatch manager (pen color pop-up only)
Strokes	Neon manager Parallel manager
Layers	Layer Options dialog box
Color calibration	Gamut Warning dialog box
Image editing	Duotone Options dialog box New Channel dialog box Channel Options dialog box Create Image dialog box
Effects	Extrude palette

✔ Important

If you plan to export a document to another application in EPS format and make spot color separations, be sure the spot color names match exactly in both applications. Any variation will cause problems.

To create a custom color in a pop-up palette

1 In the pop-up color palette, choose the Custom option to open the Color Editor dialog box. This dialog box is almost identical to the Color tab in the Inks palette.

2 To use a different color model or color system, choose an option in the pop-up menu. Depending on which option you choose, the dialog box shows a different set of controls; see “Color manager controls” on page 12.13 for more information.

3 Use the color controls to create a custom color.

4 To specify that you want the color you define to be a spot color, make sure the color is named in the text box at the top, then select Spot Color.

5 When you have the color you want, click OK. The color appears in the palette icon.

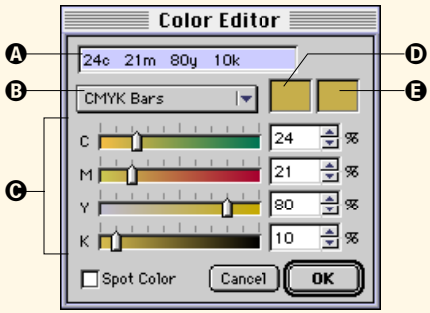
Color Editor dialog box

You can choose the Custom button in a pop-up color palette to open the Color Editor dialog box.

Ⓐ Type a name for the color in this text box.

Ⓑ Choose a color model or reference system in this pop-up menu.

Ⓒ Use the controls to specify a color. The available controls depend on the option you choose in the pop-up menu (Ⓑ).



Ⓓ Current selected color that appears in the color palette icon. Click to revert the settings in the dialog box to this color.

Ⓔ Preview of the custom color that you are defining.

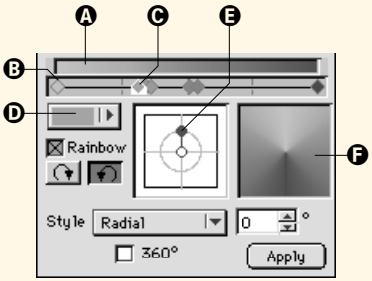
Spot Color. Select this option to define the custom color as a spot color.

Gradient inks

A gradient is a gradual blending of colors. A Canvas gradient ink can blend two or more colors in a variety of styles. Like other inks, gradient inks can be applied as fill inks or pen inks to vector objects and text.

Gradient manager

To create a gradient ink, you choose a gradient style, colors, and other options using the controls in the Gradient manager.



Ⓐ The gradient color sequence appears in the bar. Each pointer below the bar represents a color and shows the color's relative position in the gradient. One pointer is always selected, and the pointer's color appears in the color icon (Ⓓ). A gradient can have two or more colors.

Ⓑ The pointers at the ends of the bar represent the start and end colors of the gradient. These pointers can't be moved or deleted, but you can change their colors.

Ⓒ Click a pointer to select it; a selected pointer appears highlighted. To add an intermediate color, double-click in the bar and a new pointer appears that represents the color of the gradient where you clicked.

To adjust color spacing, drag an intermediate pointer. To delete a color, drag its pointer to either end of the bar.

Ⓓ Choose a color for the selected pointer from the pop-up palette. To select a custom color, see "Creating custom colors in pop-up palettes" on page 12.15.

Style. Choose a gradient style from the pop-up menu. See the table (next) for shape and editing information.

Ⓔ You can drag handles in the box to adjust settings such as gradient shape, angle and center. See the table, next, for additional information.

Ⓕ **Gradient preview.** Shows the current gradient. The appearance of the gradient varies, depending on the gradient style. The preview changes as you edit the gradient.

When you click the Apply button, Canvas applies this gradient. You can also drag the gradient from the preview box to objects and into the grid of inks.

Angle. For Radial and Directional styles, enter the angle of the gradient axis, or drag the solid dot in the edit box to set the angle.

360º. When Radial style is selected, select this checkbox to blend the gradient through 360 degrees around the center. If this option isn't selected, the blend runs through 180 degrees in both directions, creating a mirror image around the blend axis.

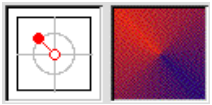
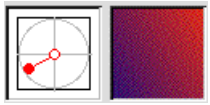
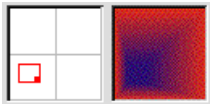
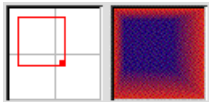
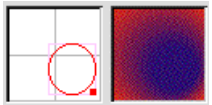
In addition, when the 360-degree option is selected, a button appears. Click the button to reverse the gradient direction.

Rainbow. Select this to add all hues on the color wheel between the colors you set in the gradient. Click a direction button to select a clockwise or counter-clockwise path around the HSL color wheel, which sets the sequence of hues.

To create, customize, and apply gradient inks, you use the Gradient tab in the Inks palette.

The appearance of a gradient ink depends on several factors. Gradients appear smooth on monitors that display millions of colors, but can appear coarse and dithered on monitors that display only 256 colors. The more extreme the difference in colors, the coarser a gradient can appear. When a gradient has large color transitions, it appears smoother in an object that is large enough to show all the transitions.

Gradient styles and editing features

Style	Appearance and edit controls	Edit box
Radial	Colors sweep in a circle around the center. To move the center point, drag the open dot. To set the starting angle, drag the solid dot or enter the angle (0 to 360 degrees) in the text box.	
Directional	Linear gradient in which colors blend in the direction you specify. To set the gradient orientation, drag the solid dot, or enter an angle from 0 to 360 degrees in the text box.	
Shape	Gradient conforms to basic object shapes. To move the gradient center, drag the rectangle. To resize the center area that contains the end color, drag the solid handle and resize the rectangle.	
Rectangular	Rectangular-shaped gradient. To move the gradient center, drag the rectangle. To resize the center area that contains the end color, drag the solid handle and resize the rectangle.	
Elliptical	Elliptical-shaped gradient. To move the gradient center, drag the oval. To resize the center area that contains the end color, drag the solid dot and resize the oval.	

Applying gradients interactively

Gradient Vector tool 

The Gradient Vector tool lets you drag in a document to set the shape, angle, and center of a gradient. You can use the tool to apply gradient inks interactively to selected vector objects and text.

The Gradient Vector tool is located in the Effects toolbar.

The Gradient Vector tool applies gradients based on the settings in the Gradient manager in the Inks palette. You can select gradient colors and styles in the Gradient manager. The Gradient Vector tool applies the gradient as a fill ink or a pen ink according to which icon is selected on the Gradient tab in the Inks palette.

The Gradient Vector tool applies gradient inks to selected objects. If more than one object is selected, the gradient flows across the selected objects as if they were one object.

To use the Gradient Vector tool

1 Select the objects that you want to apply a gradient ink to.

2 On the Gradient tab in the Inks palette, select the pen ink or fill ink icon to specify which ink to apply.

3 Use the Gradient manager to configure the gradient.

Note: You can apply the current settings without opening the Gradient manager.

4 Select the Gradient Vector tool, and then drag in the document to position the gradient. As you drag, a vector indicates the gradient style and position, and the gradient appears on the selected objects.

You can drag inside or outside selected objects. For example, if you are applying a directional gradient, you can "stretch" the gradient by dragging across the object, starting and finishing outside the object. This places the start and end colors farther apart than if you drag a shorter distance within the object only.

Modifying gradients

To modify a gradient after you apply it with the Gradient Vector tool, leave the object selected while you change the Gradient manager settings, and then use the tool to apply the new gradient to the object.

If you configure settings in the Gradient manager and then select an object that has a gradient ink, the object's gradient appears in the Gradient manager, replacing the current settings.

If you use the Retain Selected Tool option in the Preferences dialog box, be sure to select another tool when you finish applying a gradient to avoid accidentally changing the gradient.

Gradient styles

The shape of a gradient ink vector and the visual indicators you see when you drag the Gradient Vector tool depend on the ink's style. You can select the following gradient styles in the Style pop-up menu in the Gradient manager.

Radial The gradient vector is a line that sets the center and angle of the gradient. The place where you begin to drag is the center point of the gradient. The vector extends from and rotates around the center

point. The angle of the line establishes the angle of the gradient. The length of the line does not effect the gradient.

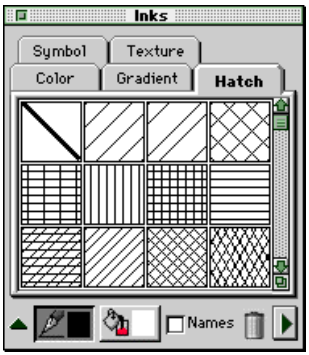
Directional The gradient vector is a line that sets the angle and length of the gradient. The place where you begin to drag has the start color of the gradient. The vector line extends from and rotates around the start point as you drag away from it. The angle of the line establishes the angle. The place where you stop dragging sets the end color of the gradient.

Shape The gradient vector is a rectangle that sets the size and location of the end color of the gradient. The rectangle contains the end color. Drag diagonally from one corner of the rectangle to another. The rectangle expands or contracts as you drag away from or toward the starting point. When you finish dragging, the gradient conforms to the object's shape.

Rectangular The gradient vector is a rectangle that sets the size and shape of the gradient. The rectangle contains the end color of the gradient. Drag diagonally from one corner of the rectangle to another. The rectangle expands or contracts as you drag away from or toward the starting point.

Elliptical The gradient vector is an ellipse that sets the size and shape of the gradient. The ellipse contains the end color of the gradient. Drag diagonally from one corner of the ellipse's bounding box to another. The ellipse expands or contracts as you drag away from or toward the starting point.

Hatch inks



Hatch tab in the Inks palette

You use the Hatch tab in the Inks palette to apply hatch inks. The Hatch manager lets you customize hatch inks. For general instructions, see "Using Inks managers" on page 12.9.

Hatch inks are patterns made of groups of lines. You can specify the number of line groups and the angle, offset, and origin of each group. You can assign a pen size, color, and dash to each line group, and you can select a fill ink to be the background of the hatch ink.

Hatch inks are often used in illustrations to distinguish different materials in cross sections, machine diagrams, and maps.

To select a line group for editing

When you create a hatch ink in the Hatch manager, click a line in the edit box to select the line group. Selection handles appear where the selected line group intersects the edit box.

Hatch manager

When you create a hatch ink, you can set the number of line groups and other attributes.

Ⓐ **Preview.** Click a line group in the preview box to select it. Tiny handles appear where the selected group meets the edge.

Ⓑ **Pen color.** Choose a color for the selected line group in the pop-up menu. You can choose a preset color or define a custom color; see "Creating custom colors in pop-up palettes" on page 12.15.

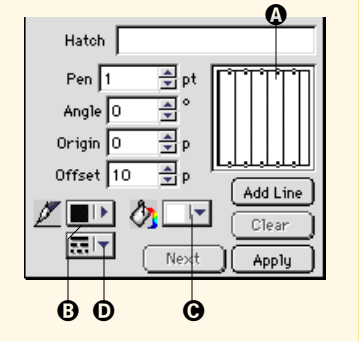
Ⓒ **Fill ink.** Select an ink to use as the hatch ink background.

Ⓓ **Dash.** Choose a dash pattern for the selected line group.

Add Line. Click to add a new line group to the preview box.

Clear. Click to delete the selected line group (unless only one group is present).

See the next section for information on setting Pen, Angle, Offset, and Origin.



Line group attributes

You can set the following attributes for each line group in a hatch ink. To change an attribute, select the line group you want to change by clicking it in the preview box in the Hatch manager, and then enter a new value in the appropriate text box.

Pen The width in points (1/72 inch) of each line in the selected line group.

Angle The angle in degrees of the selected line group relative to vertical. When you add a line group, the angle is initially 0 degrees.

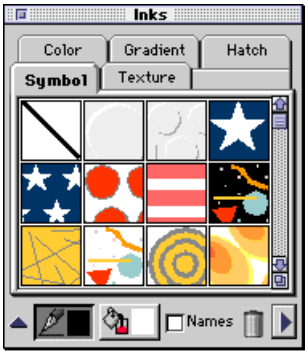
Offset The horizontal starting position of the line group, measured in points from the left edge of the preview box. Increasing this value moves the line group to the right.

Origin The vertical starting position of the line group, measured in points from the top of the preview box. Increasing this value moves the line group downward.

✔ Tip

If a hatch pattern overlaps the edges of an object, change the Pen value in the Hatch manager to make the width of the hatch lines smaller than the pen size of the object's stroke.

Symbol inks



Symbol tab in the Inks palette

You use the Symbol tab in the Inks palette to apply symbol inks. The Symbol manager lets you customize symbol inks. For general instructions, see “Using Inks managers” on page 12.9.

A symbol ink is a pattern of vector objects. You can control the spacing and position of the objects in a symbol ink.

Creating symbol inks

You can create a symbol ink from any vector objects, as well as text objects, in a Canvas document. You can use any of the Canvas drawing tools to create vector objects for a symbol ink. You can apply inks and strokes to the objects before bringing them into the Symbol manager to create a new symbol ink.

1 Select the vector or text objects you want to use in a symbol ink. You can select more than one object, including group objects.

2 Drag the selected objects from the document into the preview box in the Symbol manager.

3 Adjust the settings for the symbol ink in the Symbol manager.

4 To store the new symbol ink in the palette, drag the ink from the preview box to the grid area at the top of the Symbol tab.

Symbol manager

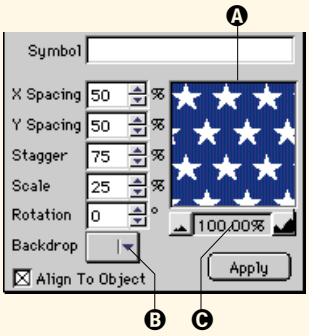
When you create a symbol ink, you can adjust the position and spacing of the objects and apply a backdrop ink.

Ⓐ Preview box. To create a new ink, drag vector or text objects to the preview box. Objects you drag to the box replace the current contents.

Ⓑ Backdrop. Select a background ink in the pop-up menu. You can select any ink, including a color, gradient, hatch, texture, and symbol ink. The ink you select appears behind the objects in the symbol ink.

Ⓒ Preview zoom. Click the left button to reduce or the right button to enlarge the preview.

Align To Object. Turn on this option to keep a symbol ink in the same position if the object moves. Turn it off to let overlapping objects share a symbol ink without a gap.



Symbol spacing and position settings

In the Symbol manager, you can adjust the following settings to fine-tune a symbol ink.

Spacing These values set the distance between objects in the symbol pattern as a percentage of the size of the original objects. For example, a spacing value of 100 percent makes the distance between the objects equal to their size.

X Spacing is the horizontal distance between objects.

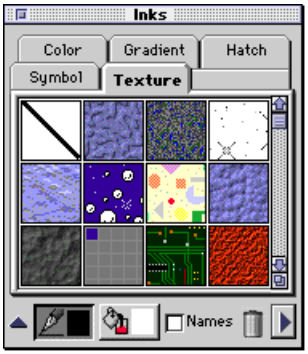
Y Spacing is the vertical distance between objects.

Stagger A positive value offsets the even-numbered rows of objects horizontally relative to the odd-numbered rows. To keep all objects aligned, set Stagger to zero. To align alternating rows of objects, enter a higher Stagger value. To create a pattern in which the objects are spread out and objects in alternating rows are aligned with the gaps in the rows above, set the X Spacing and Stagger values to 100 percent.

Scale The percentage of the original object size for the symbol ink. A value of 100 percent maintains the original object size. To reduce the objects, enter a value smaller than 100 percent. To enlarge the objects, enter a value greater than 100 percent.

Rotation The amount of rotation, specified in degrees, that Canvas applies to the original objects.

Texture inks



Texture tab in the Inks palette

You use the Texture tab in the Inks palette to apply texture inks. The Texture manager lets you customize texture inks. For general instructions, see “Using Inks managers” on page 12.9.

A texture ink is a pattern of raster images. You can control the spacing, scaling, rotation, and offset of the images in a texture ink.

Canvas assembles a texture ink by repeating an image in rows and columns, as if it were a grid of rectangular tiles. If you enter spacing values that spread the images apart, you create gaps between the image tiles; you can also include a background ink that will show through the gaps.

Creating texture inks

You can create a texture ink from any raster image object.

1 Drag an image from the document into the preview box in the Texture manager in the Inks palette.

2 Adjust the settings for the texture ink in the Texture manager.

3 To store the new texture ink in the palette, drag the ink from the preview box to the grid area at the top of the Texture tab.

Texture manager

When creating a texture ink, you can set the spacing and offset of image tiles and choose a background ink.

Ⓐ **Preview box**. To create a new ink, drag an image to the preview box. The image replaces the current contents.

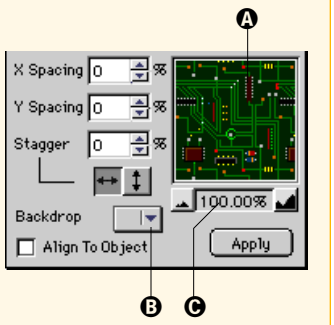
Ⓑ **Backdrop.** You can choose a background ink in the pop-up menu. The ink appears only in gaps between the image tiles.

Ⓒ **Preview zoom.** Click the left button to reduce or the right button to enlarge the preview.

Spacing. Enter the amount of space between tiles as a percentage of the tile size. X Spacing is the space between columns; Y Spacing is the space between the rows of tiles.

Stagger. Select the horizontal button (left) or vertical button (right) and enter the distance (as a percentage of tile size) to shift the tiles.

Align To Object. Turn on this option to keep a texture in the same position if the object moves. Turn it off to let overlapping objects share a texture without a gap.



CHAPTER 13

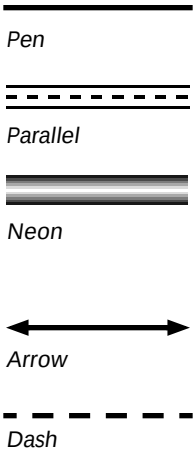
STROKES: OUTLINE EFFECTS

When you create objects with drawing tools, Canvas applies a stroke to the objects according to attributes set in the Strokes palette. A *stroke* is a line centered on the path of vector objects and the outlines of type. You can shape a stroke with standard and calligraphic pens, parallel lines, even neon tubes. You can also add dashes and arrowheads to strokes.

This chapter explains basic stroke settings, how to customize strokes, and how to apply strokes to objects and text.

Types of strokes

Canvas has three basic types of strokes plus arrows and dashes, which you can use to create unlimited variations. The following types of strokes appear on tabs in the Strokes palette.



Pen Strokes made of a single line. You can specify the width, shape (standard or calligraphic), type of line joins, and shape of end caps.

Parallel Strokes made of two or more lines. You can specify width, dashes, colors, and spacing.

Neon Strokes shaded like glowing tubes. You can specify width, colors, tube shape, line joins, and end caps.

Arrows and dashes can be applied to strokes for additional effects. Two tabs in the Strokes palette contain settings for these attributes.

Arrow You can use preset or custom arrowheads that appear at the endpoints of each path segment.

Dash You can apply preset or custom dash sequences that divide solid strokes into solid and blank segments.

How inks affect strokes

You define the colors that apply to strokes separately from the stroke settings. The pen ink (specified in the Inks palette) and the stroke settings together produce the appearance of an object's outline. The pen ink is the color (or pattern) that "paints" the object's stroke. Therefore, the object must have a visible pen ink for the stroke to be visible. Conversely, the object must have a stroke for the pen ink to be visible.

Some inks can make strokes invisible. If the pen ink is set to “no ink,” the stroke won’t be visible. Also, if the pen ink is set to white or a color that matches the background, the stroke could disappear against the background.

Applying strokes

The Strokes palette is the control center for all aspects of strokes. You can use the Strokes palette to apply strokes to objects, create custom strokes, add strokes to the palette, and save strokes in files that you can later load into the palette.

Preset strokes and controls for customizing strokes are on the Pen, Parallel, and Neon tabs in the Strokes palette. Presets and controls for customizing arrows and dashes are on the Arrow and Dash tabs.

Current stroke

Strokes icon

The strokes icon in the toolbox shows a sample of the *current stroke*, the stroke that Canvas applies to new vector objects you create. For example, if the current pen stroke is 3 points wide, new objects you draw will have a 3-point pen stroke. Canvas does not apply the current stroke to text; see “Applying strokes to text,” next.

To change the current stroke, deselect all objects and apply the stroke you want; the stroke icon in the toolbox shows the new current stroke. If you select an object and change its stroke, however, the current stroke for new objects does not change.

When you first install Canvas, the current stroke defaults to a 1-point pen stroke without dashes or arrowheads.

Applying strokes to text

You can apply strokes to text the same as to vector objects, in most cases. For information about selecting text objects and text characters, refer to the Text and Typography chapters.

When you first type or import text into a document, Canvas applies a 1-point pen stroke to the text, but does not assign a pen ink, so the text is not visible.

◆ **To make text strokes visible:** Select the text or text objects and apply a visible pen ink using the Inks palette. If you select a text object, Canvas applies a stroke to all the text it contains. If you select specific characters within a text object, Canvas applies the stroke to those characters only.

You can apply pen, parallel, and neon strokes to text. You can also apply dashes to text that has a pen or neon stroke.

Calligraphic pen stroke

Neon stroke

Note: The appearance of a parallel stroke applied to text might not appear as you expect, especially on characters with hollow centers (such as “O” and “P”) and characters with tight corners or paths that meet or cross (including “G” and “X”).

Removing a neon or parallel stroke from text (by choosing “no stroke” on the Neon or Parallel tab) does not remove the stroke entirely. Instead, the stroke reverts to a 1-point pen stroke.

Using preset strokes

The Strokes palette contains preset strokes and properties that you can apply to objects and to the current stroke. Using presets can help you save time and ensure graphic consistency.

Presets for pens, parallel lines, neon strokes, arrows, and dashes are displayed in scrolling lists on the associated tabs in the Strokes palette. You can use the Strokes icon in the toolbox to apply preset strokes.

You can also create custom strokes, arrows, or dashes and add them to the presets on the appropriate palette tab so you can use them again. For information about creating and storing strokes, see “Customizing strokes” on page 13.8.

✔ Tip

You can drag a stroke from the Strokes palette to an object to apply the stroke without first selecting the object.

To apply preset strokes to objects

Use the following general procedure to apply a preset stroke to one or more objects.

1 Select the objects for which you want to change strokes.

2 Press the Strokes icon in the toolbox to open the Strokes palette. You can use the palette when it’s attached to the toolbox, or

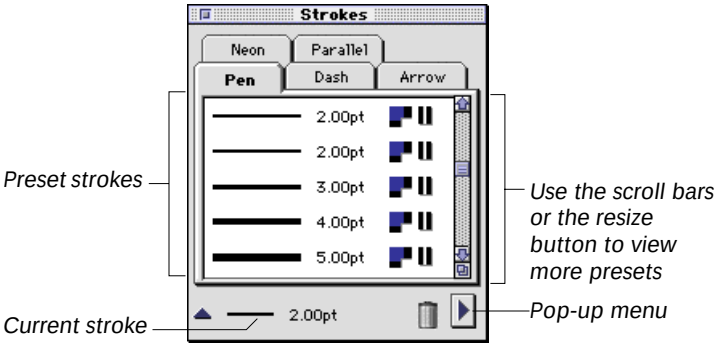
you can drag the palette away from the toolbox to keep it open while you work. You can dock the palette on the Docking bar.

3 Depending on the type of stroke you want, choose the Pen, Parallel, or Neon tab.

4 Choose a stroke in the preset strokes list. If necessary, use the scroll bar or window resize button to view additional strokes. Canvas applies the stroke you choose to selected objects.

Floating Strokes palette

The palette appears slightly different when attached to the toolbox; the title bar and the items below the scroll list are not displayed.



To make a preset stroke the current stroke

You can choose a preset stroke as the current stroke to apply to new objects you create.

1 Deselect all objects in the current document. To deselect all objects, press Enter (Mac) or Esc (Windows) a few times, or until no bounding boxes are visible.

2 Press the Strokes icon in the toolbox and choose the Pen, Parallel, or Neon tab, depending on the type of stroke you want.

3 Choose a stroke in the preset strokes list. Use the scroll bar to view additional strokes. The Strokes icon in the toolbox shows the current stroke.

Using standard pen strokes

The most common type of stroke is a standard pen stroke, a solid line of uniform width (unless you select the Calligraphic option). This type of stroke is used for many situations, such as technical illustrations, flowcharts, callout lines, arrows, and dashes.

By default, the width of pen strokes is measured in points (one point is 1/72 of an inch). Pen stroke widths from 1 to 20 points appear in the Pen tab's presets list.

◆ **To change the current pen width:** Deselect all objects, then select a new stroke on the Pen tab of the Strokes palette.

◆ **To change the stroke width of specific objects:** Select one or more objects, then select a new stroke on the Pen tab.

To change the color of a pen stroke

Pen ink color changed from black to Pantone 123

The color of a pen stroke comes from the object's pen ink color. The pen ink can be a complex multi-color pattern or gradient, or a solid color.

1 Select one or more objects whose pen ink you want to change.

2 Press the Pen Ink icon in the toolbox. The Inks palette opens from the toolbox; you can drag this palette away from the toolbox to keep it open as you work.

3 On one of the tabs in the Inks palette, choose a color, gradient, hatch, symbol, or texture; see "Inks: colors and patterns" on page 12.1.

'Invisible' inks

A pen ink is one or more colors that Canvas uses to apply color to pen strokes. The pen ink can be set to "no ink," or to a color that blends into the background, which renders a pen stroke invisible.

In some situations, you might want to set an object's pen ink to "no ink," rather than remove the object's stroke. This can be useful to temporarily hide the stroke without removing the dash, arrow, and other stroke settings, for example.

To set an object's pen ink to "no ink"

This procedure removes the pen ink and makes the stroke invisible.

1 Select the object and press the Pen Ink icon to open the Inks palette.

"No ink" setting

2 On the Color tab of the Inks palette, choose the first item, a box crossed by a diagonal line. If colors are listed by name, select "no ink" at the top of the list.

Adding preset arrows to strokes

You can use preset arrowheads to create pen, parallel, and neon strokes with arrows. You can apply strokes with arrows to lines and open paths, such as those created with the Curve tool. Arrowheads can appear at one or both endpoints of a path.

You can also create custom arrowheads that you can add to the preset arrowheads; see “Customizing arrows” on page 13.14.

To add arrows to strokes

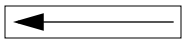
Use the following procedure to apply preset arrows to objects or the current stroke:

1 Depending on how you want arrows to apply, do one of the following:

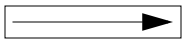
- To add an arrow to the current stroke, deselect all objects.
- To add arrows to specific objects’ strokes, select the objects.

2 Press the Strokes icon in the toolbox to open the Strokes palette; select the Arrow tab.

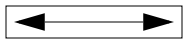
3 The buttons at the top of the tab let you choose between starting, ending, and double-sided arrowheads. To select a placement click a button; the chosen button appears recessed. The arrows in the scroll list preview the selected arrowhead.



Starting arrow



Ending arrow



Double-sided

4 In the scroll list, choose the arrow that you want to apply. The arrow applies to selected objects or to the current stroke.

Adding dashes to strokes

You can add a variety of preset dash sequences to pen and neon strokes. You can apply a stroke with dashes to most objects, including lines, open and closed Bézier curves, polygons, rectangles, ovals, and stars.

Parallel line strokes can also include dashes. However, you select dashes for parallel lines when you customize the stroke on the Parallel tab. For details, see “Customizing parallel line strokes” on page 13.18.

To add dashes to pen and neon strokes

1 Depending on how you want dashes to apply, do one of the following:

- To apply dashes to the current stroke, deselect all objects.
- To apply dashes to an object that has a pen or neon stroke, select the object.

2 Press the Strokes icon in the toolbox to open the Strokes palette. Choose the Dash tab.

3 Choose the dash sequence that you want in the list of presets.

Removing arrows, dashes, and strokes

You can remove a selected object's stroke, or set the current stroke to "no stroke," so you can create objects that have no stroke. An object that has no stroke has no visible outline. Objects drawn with the Line tool become invisible without a stroke; other objects are still visible if they have a visible fill ink.

You can also remove dashes and arrows from a stroke. Because arrows and dashes are attributes of strokes, you can remove them without removing the entire stroke.

Removing arrows, dashes, and strokes involves the same procedure as changing from one preset stroke to another.

To remove arrows or dashes

You can use the following procedure to remove arrows from pen, parallel, and neon strokes, and to remove dashes from pen and neon strokes. For details about removing dashes from parallel strokes, see "Customizing parallel line strokes" on page 13.18.

1 Depending on how you want to remove arrows or dashes, do one of the following:

- To remove stroke attributes from an object, select the object.
- To remove stroke attributes from the current stroke, deselect all objects.

2 Press the Strokes icon in the toolbox to open the Strokes palette. Choose the Dash or Arrow tab, depending on the attribute you want to remove.

3 Choose “no arrow” on the Arrow tab to remove arrows from a stroke. Choose “no dash” on the Dash tab to remove dashes.

To use “no stroke” settings

You can remove strokes entirely from objects, or use “no stroke” as the current setting for new objects.

1 Depending on how you want to remove strokes, do one of the following:

- To remove the stroke from an object, select the object.
- To make “no stroke” the current setting, deselect all objects.

2 Press the Strokes icon in the toolbox and choose “no stroke” on the Pen, Neon, or Parallel tabs.

Customizing strokes

Each tab in the Strokes palette has a *configuration manager*, an area that can be rolled down at the bottom of the palette to reveal options for customizing strokes.

You can use the configuration managers to

- display the strokes settings of selected objects
- create custom pen, parallel, and neon strokes
- create custom arrowheads and dash sequences
- apply custom settings to objects or the current stroke
- store custom strokes as presets in the palette
- save preset strokes in files on disk
- load preset strokes that have been saved in disk files

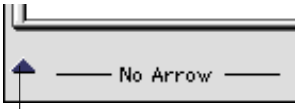
To use the configuration managers

You must tear off the Strokes palette from the toolbox to use the configuration managers, delete presets from the palette, and load, save, or delete strokes saved to disk.

1 To open the Strokes palette, press the Strokes icon and drag the palette away from the toolbox.

The Strokes palette opens as a floating palette. You can drag the palette by its title bar to move it.

2 Click the tab you want to use to bring it to the front, if necessary.



Configuration manager button

3 Click the triangle button at the bottom left corner of the palette to open the configuration manager for the front tab.

The configuration manager stays open as you click other tabs in the palette, and the display changes to reflect the available options for the tab.

◆ **To roll up the configuration manager:** When the configuration manager is open, click the down-facing triangle button at the left of the palette.

Choosing settings to customize

You can use the configuration managers to customize the settings of an object's stroke, the current stroke, or one of the preset strokes or stroke attributes. You can also create custom strokes.

- To customize an object's stroke, select the object and open the appropriate manager in the Strokes palette.
- To use a preset stroke as the basis for a custom setting, apply the preset to an object and then select the object. This displays the settings in the manager on the appropriate tab. You can also simply choose the preset in the scroll list; however, this also changes the current stroke or the stroke of any selected objects.

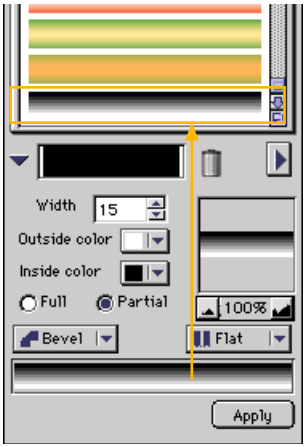
To apply custom settings to objects

You can apply custom settings from the Strokes palette to an object in two ways:

- Select one or more objects before you begin adjusting the settings in the configuration manager. To apply the settings to the selected objects, click Apply.
- If you customize the settings before selecting any objects, you can apply the settings to objects by dragging from the sample window at the bottom of the palette to an object.

✔ **Important**

If you adjust the settings in a configuration manager, and then select an object, the settings will change to reflect the object's settings. If you don't want to lose custom settings when no objects are selected, add them to the palette, or apply them to an object; see "Adding custom settings to the palette," next.



Drag from the sample window to the scroll list, as highlighted

Adding custom settings to the palette

You can add custom strokes, arrows, and dashes to the Strokes palette. When you add custom items, they become presets that you can use the same as default preset items. You can apply a customized preset to objects or make it the current stroke.

◆ **To add custom settings from the configuration manager to the palette:** Drag from the sample window at the bottom of the palette to the presets list at the top. The settings become a preset, with a graphic representation or description added to the end of the list.

◆ **To add settings from an object to the palette:** Select the object. Its settings appear in the appropriate configuration manager of the Strokes palette. Drag from the sample window at the bottom of the tab to the presets list at the top.

When you end a Canvas session, the program stores each tab's presets with the program. Because Canvas stores the preset strokes and inks, the same presets can always be available, whether you work with new documents, documents you created, or documents created by another Canvas user.

If you create a custom stroke and want to apply it to more than one object, and especially if you want to use it in a later work session, you should store the custom settings in the presets area of the palette.

Deleting presets from the palette

You can remove default and custom presets from the Strokes palette. When you delete a preset, Canvas permanently removes it from the palette, unless you save it to disk and load it again; see "Saving and loading strokes settings," next.

◆ **To remove a preset from the palette:** Drag the preset to the trash can icon below the presets scroll list. The trash can appears only when the Strokes palette is floating or docked on the Docking bar.

◆ **To remove all preset strokes from the tab:** Choose "Clear Palette Strokes" in the pop-up menu.

Note: If you delete all arrowheads from the palette, dimension objects will not have arrows.

Saving and loading strokes settings

You can save preset strokes, arrows, and dashes in files on disk, and load the presets into the Strokes palette. You can use these strokes files to customize the Strokes palette for particular projects or types

of documents, and to exchange custom settings with other Canvas users.

Right-triangle button pop-up menu

Commands for saving and loading strokes files are in a pop-up menu on the Strokes palette. The menu icon appears only when the Strokes palette is separated from the toolbox.

To save strokes in a file

Use the following procedure to save the presets from one tab in the Strokes palette to a file on disk.

1 To open the Strokes palette, press the Strokes icon and drag the palette away from the toolbox. The Strokes palette opens as a floating palette.

2 Click the tab you want to use to bring it to the front.

3 Adjust the settings in the palette, if necessary, until you have the presets you want to save.

4 Press the right-triangle button on the right of the palette and choose Save Strokes in the pop-up menu. A directory dialog box opens.

5 Type a name for the palette file, select a location on a disk, and click Save.

To load strokes from a file

Use the following procedure to load presets from a strokes file on disk to a tab in the Strokes palette. When you load a strokes file, you can replace a tab's presets with the file's presets or add the presets saved in the strokes file to those currently in the palette.

1 To open the Strokes palette, press the Strokes icon and drag the palette away from the toolbox. The Strokes palette opens as a floating palette.

2 Click the tab you want to use to bring it to the front.

3 Press the right-triangle button on the right of the palette and do one of the following, depending on whether you want to replace the current presets:

- To replace the tab's presets with those in the strokes file, choose Load Strokes.
- To add the presets in the strokes file to those currently in the palette, choose Append Strokes.

4 A directory dialog box opens. Locate the strokes file you want to open and click Open.

Customizing pens

In the Pen manager, you can choose from the following options:

- standard or calligraphic pen styles, also known as "nibs." Standard pens have a uniform width. Calligraphic pens have a separate width, weight, and angle setting.
- bevel, miter, or round line joins
- flat, round, or square end caps

For basic information about setting pen size, see "Using standard pen strokes" on page 13.4.

Tip
You can choose millimeters, inches, or picas instead of points as the pen size unit using the Preferences command in the File menu.

◆ **To create a custom pen width:** In the Pen manager, choose Standard in the pop-up menu, and set the width in the Width text box. The sample window at the bottom of the manager shows the current settings; drag from this window to the scroll list to add the pen stroke to the presets.

To create a calligraphic pen

The calligraphic option lets you create a pen stroke with a custom weight, width, and angle. The shape of a calligraphic stroke varies depending on the stroke's path.

1 In the Pen manager, choose Calligraphic in the pop-up menu. Weight, Width, and Angle text boxes and an editing box appear in the configuration manager.

2 To set the width of the pen, enter a value in the Width text box, or drag the thin red arrow in the edit window. The width is the maximum thickness of the stroke when it is perpendicular to the pen angle.

3 To set the weight of the pen, enter a value in the Weight text box, or drag the thick blue arrows in the edit window. The weight is the maximum thickness of the stroke when it is parallel to the pen angle.

4 To set the pen angle, enter a value in the Angle text box or drag an arrow in the edit window.

For the most calligraphic effect, the weight and width values should be dissimilar (at least by a factor of three or four) and the angle set to approximately 45 degrees.

Pen manager

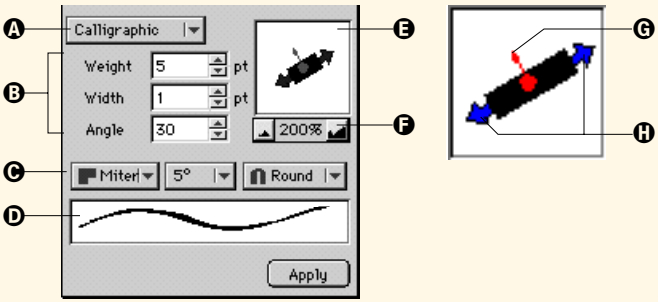
These settings let you create Calligraphic pen types.

Ⓐ Choose Calligraphic in the pop-up menu.

Ⓑ Specify weight, width, and angle of the pen nib. You can set the units of measure for these settings using the Preferences command in the File menu.

Ⓒ Configure line joins and end caps using the pop-up menus; see the next section for information on these settings.

Ⓓ Sample window of the current pen settings.



Ⓔ Edit the size and angle of the nib interactively in this edit window (see inset).

Ⓕ Use the zoom buttons to increase or reduce the size of the nib in the edit window. This does not affect the actual pen size.

In the edit window, you can drag control points to adjust the pen nib.

Ⓖ Drag to change the width and angle of the nib.

Ⓗ Drag to change the weight and angle of the nib.

Choosing line joins and end caps

Pop-up menus in the Pen manager let you specify the type of line joins and end caps. Line joins determine appearance of two path segments that meet at a corner. End caps specify the shape of the endpoints of an open path.

Line joins

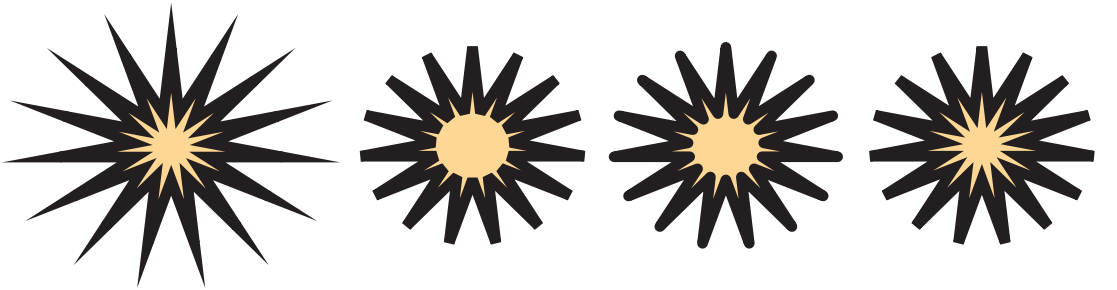
Canvas has three types of line joins: miter, round, and bevel. For preset pen strokes, Canvas indicates the type of line join in the scroll list on the Pen tab.

Miter Joins path segments with sharp corners that extend to a single point. When you choose miter joins, an additional pop-up menu lets you set the miter limit in degrees (5, 10, 30, 60, or 90 degrees).

The miter limit setting tells Canvas which corners are too tight to miter; Canvas bevels these corners instead. In other words, if the miter limit is set to 10 degrees, and two path segments join at an angle of 9 degrees, Canvas bevels the corner rather than creating a miter join. The miter limit lets you prevent long, spiked corners that might result as a combination of a wide pen size and a small angle.

Round Smooths corners, so the joint is rounded instead of pointed or flat.

Bevel Squares off path segment corners, so that the joint appears flat rather than rounded or pointed.



Miter join, miter limit = 2˚ *Bevel join* *Round join* *Miter join, miter limit = 10˚*

End caps

Canvas has three types of end caps. For preset pen strokes, Canvas indicates the type of end cap in the scroll list on the Pen tab.

Flush with endpoint

Flat The end of the stroke is flush and square with the end of an open path or dash. By default, end caps use this setting.

Rounded at endpoint

Round A semi-circular cap extends half the pen width beyond the endpoint of an open path or dash.

Square at endpoint

Square The stroke tip is square, similar to the Flat option, but extends half the line width beyond the endpoint, like the Round option.

Customizing arrows

You can create starting, ending, or double-sided arrowheads using the Arrow manager. You can create double-sided arrowheads that are identical or entirely different. Canvas has several preset arrowhead styles that you can use and edit, or you can use any vector, paint, or text object as an arrowhead.

To create a custom arrowhead

1 Create a vector, text, or paint object to use as an arrowhead. You can also edit a preset arrowhead or an arrowhead style of an existing object by selecting the preset or object.

2 With the Strokes palette floating, select the Arrow tab and roll down the Arrow manager, if necessary.

3 To choose whether you want to create a starting or ending arrowhead, or both, click a button at the top of the tab. The sample windows at the bottom of the configuration manager show or hide, depending on the button you click.

4 For double-sided arrowhead styles, click a sample window to choose which arrowhead you want to work with. To edit both sides simultaneously, select Mirror.

5 Drag the object you want to use as an arrowhead to the edit window in the configuration manager.

6 Configure the arrowhead settings described below.

Arrow manager

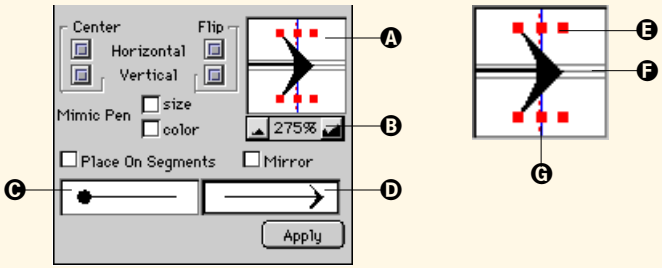
Use these options to create a custom arrowhead or edit a preset arrowhead.

A You can drag objects to this edit window to use them as arrowheads. A preview of selected presets or objects also appears here.

B Use these zoom buttons to magnify the edit window view. Changing views does not change the arrowhead's actual size.

C Shows the starting arrowhead, and isn't visible when using only ending arrowheads. When working with double-sided arrowheads, click this window to select the starting arrow.

D Previews the ending arrowhead and isn't visible when using only starting arrowheads. When working with double-sided arrowheads, click this window to select the ending arrow.



Arrow edit window

You can move and resize the object in the edit window to fine-tune the arrowhead.

E Drag these control points to resize the arrowhead.

F Indicates the horizontal axis of the path's endpoint.

G Indicates the vertical axis of the path's endpoint.

Center. Click the buttons to align the center of the arrowhead horizontally and vertically on the path's endpoint.

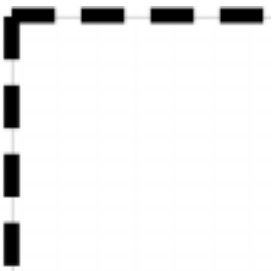
Flip. Click the buttons to flip the arrowhead horizontally and vertically.

Mimic Pen. Turn Size and Color on to apply the pen width and ink of the path to the arrowhead.

Place on Segments. Turn this option on to add arrows to each segment of an object.

Mirror. Turn on to make double-sided arrowheads mirror images of each other.

Customizing dashes



Dash stroke

Dashes are composed of alternating solid and blank segments. Using the Dash manager, you can customize the length of up to 13 segments to create new, complex dash sequences.

You can design dashes interactively using the edit window. To precisely set the length of each dash segment, you can also specify an exact length. The ruler in the Dash manager displays inches; however, you can enter dash lengths in inches, points, millimeters, or picas; see "Measurement units preferences" on page 9.14 for details.

Dashes in the Strokes palette always appear as 1-point wide, black and white segments. However, when you apply these dashes to an object's pen, the black segments adopt the color and size of the pen, and the white segments become transparent.

◆ **To create a custom dash sequence:** With the Strokes palette floating, select the Dash tab and open the Dash manager, if needed. Use the edit window and Length text box to design the sequence, as described next.

Dash manager

Use these controls to create custom dashes.

A Click to move the edit window view left or right.

B To change the length of a segment, drag a segment editor. You can type a number in the **Length** box. When you select or drag a segment, it highlights.

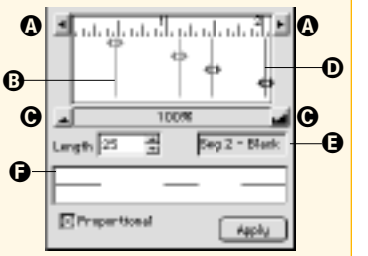
C To zoom in, click the right button. To zoom out, click the left button. You can change magnification in steps from 100% to 1000%.

D To add a segment, drag to the left from the segment editor. The segment editor remains at the right of the window until you create the maximum 13 segments.

E The segment's number (its order in the sequence) and its color. "Black" indicates it will appear in the color of the pen ink, and "White" indicates it will be transparent.

F Displays a sample of the current settings.

Proportional. Tells Canvas to scale the length of the segments to match the pen width of the object. The length of segments in the Dash manager are based on a 1-point line. Therefore, if the pen width is 6 points and Proportional is selected, Canvas multiplies the lengths by six.



Customizing neon strokes

You can create custom neon strokes using the Neon manager in the Strokes palette. You can specify the width, colors, line joins, and end caps for neon strokes. You can create uniform and calligraphic neon strokes.

Neon manager

Ⓐ Choose Standard or Calligraphic. Standard neon strokes are uniform thickness. Calligraphic strokes can vary depending on the stroke angle.

Standard options

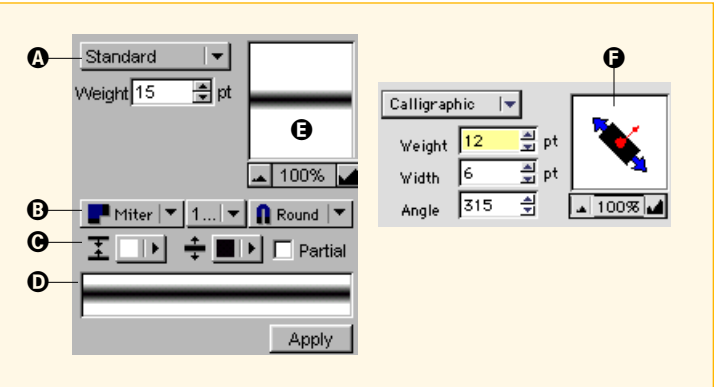
Weight: Enter the stroke thickness in points.

Ⓑ Select the line join type, miter limit angle (for miter line joins), and end cap shape.

Ⓒ Select the color for the inside and outside parts of the neon stroke.

Ⓓ Drag the stroke preview to an object to apply it, or drag it to the top of the palette to store it as a preset neon stroke.

Ⓔ Preview the current stroke. Click the zoom buttons to zoom the preview in or out.



Partial: Select this option for a neon stroke with the outside color along only one edge.

Calligraphic options

In the text boxes, enter the Weight and Width values in points, and the angle in degrees. When the angle is 0 or 180 degrees, Weight applies to vertical segments; Width applies to horizontal segments. At angles of 90 and 270, the values are reversed. At Angles of 45, 135, 225, and 315, vertical and horizontal segments are the same thickness.

Ⓕ Edit the calligraphic stroke interactively. Drag a blue handle to change the Weight and Angle. Drag the red arrow to change the Width and Angle.

To create custom neon strokes

1 In the Strokes palette, select the Neon tab and open the Neon manager, if necessary.

2 Select Standard or Calligraphic style and other options (described next).

3 The preview windows reflect the current settings. You can use the magnification buttons below the preview window to get a close

look at the neon effect. Keep in mind that low width settings might make it difficult to see the neon effect.

4 Select colors for the neon stroke from the pop-up palettes. Canvas blends these colors to create the neon effect. To make the stroke appear round, experiment with lighter inside colors and darker outside colors.

5 Click Apply to apply the current stroke to selected objects or to make it the current stroke if no objects are selected.

Customizing parallel line strokes

You can create custom parallel line strokes using the Parallel manager in the Strokes palette. You can specify the number of lines, the color, dash pattern, and pen size of each line, and the spacing of lines.

◆ **To create custom parallel line strokes:** With the Strokes palette floating, click the Parallel tab to bring it to the front and open the Parallel manager, if necessary. Configure the settings in the manager, described below.

Parallel manager

Use these controls to create custom parallel line strokes.

A Enter the number of parallel lines you want.

B Choose a number in the pop-up menu to select a line to edit ("1" is the bottom line). You can also click a line in the preview window (**C**) to select it.

C Previews the current settings and indicates which line is selected by displaying handles.

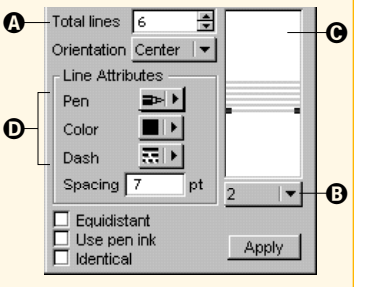
D Use these pop-up menus to apply pen width (Pen), pen color (Color), and dashes (Dash) to the selected line. The pop-up menus contain preset strokes and colors. You can also specify custom pen colors; see "Creating custom colors in pop-up palettes" on page 12.15.

Spacing. Enter a number to specify the distance between the selected line and the one below it. For Line #1, this setting defines the space between this line and Line #2.

Use pen ink. Turn on this option to apply a color to the spaces between the parallel lines.

Equidistant. Turn on this option to apply the spacing setting for the selected line to all lines.

Identical. Turn this option on to give all parallel lines the same pen size, color, and dash as the selected line.



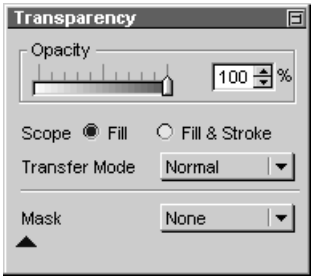
Orientation. Choose Center, Outside, or Inside to specify the placement of parallel lines relative to the path of the object.

CHAPTER 14

SPRITELAYER EFFECTS

SpriteLayer effects let you apply transparency to objects and text. You can use SpriteLayer transparency to create collages, web graphics, layered illustrations, “ghosted” text, vignettes, and texturing.

Using the Transparency palette



The Transparency palette is a control center for SpriteLayer effects. It is a floating palette that can stay open on screen and can be docked on the Docking bar. The palette includes controls and options for opacity, masks, transparency scope, and transfer modes.

- Use the Opacity slider to set the opacity of a selected object. The effect is the same as using the Opacity slider in the toolbox. See “Opacity effects” on page 14.2.
- Use the Scope options to control transparency effects in vector objects. See “Controlling the scope of transparency effects” on page 14.5.
- Apply channel masks and vector masks using the Mask menu. See “Transparency masks” on page 14.6.
- Change the transfer mode of a selected object using the Transfer Mode menu. See “Using transfer modes” on page 14.19.

The palette works with a single selected object. The controls in the palette are not available when more than one object is selected.

Opening the Transparency palette

Do any of the following to use the Transparency palette:

- Press the Opacity icon in the toolbox. When the Opacity slider pops open, drag it away from the toolbox. The palette appears when you release the mouse button.
- Choose Window > Palettes > Transparency….
- Choose Object > SpriteLayers > Show Palette.

Transparency palette options

Options for opacity, transfer mode, scope, and masks appear in the Transparency palette. When an object is selected, the Transparency palette displays the object's opacity and transfer mode.

Opacity. Drag the slider or enter a percentage to set the opacity of a selected object.

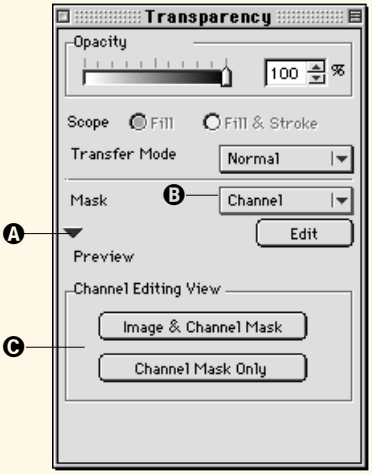
Scope. Set the transparency scope for a selected vector object.

Ⓐ Click to show or hide the mask options.

Ⓑ Choose Channel to create a channel mask. Choose a vector mask style to create a vector mask. If the object has a mask, the menu shows the type of mask. Choose None to remove the object's mask.

Edit. When a selected object has a channel mask or vector mask, click Edit to edit the mask.

Ⓒ When a masked object is selected, mask options appear in this area.



Opacity effects

Opacity is a basic transparency effect that can be applied to any object.

When an object's opacity is less than 100%, the object appears partly transparent. You can reduce the opacity of a text object, for example, so a background image is visible through the type.

You use the Opacity slider to set the opacity of objects. The Opacity slider is available in the toolbox and in the Transparency palette. The slider in the toolbox will set opacity for one or more selected objects. The slider in the Transparency palette is available only when a single object is selected.

Opacity affects the overall transparency of an object, so the Opacity slider is a master control for all transparency effects applied to an object.

For example, you can use a channel mask to make an oval vignette from a photograph. At the edge of the oval, the photograph becomes completely transparent. If you then reduce the opacity, the visible part of the image becomes partly transparent.

When an object's opacity is less than 100%, anything in the background, including the illustration area, can affect the object's appearance. The appearance of colors in an object can also be affected by the object's transfer mode. See "Using transfer modes" on page 14.19.

Defining opacity

"Transparency" and "opacity" are opposite terms that describe the ability to see through an object.

Greater transparency means it is easier to see through something; greater opacity means it is harder to see though it.

In percentages, 100% opacity equals 0% transparency. Those values describe objects you can't see through. 1% opacity equals 99% transparency. Those values describe almost completely clear objects.

All Canvas objects have an opacity. You can set opacity from 1% to 100% in 1% increments. The opacity of a new object is 100%. When you copy an object, the copies have the same opacity as the original object.

In this manual, the word "transparency" is often used as a general term for several related effects.

The word "opacity" is used to refer to a specific effect and a specific property of objects.

In other words, an object's "transparency" can result from various factors, including ink settings, the transfer mode, a channel mask, or another effect. An object's "opacity," on the other hand, is a specific setting controlled by the Opacity slider.

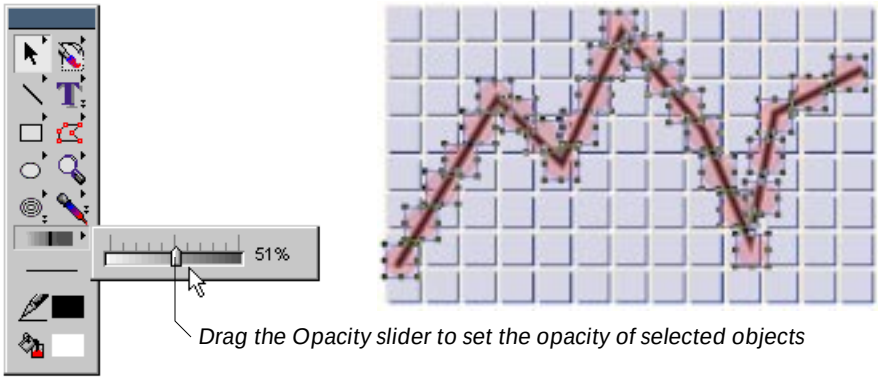
To set the opacity of objects

1 Select the objects whose opacity you want to change.

2 Do one of the following to use the Opacity slider:

- **Windows:** Click the Opacity icon in the toolbox and the Opacity slider appears. Drag the slider or click in the scale to adjust the opacity setting.
- **Mac:** Press the Opacity icon in the toolbox and the Opacity slider appears. Drag in the scale to adjust the opacity setting.

3 Drag the Opacity slider to the left to decrease opacity; drag to the right to increase opacity. The opacity percentage appears at the right of the slider.



Drag the Opacity slider to set the opacity of selected objects

If no objects are selected when you press the Opacity icon, the Opacity slider isn't available.

The Opacity icon in the toolbox displays an opacity scale. When an object is selected, a line in the scale indicates the object's opacity setting. The left end of the scale represents 1% opacity and the right end represents 100% opacity.

In the Transparency palette you can adjust the opacity of a single selected object. To set a selected object's opacity, drag the Opacity slider or enter a percentage from 1% to 100% in the text box.

The Transparency palette also lets you specify the scope of an object's opacity setting. See "Controlling the scope of transparency effects," next, and "Using the Transparency palette" on page 14.1.

✔Tip

You can set opacity quickly by Tab-clicking the opacity scale in the toolbox. A line in the scale shows the setting. Click the middle of the scale to set opacity to about 50%.

Setting opacity for multiple objects

You can use the Opacity slider in the toolbox to set the opacity for more than one object. In contrast, the Opacity slider in the Transparency palette is not available when more than one object is selected.

Using the Opacity slider in the toolbox when multiple objects are selected will apply the same opacity setting to each selected object.

To adjust the opacity of a group object, you can use the Opacity slider in the toolbox or in the Transparency palette, because a selected group object is considered one object.

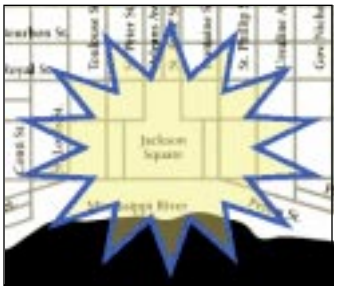
Opacity applies to a group object as if it were a single object. This is different than changing the opacity of multiple selected objects that aren't grouped.

When a group object is selected, changing the opacity applies to the group as a whole. Objects that were opaque do not become transparent to other objects in the group if you reduce the opacity of the group object.

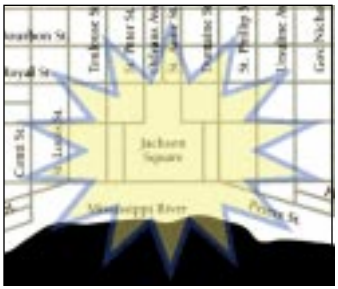
If you ungroup an object, the group opacity setting is removed and the opacity of each separate object is restored.

Consider a group of three objects whose opacities are 30%, 60%, and 100%. If you set the opacity of the group object to 50%, the opacities of the individual objects will appear to be 15%, 30%, and 50% relative to the background. If you ungroup the objects, their opacities will be restored to 30%, 60%, and 100%.

Controlling the scope of transparency effects



Fill



Fill & Stroke

All vector objects have scope settings that control what parts of the objects are affected by transparency.

The scope setting can limit transparency to an object's fill ink only. Or, it can apply transparency to the fill ink and the pen ink on the object's stroke.

The scope setting controls all transparency effects applied to vector objects, including opacity, channel masks, vector masks, and transfer modes.

Each vector object has a scope setting. Scope settings do not affect text objects, paint objects, or group objects.

You can change the scope setting of a selected vector object using the Transparency palette. An object's scope setting remains the same unless you use the Transparency palette to change it. See "Using the Transparency palette" on page 14.1.

The scope setting can affect the time needed to print an object. When an object has a reduced opacity setting (but no other transparency effects) and the scope is Fill, Canvas can print the object on PostScript printers without rendering. If the scope is Fill & Stroke, Canvas renders the object and prints it as an image. An image usually contains more data than a vector object, so this can increase the time required to print an object.

To set an object's transparency scope

1. Select a vector object.
2. In the Transparency palette, select a Scope option:

- To apply transparency effects to the entire object, select Fill & Stroke.
- To apply transparency effects to the object's fill ink only, select Fill.

Transparency masks

Transparency masks let you create complex transparency effects. You can use transparency masks with vector, paint, text, and group objects.

Channel masks and *vector masks* are the two types of transparency masks available. You can apply either mask type to vector, text, paint, and group objects. An object can have only one mask, but it can have a mask along with other effects such as opacity and transfer mode.

Paint object with a channel mask

A channel mask creates transparency based on a grayscale image. A channel mask is part of an object, the same way an image channel is part of a paint object. You can use painting tools and image-editing techniques in a channel mask. For example, you can make a vignette by painting an oval in a channel mask.

A vector mask creates transparency based on a vector gradient or the colors of a vector object. Vector masks can produce gradual transparency changes the same way that gradient inks produce gradual color changes. You can drag a tool to create radial, linear, elliptical, and rectangular vector masks, or you can use an object as a vector mask.

The following sections describe methods for using channel masks and vector masks.

Changing the transparency preview

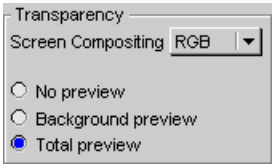
When you edit paint objects or channel masks, Canvas previews transparency effects according to a preference setting. You can temporarily change the preview when you are in channel mask edit mode.

When you edit a channel mask with no preview, a checkerboard pattern lets you focus on the transparent object. The checkerboard hides objects behind the transparent object, while showing the transparent areas in the object you are editing.

Note: In Total Preview mode, Canvas shows objects that are in front and in back of a paint object or channel mask you are editing.

◆ **To turn off the transparency preview:** Press the Asterisk (*) key, or choose Hide Transparency Preview in the context menu.

◆ **To restore the transparency preview:** Choose Show Transparency Preview in the context menu. If you don't choose the command, Canvas restores the preview setting each time you leave edit mode.



◆ **To set the Transparency preview:** Choose File > Preferences. Click the Display tab in the Preferences dialog box and select an option in the Transparency area. Click Background Preview to preview background objects only. Click Total Preview to preview background and foreground objects. Click No Preview to display transparent objects against a checkerboard pattern for editing.

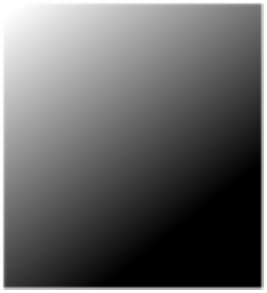
Note: If you select the No Preview preference, you can't use the context menu to change the preview while you edit an object.

The preview preference affects what you see when you paint in a transparent paint object or edit any paint object. If objects are in front of the paint object, you can see the objects while editing if you select Total Preview. If you select Background Preview or No Preview, foreground objects are not displayed when you edit a paint object or a channel mask.

Channel masks

A channel mask is a special channel that defines transparency in an object. While channels are typically associated with paint objects, you can apply a channel mask to any type of object.

Object with symbol ink



Channel mask

Transparency effect

Like an alpha channel in a paint object, a channel mask is basically a grayscale image. Channel masks can be edited using image-editing tools and techniques, similar to alpha channels.

You can think of a channel mask as a template for transparency. The channel mask is the same size as the masked object and is aligned with it. In the case of a paint object, the channel mask has the same resolution and number of pixels as the paint object.

Channel masks, like grayscale images, contain pixels that are assigned 256 possible lightness levels, or luminance values. Luminance values in a channel can range from 0 (black) to 255 (white).

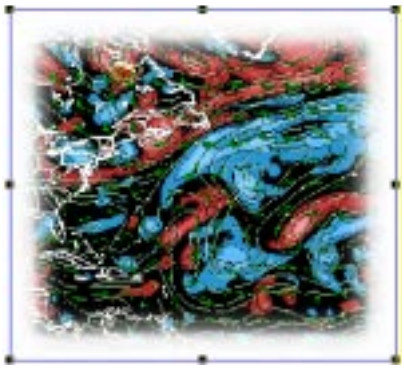
In an alpha channel, luminance corresponds to selection intensity. In a channel mask, luminance values correspond to 256 levels of transparency, from 100% to 0% transparency, in the masked object. Black pixels (0 luminance) produce 100% transparency, while white pixels (255 luminance) produce 0% transparency.

Therefore, when you paint in a channel mask, painting with black produces clear areas and painting with white produces opaque areas in the masked object. Painting with gray produce partial transparency relative to the gray value, with darker grays producing greater transparency than lighter grays.

Channel mask and paint object

Black in a channel mask (left) produces 100% transparency

A feathered edge produces partial transparency



Masked object

Keep in mind that an object's appearance can be affected by its transfer mode, scope setting, and opacity, in addition to a channel mask. Changing the transfer mode can completely change the appearance of an object that has a channel mask. See "Using transfer modes" on page 14.19.

Note: In Canvas 5, a channel mask was defined as a 1-bit (black-and-white) channel. This type of channel produces either 100% transparent or 100% opaque areas. A channel mask in a Canvas 5 document will be converted to the current channel mask format if you open the document in the current version of Canvas.

Creating channel masks

You can create a blank channel mask, or create a channel mask from a paint object. You create a channel mask when you render objects, you can use the Render command; see “Rendering objects and images” on page 24.7.

You can use the Transparency palette or the Channels palette to create blank channel masks. In the Channels palette, an object’s channel mask is selected in the channel mask slot when the object is in channel mask edit mode. In the Transparency palette, the Mask menu shows “Channel” when a selected object has a channel mask.

To create a channel mask

This procedure creates a blank channel mask for an object.

1 Select a text, paint, vector, or group object to mask.

2 Press Option (Mac) or Ctrl (Windows) and double-click the object. Or, choose Object > SpriteLayers > New Channel Mask.

- If the object to be masked is not a paint object, a dialog box asks you to set the resolution of the mask. Enter a resolution from 1 to 2,540 ppi and click OK.
- If the object is a paint object, the channel mask’s resolution will be the same as the paint object’s resolution.

3 The object appears in channel mask edit mode, with the object visible and the channel mask selected. You can edit the channel mask with painting tools. See “Editing channel masks” on page 14.11.

4 When you finish, press Esc to leave edit mode.

When you create a new channel mask, the channel is filled with white pixels. At this point, the channel mask produces no transparency because white pixels in the channel mask produce 0% transparency in the masked object. As you edit the channel, painting with gray produces partial transparency, and painting with black produces 100% transparency.

To use the Transparency palette

You can use the Transparency palette to create a blank channel mask. To open the Transparency palette, see “Using the Transparency palette” on page 14.1.

1 Select an object to mask.

2 In the Transparency palette, choose Channel in the Mask pop-up menu.

- If the object to be masked is not a paint object, a dialog box asks you to set the resolution of the mask. Enter a resolution from 1 to 2,540 ppi and click OK.
- If the object is a paint object, the channel mask's resolution will be the same as the paint object's resolution.

3 The object appears in channel mask edit mode, with the object visible and the channel mask selected. You can edit the channel mask with painting tools. "Editing channel masks" on page 14.11.

4 When you finish, press Esc to leave edit mode.

Setting the channel mask scope

When you apply a channel mask to a vector object, the channel mask affects the vector object's fill ink or its fill ink and stroke (pen ink). To change the effect, change the Scope setting in the Transparency palette. See "Controlling the scope of transparency effects" on page 14.5.

Masking with a paint object

You can create a channel mask by attaching a paint object to another object. If you have an existing paint object that you want to use as a channel mask, it's quicker to use this procedure than to use the Channels palette to place the paint object in a channel mask.

To attach a channel mask

1 Place a paint object to use as a mask in front of the object to be masked. The two objects do not have to overlap or touch, but the paint object must be in front of the other object in the stacking order.

2 Select both objects.

3 Choose Object > SpriteLayers > Attach Mask. Canvas creates a channel mask and both objects remain selected. The original paint object is not changed.

If the paint object and the object to be masked aren't the same size, Canvas scales the image of the paint object to fit the masked object.

A channel mask created from a paint object is the same as any channel mask. You can edit it the same as if you created a blank channel mask.

Like any other channel mask, a channel mask created from a paint object produces transparency relative to its gray values. If the channel mask is solid white, it creates no transparency; if it is solid black, it creates 100% transparency and makes the masked object invisible.

Editing channel masks

You can use painting tools, filters, and image-editing commands to modify the effect of a channel mask. To edit a channel mask, the masked object must be in channel mask edit mode.

Editing a channel mask is similar to editing a channel in a paint object. You can paint in the channel mask with shades of gray. You can make selections with selection tools, commands, and alpha channels. You can apply image-adjustment commands and filters to the entire channel mask or to just the selected areas.

To edit a channel mask

1 Select the masked object.

2 Choose Object > SpriteLayers > Edit Channel Mask. The masked object appears in channel mask edit mode.

In this mode, the channel mask is active and the object is also visible. You can paint in the channel or modify it to change the transparency of the underlying object.

3 When you finish editing, press Esc to leave edit mode. The object remains selected.

◆ **Options for channel mask editing:** You can enter channel mask edit mode using any of the following methods.

With the mouse: Press Option (Mac) or Ctrl (Windows) and double-click a masked object.

Note: If the object doesn't have a channel mask, this creates a channel mask and puts the object in channel mask edit mode.

In the Transparency palette: Click the Edit button when a masked object is selected. This places an object with a channel mask in channel mask edit mode. If the object has a vector mask, it places the vector mask in edit mode.

In the Channels palette: When a paint object is in edit mode, click the channel mask to select it for editing. When any other object is in channel mask edit mode, the channel mask is the only channel that can be selected.

Selecting views for channel mask editing

You have a choice of view when you edit an object's channel mask. You can display the object and the channel mask together, which shows you the overall effect of the mask as you edit it. Or, you can hide the object to concentrate on the channel mask alone.

Selecting views in the Channels palette

An eye symbol in the Channels palette appears to the left of a channel that is visible. The eye symbol disappears if a channel is hidden.

When you edit a channel mask, the top channel in the palette represents the object itself. For a typical paint object this channel is labeled with the image mode, such as RGB or CMYK. For other objects, the first channel is labeled "Object."

The channel mask of an object in edit mode is shown in the Channel Mask slot, which is below the channel list.

◆ **To view the channel mask only:** Click the eye symbol next to the object or composite channel at the top of the channel list. This hides the object channel so only the channel mask is visible.

◆ **To hide the channel mask:** Click the eye symbol next to the channel mask. This hides the effect of the channel mask on the object.

At least one channel, either the composite/object channel or the channel mask, must be visible. If only one is visible, you can't hide it by clicking its eye symbol.

◆ **To display a hidden channel:** Click to the left of the channel to restore the eye symbol.

Note: When you edit paint objects you can edit pixels in the images by selecting channels in the Channels palette. However, when you edit other objects, you can't select the "object" channel. You can show or hide the object channel, but you can edit pixels only in the channel mask.

Selecting views in the Transparency palette

You can use the Transparency palette to change your view when you edit a channel mask. In channel mask edit mode, two buttons let you select editing views. Click the triangle at the lower left to expand the palette if necessary to display the buttons.

◆ **To view the channel mask only:** Click “Channel Mask Only” in the Transparency palette. This is the same as hiding the “object channel” in the Channels palette.

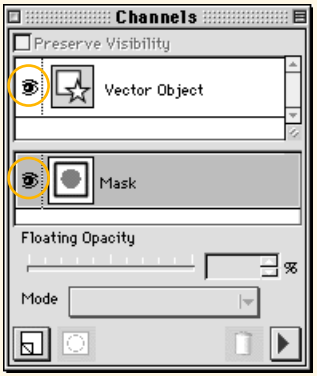
◆ **To view the object and channel mask:** Click “Image and Channel Mask.” This is the same as making the “object channel” and the channel mask visible in the channels palette.

You can use the Transparency and Channels palettes to change your view when you edit a channel mask

Click to show options

Ⓐ Click to show the mask effect on the object

Ⓑ Click to show the channel mask alone



Click the eye symbol to hide the object or channel mask in the Channels palette

To remove a channel mask

Removing a channel mask from an object removes the transparency effect produced by the channel mask.

1 Select the masked object.

2 Choose Object > SpriteLayers > Detach Mask. Canvas removes the channel mask from the selected object.

When you detach a channel mask, Canvas converts the channel mask to a paint object and places it in the document. The paint object includes the alpha channels from the masked object if it had alpha channels.

Vector masks

A vector mask creates a transparency effect based on a style of gradient ink, such as radial or rectangular. You can choose the style when you apply a vector mask, or you can apply an existing vector object as a vector mask.

A vector mask can be applied to any type of objects, including vector, paint, text, and group objects.

It's easy to apply vector masks. You can drag a vector transparency tool to apply radial, directional, elliptical, or rectangular style masks. If you want to use precise values for position and transparency levels, you can enter numbers in the Transparency palette. You can apply a mask quickly by selecting an object and choosing Object > SpriteLayers and selecting a vector mask style in the submenu.

Vector mask styles

(Left to right) Radial, Directional, Rectangular, Elliptical

The styles of vector masks applied by the Vector Transparency tools are related to vector gradient styles. You can think of these tools as applying a hidden gradient to a masked object. The transparency effect is based on the hidden gradient; the transparency level is relative to the lightness of the gradient shading.

For example, a linear vector gradient blends colors along a straight axis. A directional vector mask fades from opaque to transparent along a linear axis. For linear vector gradients and directional vector masks, you can specify the length and angle of the axis.

The relationship between vector gradients and vector transparency masks can be seen if you detach a vector transparency mask. With a masked object selected, choose Object > SpriteLayers > Detach Mask. Canvas removes the vector mask and places it in the document as a separate vector object. If you examine this object, you see that it has a vector gradient. The gradient style is similar to the vector mask style. The vector gradient fades from black to white in the same way that the vector mask caused the masked object to fade from transparent to opaque.

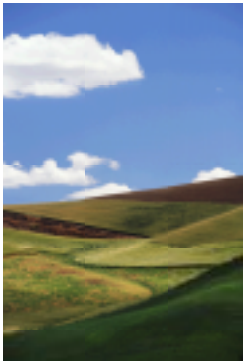
The relationship between vector masks and vector gradients also works in reverse: You use a vector gradient-filled object as a vector mask; see “Masking with a vector object” on page 14.16.

A vector mask is related to a vector gradient

If you detach a vector mask, you get an object with a gradient. The grays in the gradient correspond to transparency levels in a masked object.

Detached mask

Masked object



Original object

Applying vector masks

You can apply a vector mask using the Vector Transparency tools. When an object is selected, you can drag one of these tools near or over the object to apply a transparency effect.

The Vector Transparency tools provide the easiest way to create transparency effects such as vignettes (image that appear in ovals and other shapes) as well as linear, radial, or rectangular fades.

You can use the Transparency palette to apply vector transparency effects. When you use the Transparency palette, you can specify values for the position and intensity of the effect.

In the Transparency palette, the Mask menu shows the vector mask style when a selected object has a vector mask.

To create a vector mask

Vector Transparency tools: Radial, Directional, Rectangular, Elliptical

1 Select a text, paint, vector, or group object to mask.

2 Select a Vector Transparency tool. These tools are in the Effects toolbar. Select the tool for the style of vector mask you want to apply: Radial, Directional, Rectangular, or Elliptical.

3 Drag the tool near or over the selected object. As you drag, a vector line or shape appears. This represents the position of the vector transparency effect.

4 To adjust the effect, drag a handle to reposition the transparency vector. When you finish, press Esc to leave edit mode.

To use the Transparency palette

You can use the Transparency palette to apply a vector mask. To open the Transparency palette, see "Using the Transparency palette" on page 14.1.

1 Select an object to mask.

2 In the Transparency palette, choose a mask style in the Mask menu.

Note: You can't select "Object" in the pop-up menu. To use an object as a vector mask, see "Masking with a vector object" on page 14.16.

3 To adjust the effect, drag the handles to reposition the transparency vector. When you finish, press Esc to leave edit mode.

Setting the vector mask scope

When you apply a vector mask to a vector object, the mask affects the vector object's fill ink or its fill ink and stroke (pen ink). To change the effect, change the Scope setting in the Transparency palette. See "Controlling the scope of transparency effects" on page 14.5.

Masking with a vector object

You can create a vector mask by attaching a vector object to another object. Like other vector masks, a vector mask created from a vector object produces transparency relative to its color values. For example, if the vector object that you attach is solid white, it creates no transparency; if it is solid black, it creates 100% transparency, making the masked object invisible.

To attach a vector mask

1 Place a vector object to use as a mask in front of the object to be masked. The two objects do not have to overlap or touch, but the vector object must be in front of the other object in the stacking order.

2 Select both objects.

3 Choose Object > SpriteLayers > Attach Mask. Canvas creates a vector mask and both objects remain selected. The original vector object is not changed.

If the vector object and the object to be masked aren't the same size, Canvas scales the vector object to fit the masked object.

Editing vector masks

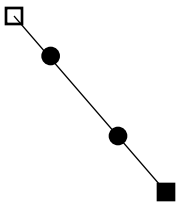
You can edit vector masks that have been applied with the Vector Transparency tools, and masks created by attaching gradient-filled vector objects. Editing lets you change the boundary of the opaque and transparent areas of a mask. You can also add nodes for finer control of transparency levels.

To edit a vector mask

To put a masked object in edit mode, select the object and click Edit in the Transparency palette (see "Using the Transparency palette" on page 14.1). Or, select the Vector Transparency tool that was used to apply the mask.

When the vector mask editing handles appear, you can drag the handles to adjust the position and boundaries of the vector mask. The handles correspond to the values in the Mask area in the Transparency palette. When you drag a handle, the values in the Transparency palette are updated to match the new position. When you finish editing, press Esc.

Adding nodes



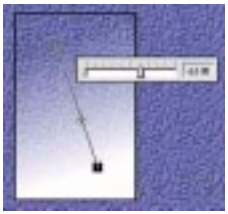
Nodes (small circles) let you set several opacity levels in a directional vector mask

The default handles that appear in vector mask edit mode indicate the start and end points of the transparency gradient. For a directional mask (the most basic style), a hollow handle represents the point of 100% transparency, and the solid handle represents the point of 100% opacity.

When a vector mask is in edit mode, you can add nodes to set additional opacity levels. The default mask has a start and end point, with a smooth transition from opacity to transparency between the start and end point. When you add nodes, you set the opacity level at each node.

To add a node, select the masked object, and then click the vector transparency tool for the mask style to enter edit mode. Point to the mask vector and press Ctrl and click (Mac) or right-click (Windows) on the mask vector. An opacity slider appears. Use the slider to set the opacity level of the new node. Set the slider to 100 to make the mask opaque at the node. Set the slider to 0 to make the mask completely transparent at the node. Select a value between 0 and 100 to make the mask semi-transparent at the node.

Use the pop-up opacity slider to set the opacity level of a node. You can add a series of nodes for additional control of a transparency mask.



Setting node opacity

Directional

Rectangular

When you edit rectangular or elliptical vector mask styles, you can add nodes to the horizontal vector that joins the inner box (which represents the area of 100% opacity) to the object's bounding box. When you edit radial mask styles, you can add nodes to the circle, which represents the 360 degree sweep of the mask.

Editing values in the Transparency palette

You can change values in the Transparency palette to make precise changes to a vector mask. When you change the mask settings, Canvas updates the mask handles to match the current position values.

To use the Transparency palette for editing, select the masked object and click Edit in the Transparency palette. You can change the following values to modify the effect of the vector mask.

Transparency Start: The transparency percentage at the edge of the vector effect. If this value is 100%, the object appears completely transparent beyond this point. When you first apply a mask in rectangular or elliptical style, this point is represented by the handle at the edge of the object.

Transparency End: The transparency percentage at the end of the vector effect. If this value is 0%, for example, the object is not transparent at this point. When you first apply a mask in the rectangular or elliptical style, this percentage corresponds to the area enclosed near the center of the object, which is 0% transparent. For radial style, the start point is the handle on the perimeter of the circle. The end is at an opposite point on the circle.

Left. The distance of the first handle from the left edge of the object, measured as a percentage of the object's width.

Top. The distance of the first handle from the top edge of the object, measured as a percentage of the object's height.

Width. The horizontal distance to the second handle from the first handle, measured as a percentage of the object's width.

Height. The vertical distance to the mask's second handle from the first handle, measured as a percentage of the object's height.

To remove a vector mask

Removing a vector mask from an object removes the transparency effect produced by the mask.

1 Select the masked object.

2 Choose Object > SpriteLayers > Detach Mask. Canvas removes the vector mask from the selected object.

When you detach a vector mask, the former mask appears in the document as a separate vector object filled with a grayscale gradient.

Vector masks in paint edit mode

If a paint object has a vector mask, Canvas temporarily represents the vector mask as a channel mask if you edit the paint object.

In paint edit mode, a temporary channel mask that represents the object's vector mask appears in the Channel Mask slot in the Channels palette. The temporary mask lets you see the effect of the vector mask as you edit the paint object.

If you click in the Channel Mask slot to try to select the temporary channel mask for editing, Canvas asks if you want to convert the vector mask to a channel mask. Click Cancel to return to editing the paint object without destroying the vector mask. Click Yes if you want Canvas to convert the vector mask to a channel mask that can be edited with painting tools.

Using transfer modes

All objects — vector objects, text objects, paint objects, and group objects — have a *transfer mode*. Transfer modes are like invisible filters that affect the appearance of colors. When objects overlap, the transfer mode of the front object can change the appearance of the back object.

Transfer modes work with transparency effects, including opacity and transparency masks. However, transfer modes can make objects appear to be transparent without reduced opacity or transparency masks. For example, Multiply mode lets underlying colors show through an object.

To apply transfer modes, you select objects and choose modes from the Transfer Mode menu in the Transparency palette. For vector objects, you can apply transfer modes to fill inks alone or to fill inks and strokes together.

The default transfer mode is Normal. In Normal mode, the colors of overlapping objects do not mix unless the front object is partially transparent.

In addition to interacting with background objects, transfer modes can interact with the document's white background. When an object's transfer mode is Screen, for example, anything white replaces the object's color, so the document's white background can make the object seem to be invisible.

To change an object's transfer mode

1 Open the Transparency palette. See "Using the Transparency palette" on page 14.1.

2 Select an object and choose a transfer mode in the Transfer Mode pop-up menu in the Transparency palette.

3 For vector objects, select a Scope option. Select Fill to apply the transfer mode to the fill ink; select Fill & Stroke to apply the transfer mode to both the object's fill ink and stroke.

Selecting transfer modes

The transfer modes available in the Transfer Mode menu in the Transparency palette are listed here. The following descriptions are based on objects with RGB colors with no other transparency effects. Each mode is described in terms of the front object when the back object's transfer mode is Normal.

Normal In Normal mode, colors do not blend; the color of a front object hides the colors of all objects behind it.

Multiply In Multiply mode, overlapping colors become darker. Black produces black. White has no effect, the same as if a white object were not visible. White text, for example, reveals the background.

Screen The Screen mode lightens overlapping colors. Objects with lighter colors increase the effect. White produces white. Black has no effect, the same as if a black object were not visible. Black text, for example, reveals the background.

Overlay In Overlay mode, a front object's color overlays colors in the background, while preserving highlights and shadows. White and black in the background are not affected.

Soft Light The Soft Light mode lightens or darkens underlying colors depending on the brightness of the front color. Colors in front that are lighter than 50% gray lighten the underlying object. Colors in front that are darker than 50% gray darken the underlying object.

Hard Light The Hard Light mode lightens or darkens underlying colors depending on the brightness value of the front color. Hard Light mode is similar to Soft Light. However, black in the front object produces black; white in the front object produces white.

Darken In Darken mode, the color values of the front color replace the underlying color values if the front color value is darker than the back color value. Black in the background appears unchanged; the front color appears in place of white in the background.

Lighten In Lighten mode, the color values of the front color replace the underlying color values if the front color value is lighter than the back color value. White in the background appears unchanged; the front color appears in place of black in the background.

Difference The Difference mode compares the color values of the front and back colors and subtracts the darker value from the lighter value. If the front and back colors are identical, the result is black. If the front or back color is black, the other color does not change. If the front or back color is white, the other color is inverted.

Dodge Dodge mode compares the lightness values in each channel of the front and back colors, and uses the lighter value from each channel for the result color. However, black is not replaced by a lighter color. White in the front replaces all colors except black.

Burn Burn mode compares the lightness values in each channel of the front and back colors, and uses the darker value from each channel for the result color. However, white is not replaced by a darker color. Black in front replaces all colors except white.

Color space and transfer modes

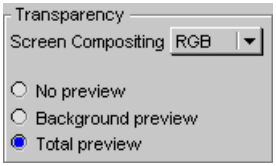
Canvas calculates transfer mode effects by applying formulas to color values. Canvas performs these calculations in RGB or CMYK color space. In other words, Canvas uses RGB color values or CMYK color values in its calculations.

For example, the formula for Multiply mode is Color 1 multiplied by Color 2. Canvas applies the formula separately to each value that defines a color. In the case of RGB colors, Canvas applies the formula separately to the red, green, and blue values. For CMYK colors, Canvas calculates the effect on cyan, magenta, yellow, and black values.

The significance of the color space calculation is that the effect you see on screen could appear completely different if the effect is printed in a different color space.

In particular, you must display transfer mode effects in CMYK if the document will be separated for printing with process (CMYK) colors. Otherwise, the color separations could produce colors that are completely different from the colors you see on screen.

For an example of this effect, draw several overlapping objects with different colors. Set the transfer mode of the front object to Difference. Choose File > Preferences. On the Display tab in the Preferences dialog box, change the Screen Compositing setting from RGB to CMYK. Click OK to close the dialog box. To refresh the screen, press Command+K (Mac) or F5 (Windows). You will probably see a significant change in colors when you switch from RGB to CMYK compositing.



To set the color space for screen compositing

1 Choose File > Preferences.

2 Click the Display tab.

3 Select RGB or CMYK in the Screen Compositing menu on the Display tab. Be sure to choose RGB for effects that will displayed in RGB colors. Choose CMYK if you are using CMYK colors in a document that will be printed with process colors.

Transparency and printing

You can use transparency effects to create stunning images and complex illustrations. As with any graphic effects, however, images that appear perfect on screen can cause problems or produce unexpected

results when you print a document. This section discusses some issues you should keep in mind to help ensure that your documents print successfully.

Canvas uses special techniques to print some transparency effects. Canvas can send an instruction to print an opaque rectangle, for example, to most printers. However, to print a transparent rectangle, Canvas usually converts the object to an image. This process is called *rasterizing* or *rendering*. Canvas then sends the image data to the printer.

In the Print dialog box, you can select options for printing objects and colors. The options can affect the time required to print a document, and how well colors match among objects. See “Transparency Rendering” on page 4.22.

Output resolution of transparency effects

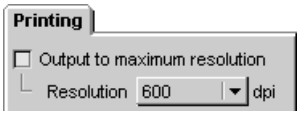
You can specify an output resolution for a transparent object. If you don’t specify the resolution for Canvas to use, it selects the resolution based on the following guidelines:

- If a transparent paint object overlaps other paint objects, Canvas rasterizes all the objects at the same resolution as the paint object that has the highest resolution.
- If a vector object is transparent or is behind a transparent object, Canvas rasterizes the vector object at the resolution specified for printing. You can set the resolution for printing on the Printing tab in the Preferences dialog box.

To set the output resolution of an object

1. Select the object whose resolution you want to specify.
2. Choose Object > SpriteLayers > Output Resolution.
3. Do one of the following in the dialog box, and then click OK:
   - Select the Maximum Resolution checkbox to specify that the object should be rendered at the maximum resolution of the output device.
   - Deselect the Maximum Resolution checkbox and enter the resolution you want Canvas to use. You can set the resolution from 1 to 2,540 dpi.

To set the maximum output resolution



You can specify a maximum resolution for Canvas output. The resolution you specify in the Preferences dialog box affects output of all objects and rasterizing of transparency effects. This setting overrides settings you apply to objects with the Output Resolution command.

1. Choose File > Preferences.
2. Click the Printing tab.
3. Do one of the following:
   - Select the “Output to maximum resolution” checkbox to specify that Canvas should output objects at the maximum resolution of the output device.
   - Deselect the “Output to maximum resolution” option if you want to specify an output resolution. Select an output resolution from the pop-up menu.
4. Click OK.

III

DRAWING & VECTOR EFFECTS

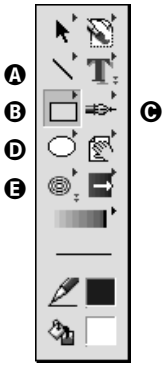
CHAPTER 15

DRAWING BASICS

This chapter describes how to draw and resize vector objects. The Canvas drawing tools let you easily draw basic shapes — lines, rectangles, ovals, and arcs — and create precise squares, circles, and straight lines. Specialized tools let you draw grids, stars, polygons, concentric circles, cubes, spirals, and "smart" lines that link objects and stay connected even when you move the linked objects.

Drawing basic shapes

You can use the same basic technique with most Canvas drawing tools. See the table titled "Basic drawing procedures" on page 15.2 for the procedures you use to draw basic shapes. Instructions for the tools that let you draw grids, stars, polygons, concentric circles, cubes, spirals, and Smart Lines appear later in the chapter.



A *Lines*

B *Rectangles*

C *Paths*

D *Ovals and arcs*

E *Object tools*

Applying inks and strokes

When you draw a vector object, Canvas applies the current ink and stroke settings to the objects you draw. The inks and stroke icons in the toolbox show a preview of the current settings. You can change these attributes before or after you draw an object. Refer to the chapters titled "Inks: colors and patterns" on page 12.1, and "Strokes: outline effects" on page 13.1, for more information.

Selecting tools in the toolbox

Tools for drawing lines, rectangles, ovals, and arcs are grouped in toolbars that pop out from the toolbox. The current tool is visible in the toolbox. To open a toolbar to select another tool, press the current tool icon. To keep a toolbar open while you work, drag it away from the toolbox.

Drawing objects from the center

You can draw many vector objects starting from the object's center by pressing a modifier key as you draw. Position the pointer where you want the object's center to be, press Option (Mac) or Ctrl (Windows) and drag away from the center to draw the object.

When you draw an object from the center, you can press Shift at the same time if you want to also constrain the object's bounding box to

a square. You can use this technique to draw a perfect square or circle from the center outward.

Basic drawing procedures

Object		Tool	Procedure	
	Lines	Line tool	Drag from the starting point to the end point in any direction	
	Lines at a 45˚ angle (horizontal, vertical, or diagonal)	Line tool	Press Shift and drag from the starting point to the end point	
	Rectangles	Rectangle tool	Drag from one corner to the opposite corner	
	Squares	Rectangle tool	Press Shift and drag from one corner to the opposite corner	
	Rounded rectangles	Rounded Rectangle tool	Drag from one corner to the opposite corner	
	Rounded squares	Rounded Rectangle tool	Press Shift and drag from one corner to the opposite corner	
	Ovals	Oval tool	Drag from one corner to the opposite corner of the oval's bounding box	
	Circles	Oval tool	Press Shift and drag from one corner to the opposite corner of the circle's bounding box	
	Arcs	Arc tool	Drag from one corner to the opposite corner of the arc's bounding box	
	Circle-segment arcs	Arc tool	Press Shift and drag from one corner to the opposite corner of the arc's bounding box	

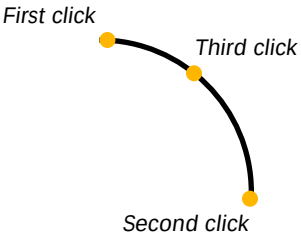
Drawing arcs by radius and by 3 points

The Arc Radius tool draws an arc based on a center point and radius that you set. The Arc 3 Points tool draws an arc through three points that you set. Both tools draw arcs with the current fill ink, pen ink, and stroke.

To edit arcs, see "To change the length of an arc" on page 15.5.

The Arc Radius tool and Arc 3 Points tools are located with the oval and arc tools in a toolbar that pops out of the toolbox.

To draw arcs by 3 points



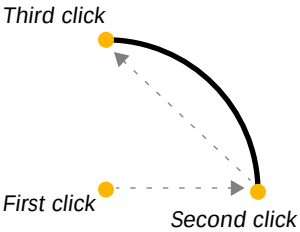
1 Select the Arc 3 Points tool. Click in the document to set one endpoint of the arc.

2 Move to the second endpoint of the arc. A line extends from the first endpoint. Click to set the second endpoint.

3 Move to a point on the perimeter of the arc. A line indicates the chord from the second point, while the arc expands or contracts as you move the pointer.

4 Click to set the perimeter point and finish the arc.

To draw arcs by radius



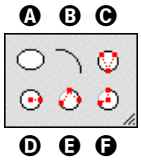
1 Select the Arc Radius tool. Click in the document to set the center of the arc.

2 Move to one endpoint of the arc. A line extends from the center and indicates the arc's radius. Click to set the endpoint.

3 Move to the second endpoint of the arc. An arc segment extends from the first endpoint and indicates the arc's length.

4 Click to set the second endpoint and finish the arc.

Drawing circles by radius and by 3 points



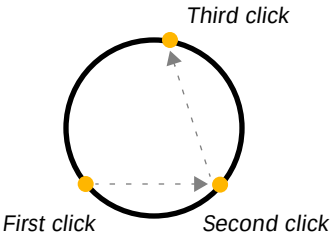
A Oval, B Arc, C Circle 3 Points, D Circle Radius, E Arc 3 Points, F Arc Radius

The Circle Radius tool draws a circle from a center point and a radius that you set. The Circle 3 Points tool draws a circle through three points that you set.

Both tools draw circles with the current fill ink, pen ink, and stroke.

The Circle Radius and Circle 3 Points tools are located with the oval and arc tools in a toolbar that pops out of the toolbox.

To draw circles by 3 points



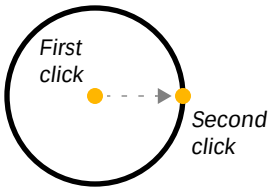
1 Select the Circle 3 points tool. Click in the document to set a first point on the circle's circumference.

2 Move to a second point on the circle's circumference. A line indicates the chord from the first point as you move the pointer. Click to set the second point.

3 Move to a third point on the circumference. A line indicates the chord from the second point, while the circle expands or contracts as you move the pointer.

4 Click to set the third point and complete the circle.

To draw circles by radius



1 Select the Circle Radius tool. Click in the document to set the center of the circle.

2 Move to anywhere on the circumference of the circle. A line extends from the center and indicates the radius, while the circle expands or contracts as you move the pointer.

3 Click to set the circumference and complete the circle.

Resizing and reshaping vector objects

You can resize and reshape a vector object by changing the size and shape of the object's bounding box. You can also change the length of arc segments and the corner radius of rounded rectangles. These techniques are described in the following section.

You can also edit most vector objects by changing the anchor points and segments that form their paths. For information on these editing techniques, see "Editing object paths" on page 16.7.

To resize an object's bounding box

When you drag a handle on a vector object's bounding box, you change the height or width (or both) of the bounding box. This also changes the size (and possibly the shape) of the object. For example, if you select a circle and drag a side handle to make the bounding box wider, the circle becomes an oval that is wider than it is tall.

1 Choose a Selection tool at the top-left of the toolbox.

- Use the filled arrow to select a single object (including a group object).

- Use the hollow arrow to select an individual object within a group object.

2 Click the object to select it. Handles appear on the object's bounding box.

3 Drag a handle, as described below, to resize the object.

To change	Do this
Height	Drag the top or bottom handle
Width	Drag a side handle
Height and width	Drag a corner handle
Height and width proportionally	Press Shift and drag a corner handle
Symmetrically (from center)	Press Option (Mac) or Ctrl (Windows) and drag a handle
Symmetrically and proportionally	Press Option-Shift (Mac) or Ctrl-Shift (Windows) and drag a corner handle

Maintaining object proportions

When you resize vector objects and want to maintain the object's height-to-width ratio, you have three options:

- Press Shift and drag a corner handle to resize the object proportionally.
- Use the Scale command and select the Proportional option in the Scale dialog box. This keeps the vertical and horizontal scaling factor in the dialog box equal.
- Use the Objects Specs command and select the Keep Proportions option in the Object Specs palette. Canvas keeps the object proportional if you change an object dimension in the Object Specs palette.

To change the length of an arc

1 Select the arc. Round handles appear near the beginning and end of the arc segment.

2 To shorten the arc, drag the round handle back over the arc. To lengthen the arc, drag the round handle to continue the arc segment.

You can also adjust the length of an arc by changing its Start angle and Δ values in the Object Specs palette.

To change the corner radius of a rounded rectangle

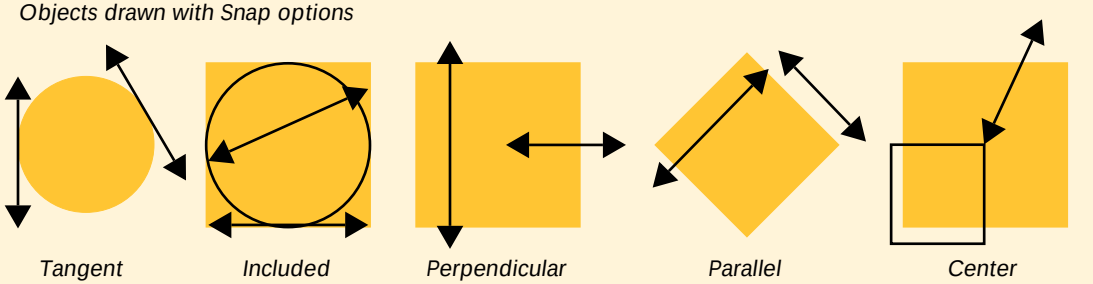
1 Select the rounded rectangle. A round handle appears near the lower-right corner of the rectangle.

2 Drag the handle to change the corner diameter. You can also use the “Diag” setting in the Object Specs palette to alter the shape.

Drawing with Snap options

Snap options can help you draw objects in precise positions relative to other objects. For example, you can use Snap options to draw lines that are parallel or perpendicular to other lines, to draw circles contained inside other objects, and to start drawing from the center points of objects. You can also draw guide lines that run to a vanishing point for illustrating perspective.

Objects drawn with Snap options



Snap options appear in the context menu, in a Snap submenu. You can select Snap options when you use the following tools: Line, Smart Lines, Oval, Circle 3 Points, Circle Radius, Rectangle, Rounded Rectangle, Arc, Arc 3 Points, Arc Radius, Curve, Polygon, Text, Spiral, GridMaker, and EasyShapes.

Snap options are most useful when you draw with the Line tool. You can draw lines to be parallel, tangent, or perpendicular to other objects. You can also snap lines to start at the center of an object, and constrain lines to the interiors of objects.

Snap options (especially the Center and Included options) are also useful for drawing ovals, rectangles, and arcs. For these objects, some Snap options constrain the first point you draw; other Snap options constrain the start and end points when you draw an object.

To use Snap options

1 Select the Line tool or another tool. Tools that can use Snap options are listed above.

2 Point to the object you want to snap to. (To use the Vanishing Point option, skip this step; you do not need to point to an object.)

- To draw parallel to a line, place the pointer anywhere on the line. To draw parallel to a rectangle or polygon, point to the side you want to draw parallel to.
- To draw perpendicular to an object, point to the side you want to draw perpendicular to.
- To snap to the center of an object, place the pointer anywhere inside the object.

3 Open the context menu (Ctrl-click on Mac; right-click on Windows) and choose an option (described below) in the Snap submenu.

4 If you chose Parallel or Perpendicular, a reference line appears. Move the mouse and then click to set the reference line.

- For the Parallel option, a dialog box appears. You can accept or change the indicated offset from the object, and then click OK to continue.

5 Move the pointer to where you want to start drawing. Depending on the tool you are using, either drag to draw an object, or click to set the points of the object.

Note: Objects that should be two-dimensional might appear one-dimensional if you try to draw using certain Snap options. If you snap a rectangle to a line using the Included option, for example, two opposite corners of the rectangle will snap to the line. If the line is vertical or horizontal, the rectangle will appear as a line.

Snap submenu options

You can choose the following options from the Snap submenu in the context menu. To choose a Snap option, make sure the pointer is on the object or the object side that you want to use as a reference, then open the context menu and choose an option in the Snap submenu.

Parallel Lets you set a reference line parallel to a line or the side of an object. After selecting this option, move the mouse to position the reference line, then click to set it. In the dialog box that appears, you can enter the distance you want the reference line to be offset from

the object. Click OK to continue. Begin drawing and the object will snap to the reference line.

Perpendicular Lets you set a reference line perpendicular to a line or the side of an object. After selecting this option, move the mouse to position the reference line, then click to set it. Begin drawing and the object will snap to the reference line.

Tangent Lets you set a reference line tangent to a circle, an oval, or an arc. After selecting this option, move the mouse to position the reference line, then click to set it. Begin drawing and the object will snap to the reference line.

Included Snaps an object's start and end points to the outline of an object or to a line. For example, you can use this option to snap the bounding box of a circle to the inside of a rectangle.

Center Snaps the first point you draw to the center of an object or a line.

Vanishing Point Snaps the first point of an object to the document's vanishing point. If you draw with the Line tool, the line will snap to the vanishing point and run to the location of the pointer when you begin dragging.

✔ Tip

You can draw perspective lines with the Vanishing Point option, and make the lines into alignment guides with the Object > Make Guide command.

There is one global vanishing point in a document. The vanishing point is used by the commands in the Effects > Perspective submenu as well as the Snap > Vanishing Point command. The default vanishing point is at ruler coordinates 0,0. You can use the Effects > Perspective > Vanishing Point command to apply perspective to selected objects and establish the vanishing point. Using the 1 Side and 2 Sides commands will also affect the location of the document's vanishing point.

Drawing by numbers

Several drawing tools give you the option of entering dimensions to draw objects precisely. This method can be easier than dragging the mouse and watching data in the Status bar to draw objects to precise dimensions.

You can enter dimensions when you use the Oval, Arc, Rectangle, Rounded Rectangle, and Line tools. With these tools, you can still drag the mouse to draw interactively. Or, just click in your document. When you click, a dialog box appears. You can enter the width, height, or other values, and then click OK to draw the object.

Note: You can also establish precise dimensions and locations for any object in a document by using the Object Specs palette.

To draw by numbers

1 Select a drawing tool. You can enter dimensions with the Oval, Arc, Rectangle, Rounded Rectangle, and Line tools.

2 Click in the document where you want to place an object.

3 A dialog box appears.

- When you create ovals, rectangles, and rounded rectangles, a point on the object's bounding box will be at the point you clicked in the document. To select the point, click a handle in the bounding box icon. To center an oval where you clicked in a document, for example, click the center handle in the bounding box illustration.
- When you create arcs, the center of the arc will be at the point you clicked in the document.

4 Enter dimensions or other values in the dialog box.

Ovals and rectangles: Enter height and width values. For rounded rectangles, also enter the corner radius.

Lines: Enter the distance and angle from the point you clicked to the second point. Or, enter the horizontal (X) and vertical (Y) distance to the second point.

Arcs: Enter the width and height, the starting point in degrees, and the angular length of the arc.

5 Click OK to draw the object.

Drawing with EasyShapes

You can draw all kinds of shapes, including arrows, flow chart boxes, dialog balloons, symbols, and banners, using EasyShapes™.

A wide variety of EasyShapes are available from the EasyShapes toolbar. This toolbar is in the Object Tools toolbar in the toolbox.

Using EasyShapes is as simple as selecting a shape from the EasyShapes toolbar and dragging in your document. After you draw EasyShapes, you can type text inside them. You can apply properties to EasyShapes as you would any vector objects.

Adding text

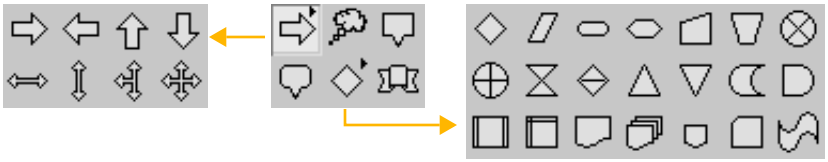
EasyShapes are especially useful because they can contain text. Many are designed with “padding” (space) between the text and the object outlines. Text wraps inside these EasyShapes without touching the edges. If you use EasyShapes to create things like organizational charts and process diagrams, you don’t have to create separate text objects to enter text into your diagrams.

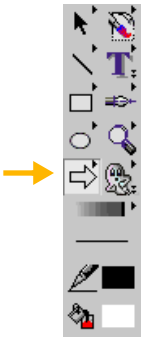
Ways to enter and edit text in EasyShapes are described later in this section.

Smart editing

Some EasyShapes have “smart” edit modes. For example, an EasyShapes arrow can be edited by dragging handles that adjust the size and shape of the arrow head and arrow body. An EasyShapes “thought balloon” has a handle that extends the balloon without distorting the overall shape.

You can select EasyShapes toolbars from the main EasyShapes toolbar in the Object Tools toolbar





EasyShapes tool

To draw EasyShapes

1 Select an EasyShapes tool. To display the tools, open the Object Tools toolbar, then open the EasyShapes toolbar to select an EasyShapes tool. Some EasyShapes are contained in toolbars that pop out from the main EasyShapes toolbar.

Note: You can drag an EasyShapes toolbar away from the toolbox to make it a floating palette. You can dock these palettes on the Docking bar.

2 Place the pointer in the document where you want to begin drawing and drag diagonally. As you drag, you define a bounding box for the object.

3 The new object appears with the current fill ink, pen ink, and stroke properties, and is selected.

4 To enter text in the object:

- If the EasyShapes tool you used is one that creates a preset text object, an insertion point appears inside the shape. Type the text. When you finish, press Esc to end text edit mode.
- If the EasyShapes tool you used does not create a preset text object, Canvas will create a text object if you begin typing. When you finish typing, press Esc.

Text you type into EasyShapes appears with the current character and paragraph settings and text color.

5 To deselect the EasyShapes object, press Esc.

Using text in EasyShapes

When you draw some EasyShapes, an insertion point appears inside the object so you can type text into it. Simply begin typing and the text will wrap to the next line when it reaches the defined text border.

Some shapes do not have preset text objects. However, you can type text into all EasyShapes. Simply begin typing after you draw an object. When you finish typing, you can adjust the margins and size like you would any text object.

When you enter text in EasyShapes (whether they contain preset text objects or not), the resulting text objects are dependent on the EasyShapes. The text objects and EasyShapes behave as a group, though they are not actually grouped. When you drag EasyShapes, their text objects move with them. However, you can select and apply attributes to EasyShapes and their text objects separately.

✔ Tip
When an object is selected, its object type is shown in the Object Information field in the Status bar.

To apply attributes or commands, you must select the object you want to affect — the EasyShapes object or its text object. When EasyShapes have preset text objects with padding, you can click the space between the text object and the EasyShapes object edge to select the EasyShapes object. When text objects and EasyShapes are the same size, it can be difficult to select EasyShapes with the Selection tool. Instead, you can use the Select submenu in the context menu to select objects, or use another selection method.

Editing EasyShapes

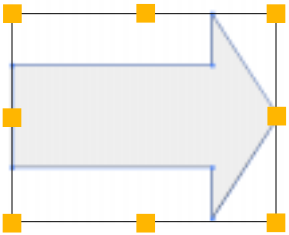
You can edit EasyShapes by selecting them and choosing Object > Edit > Object. You can also double-click EasyShapes, or select them and choose Edit in the context menu to go into edit mode.

Editing methods vary for EasyShapes. Some have special editing handles and others can be edited as regular vector paths.

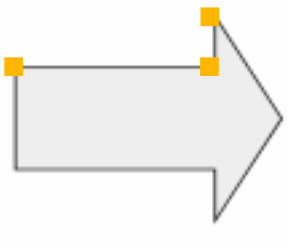
EasyShapes handles For some EasyShapes, including arrows, special editing handles appear in edit mode. The handles let you easily adjust the shape of the object. Drag a handle to modify the shape. When you finish, press Esc to leave edit mode.

Regular paths EasyShapes that do not have special editing handles are like regular vector paths when you put them in edit mode. You can use path-editing techniques to modify these shapes by adding, deleting, and moving the anchor points and segments that define a path.

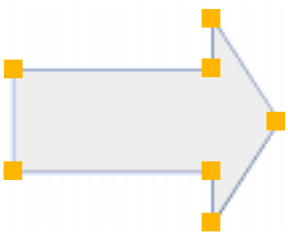
Object editing You can modify EasyShapes when they are selected (not in edit mode) like any other objects. You can drag selection handles to change the bounding box shape. You can apply commands such as Rotate, Flip, and Freeform. You can apply ink and stroke attributes, as well as SpriteLayer transparency and SpriteEffects.



Selected



EasyShapes edit mode



Path edit mode

Converting EasyShapes to paths

EasyShapes that have special edit modes can be converted to paths. For example, if an arrow displays special EasyShapes editing handles in edit mode, and you want to edit its segments and anchor points, you can convert it to a path.

To convert an object, select it and choose Object > Path > Convert to Paths. This converts the object to a standard vector object; special EasyShapes editing features will be removed. You can then choose the Edit command to edit the object's path in edit mode.

Using specialized drawing tools

Several specialized drawing tools let you quickly create complex shapes in Canvas. Drawing grids, stars, polygons, concentric circles, cubes, spirals, and Smart Lines is as easy as drawing rectangles.

The tools shown in the following table create specialized vector objects.

Use this tool	to draw this
Concentric Circles	Nested circles or ovals
Cube	Square and rectangular boxes in isometric views
GridMaker	Rows and columns of boxes
Multigon	Stars and complex polygons
Smart Lines	Linked lines for flow charts, diagrams
Spiral	Lines in spiral patterns

In most cases, you can treat these vector objects like all others. You can move them and resize their bounding boxes. They can be rotated, flipped, and scaled. You can apply strokes, pen inks and fill inks to them. However, most of these objects are compound objects, which means that they are made up of separate objects. Because of this, some inks and other effects appear differently when applied to these objects than to simple vector objects like rectangles and ovals.

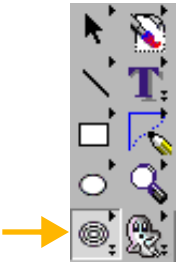
Some of the specialized objects have unique editing features. For example, you can twirl the points of a star, star outline, or framed star by dragging special handles. You can also specify the number of points of a star, the number of rows and columns in a grid, the number of rings in concentric circles, and the number of revolutions in a spiral. You can draw a cube with or without a perspective effect. Methods for drawing and modifying all of the specialized objects appear with the individual tool descriptions on the following pages.

You can also convert most specialized vector objects to paths. Doing this lets you edit the objects' anchor points and segments. For more information, see "Converting objects and text to paths" on page 16.21.

Concentric circles

The Concentric Circles tool draws nested rings of ovals or circles. You can set the number and spacing of the rings before or after you draw concentric circles.

To use the Concentric Circles tool



Concentric Circles tool

1 Select the Concentric Circles tool.

2 Drag to draw a bounding box that defines the size of the concentric circles object. A rectangular bounding box creates concentric ovals; a square bounding box creates true circles.

3 When you finish, the concentric circles object is selected.

◆ **To draw true concentric circles:** Press Shift to constrain the bounding box to a square when you drag the Concentric Circles tool.

◆ **To draw from the center:** Press Option (Mac) or Ctrl (Windows) to draw from the center outward with the Concentric Circles tool. Press Shift also to draw perfect circles outward from the center.

To edit concentric circles

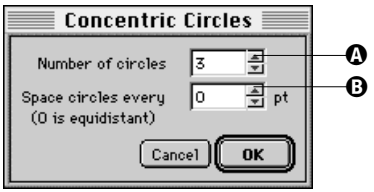
You can change the number of rings of an existing object drawn with the Concentric Circles tool.

1 Double-click the Concentric Circles object. The Concentric Circles dialog box appears.

2 Adjust the settings as described in the next section. Click OK to close the dialog box and apply the settings to the object.

To configure the Concentric Circles tool

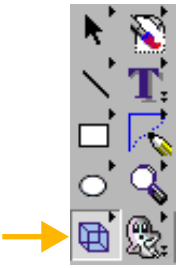
Before you draw an object, you can double-click the Concentric Circles tool icon to open the Concentric Circles dialog box. Use the dialog box to configure the Concentric Circles tool before you draw with it, or to change the configuration of an existing concentric circles object.



A Type the number of circles you want the tool to draw.

B Type the number of points between each circle. Type zero to evenly space the circles.

Drawing cubes



Cube tool

The Cube tool draws 2D cubes using the current object attributes.

To draw a cube

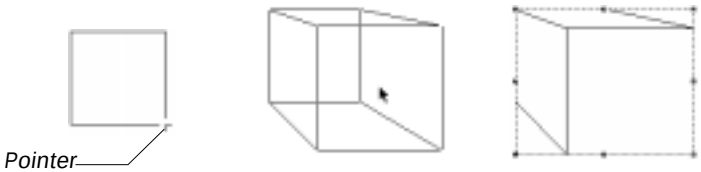
1 Select the Cube tool.

2 Drag to draw the rectangular back face of the cube. To constrain the faces of the cube to perfect squares, hold down the Shift key while drawing the back face.

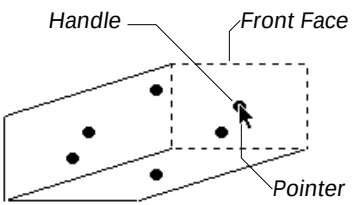
3 Release the mouse button when the back face of the cube is set as you want; an unanchored cube then follows the pointer.

4 Position the cube so it appears at the length and angle you want, and then click to anchor it.

- To give the cube a perspective effect by enlarging the front face, hold down the Command key (Mac) or the Alt key (Windows) before you anchor the cube.



Drawing the back face of the cube *Positioning the front face of the cube* *Finished cube selected*

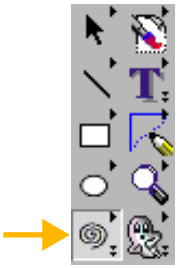


A cube in edit mode

Editing cubes

To change the height or width of a cube, click the cube to select it, and then drag a corner handle. To reshape a cube by moving a side, double-click the cube to place it in edit mode. A black circular handle appears on each of the six faces of the cube. When you point to a handle, the outline flashes on the corresponding side of the cube. You can drag the handle to move that side. Click outside the cube to leave edit mode.

Drawing spirals



Spiral tool

The Spiral tool draws a smooth, spiraling curve. You can set the number of spiral turns before or after you draw a spiral object.

1 Select the Spiral tool in the Object tools toolbar.

2 Drag diagonally to specify the size of the spiral curve. To create a circular spiral, press Shift and drag.

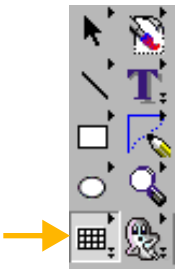
To configure the Spiral tool

Double-click the Spiral tool to open the Spiral dialog box. Set the number of spirals and click OK.

Set the number of turns (maximum 35) in the spiral

◆ **To change the number of spirals in an object:** Double-click the object to open the Spiral dialog box. Change the number of spirals and click OK.

Drawing grids



GridMaker tool

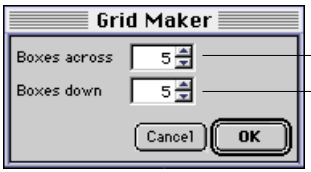
The GridMaker tool draws grids of rows and columns. You can set the number of rows and columns before or after you draw a grid object.

1 Select the GridMaker tool in the toolbox.

2 Drag diagonally to define the grid's bounding box. To create a square grid, press Shift and drag.

To configure the GridMaker tool

Double-click the GridMaker tool to open the GridMaker dialog box. Set the number of boxes comprising the grid and click OK.



Set the number of columns

Set the number of rows

If you set Boxes Across to 1, the grid has no vertical lines. If you set Boxes Down to 1, the grid has no horizontal lines.

◆ **To change the configuration of a grid object:** Double-click the grid object to open the GridMaker dialog box. Change the number of boxes and click OK.

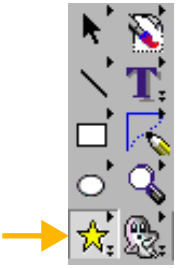
To separate a grid into lines

You can adjust the individual lines that comprise a grid by converting it to a path and then ungrouping it.

1 Select the grid object and choose Object > Path > Convert to Paths.

2 Choose Object > Ungroup. The grid object separates into individual lines.

Drawing with the Multigon tool



Multigon tool

You can use the Multigon tool to draw all types of multi-sided objects, including triangles, hexagons, pentagons, octagons, stars, circular starbursts, and similar shapes. To set the number of sides and the style of a multigon, configure the Multigon tool before you draw.

◆ **To draw with the Multigon tool:** Select the Multigon tool. Drag diagonally to define the multigon's bounding box. To make the bounding box square, press Shift and drag.

◆ **To configure the Multigon tool:** Double-click the Multigon tool icon. In the dialog box, set the multigon style and other options (described next) and click OK.

Style	Appearance
Frame	No interior lines
Framed Star	Combination of Frame and Star objects
Spoke	No sides connecting the spoke points
Star	Points connected by interior lines
Star Outline	Multiple points with no interior lines
Wheel	Combination of Frame and Spoke objects

Multigon dialog box

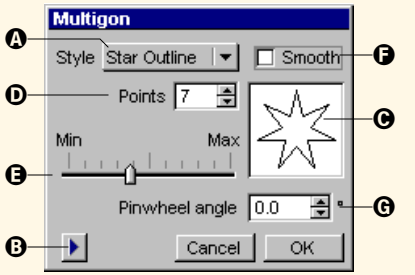
The available options depend on the selected multigon style.

Ⓐ Choose a preset style in the pop-up menu.

Ⓑ Click to choose a custom style or to save or delete one.

Ⓒ Preview shows the style and other settings.

Ⓓ For stars, framed stars, and star outlines, enter the number of star points from 3 to 100. For other styles, enter the number of sides from 3 to 100.



Smooth option (left) and Pinwheel Angle (right)

Ⓔ Drag the slider to change the interior area of stars, framed stars, and star outlines.

Ⓕ Turn this option on to smooth the object's angles.

Ⓖ For stars, enter a value of more or less than 0 degrees to bend the points. Negative values bend the points counter-clockwise.

Saving custom Multigon settings

You can save Multigon tool settings so you can use them later. In the Multigon dialog box, press the triangle at the lower-left to save, select, and delete custom multigon styles.

◆ **To save multigon settings:** Choose Save Shape. Type a name for the shape and click OK. The name appears in the pop-up menu.

◆ **To delete a style:** Choose Delete Shape. In the dialog box, choose the shape name you want to delete and Click OK. You can't delete any of the built-in styles.

Note: When you save and delete styles, they remain saved or deleted whether you click OK or Cancel to close the Multigon dialog box.

Editing star multigons

You can interactively edit star multigons (framed star, star, and star outline styles) to adjust the twirl and radius of the object's points. The following procedures do not apply to frames, spokes, or wheels.

1 Double-click the star multigon to put it in interactive mode. An outer handle and an inner handle appear on one point of the star.

- To change the length of the star points, drag the outer handle inward or outward from the center of the star.

- To twirl the points, drag the handle clockwise or counter-clockwise.
- To change the position of the inner points, drag the inner handle inward or outward from the center.

2 To end interactive editing, press Enter (Mac) or Esc (Windows), or double-click outside the object.

Connecting objects with Smart Lines

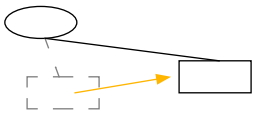
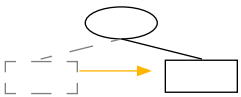
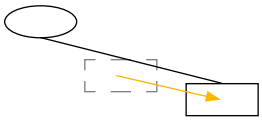
The Smart Lines tool draws dynamic links between objects. Smart Lines are useful for creating organizational charts, flow diagrams, and other illustrations with linked objects.

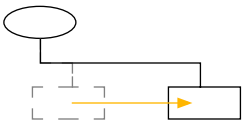
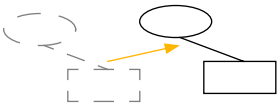
You can use Smart Lines to link one or more objects to a single object. You can draw multiple Smart Lines between objects and you can link Smart Lines to other Smart Lines. When you resize or move a Smart Line, the linked objects move according to the type of Smart Line used.

1 Select the Smart Lines tools in the toolbox. The Smart Lines tool is in a pop-out toolbar with the Line tool.

2 Press the Smart Lines tool to open the Smart Lines palette. You can drag the palette away from the toolbox to keep it open.

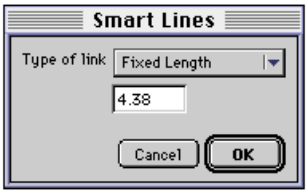
3 Select one of the Smart Lines types in the palette.

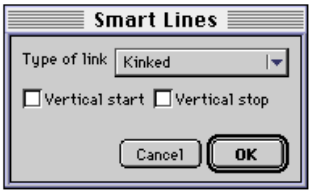
Type	Characteristics	
 *Basic*	Smart Lines change length and angle to maintain connection to the linked objects	
 *Fixed Length*	Maintains a set length and linked objects move to maintain the length	
 *Fixed Angle*	Maintains a set angle and linked objects move to maintain the angle	

Type	Characteristics	
 *Kinked*	Uses only horizontal and vertical segments. Linked objects move to maintain the segments. You can set the first and last segments to always be vertical.	
 *Locked*	Smart Lines do not change length or angle and linked objects move as a group	

4 Drag from one object to another object. When you release the mouse button, Canvas creates the Smart Line.

◆ **To change the type of an existing Smart Line:** Double-click the Smart Line to open the Smart Lines dialog box and choose a different type in the pop-up menu.





Type of link The link types correspond to the icons in the Smart Lines palette.

Length For Fixed Length Smart Lines, you can specify the length of the selected Smart Line by entering a number in this text box.

Fixed Angle For Fixed Angle Smart Lines, you can type an angle in degrees to specify the angle of the selected Smart Line.

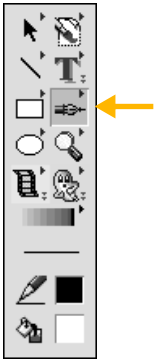
Vertical Start/Vertical Stop For a Kinked link type, you can select Vertical Start to make the Smart Line start with a vertical segment and select Vertical Stop to make the Smart Line end with a vertical segment.

CHAPTER 16

DRAWING AND EDITING PATHS

Path tools let you draw and edit vector object paths of any shape. This chapter explains how to draw paths, edit paths, and edit curves segments using the control points that define them.

Drawing with the Path tools



You can use the Curve, Polygon, Freehand, and Auto Curve tools to draw vector objects as open or closed paths. When you use the Curve, Polygon, and Auto Curve tools, you set anchor points to define path segments. With the Freehand tool, you simply drag to draw a path. The Reshape and Push tools let you edit paths.

The Polygon tool draws paths with straight segments. The Curve and Auto Curve tools can draw paths with straight and curved segments. Paths drawn with the Freehand tool generally are made of curved segments based on the movement of the pointer.

When you draw with the Path tools, Canvas uses the current pen ink, fill ink, and stroke settings for the vector objects you create.

Path tools

Curve, Freehand, Polygon, Auto Curve, Reshape, Push

Drawing polygons

When you use the Polygon tool to draw an object, you set anchor points that define a path of straight line segments. As with any path object, you can later make the straight segments curved. For editing information, see “Editing object paths” on page 16.7.

1 Select the Polygon tool in the Path Tools toolbar.

2 Click to set the first anchor point, shown as a small square.

3 Click where you want to place the second anchor point.

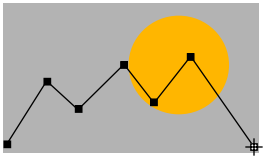
- You can press the pointer to display the segment, drag to position it, and then release the mouse button.
- To constrain placement of a segment to 45-degree intervals, press Shift while drawing the segment.

4 Repeat the last step to draw more segments. To remove the last segment you drew, press Delete.

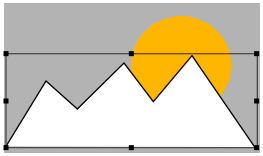
5 To complete the polygon:

- For an open polygon, after you place the last anchor point, press Enter (Mac) or Esc (Windows), or double-click to place the last anchor point.
- For a closed polygon, click the starting anchor point, and then press Enter (Mac) or Esc (Windows), or double-click the starting anchor point.

Click to place first point



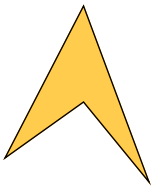
Click additional points, double-click last point



Completed polygon (selected)

Polygon finished with solid black fill ink

Smoothing polygons



Polygon

Smoothed

You can use the Smooth command to convert a polygon — a path made of straight segments — to a path with smooth curves. You can smooth any paths made of straight segments, including rectangles and paths drawn with the Curve tool, as long as they have only straight segments. The Smooth command is a convenient way for those who haven't mastered curve drawing to create smooth shapes.

◆ **To smooth a polygon:** Select the polygon and choose Object > Path > Smooth. Canvas converts the polygon's corner points into smooth points, which changes the path's straight line segments into curved segments. For more information about editing smooth points and curved segments, see "Reshaping paths by editing anchor points" on page 16.18.

You can use the Unsmooth command to restore the straight segments of a polygon that was smoothed with the Smooth command. However, you can use Unsmooth only if the smoothed polygon wasn't edited after it was smoothed.

◆ **To unsmooth a smoothed polygon:** Select the smooth polygon and choose Object > Path > Unsmooth. Canvas restores the polygon's straight line segments.

Drawing freehand paths

You can draw objects with the Freehand tool by simply dragging the pointer. The Freehand tool creates paths with curved segments based on the movement of the pointer.

Paths drawn with the Freehand tool

As with any path object, you can later edit the path and reshape its segments; see "Editing object paths" on page 16.7.

◆ **To draw a freehand path:** Select the Freehand tool in the Path Tools toolbar. Position the pointer where you want the path to begin. Drag to create a path. To create a closed path, release the mouse button when the pointer is on the starting point.

◆ **To set the curve tolerance:** You can tell Canvas to use relatively more or fewer anchor points to represent a curve. Double-click the Freehand tool to open the Freehand Tolerance dialog box. In the text box, type a value from 1 to 5, where a value of 5 tells Canvas to use as few anchor points as possible.

If you have difficulty drawing smooth curves with this tool, try lowering the speed setting in your system's Mouse (or other pointing device) Control Panel. See your system documentation for information on these settings.

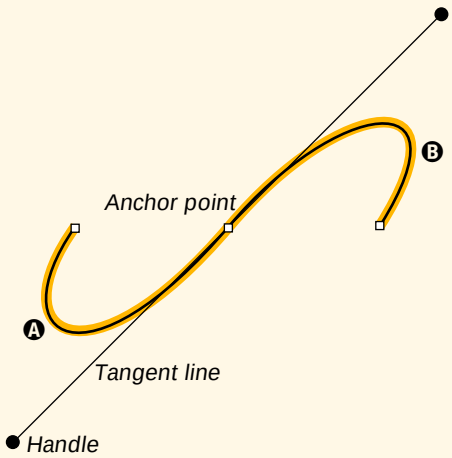
Drawing curved paths

The Curve tool is the most versatile of the path tools. You can use it to draw precise paths with straight and curved segments. When you draw curved segments, you place an anchor point and a tangent line at the start of each segment. The position and length of the tangent line controls the shape of the curved segment.

Defining curves

Anchor points determine where path segments (A and B) start and end. Tangent lines at each anchor point control the shape of curve segments.

A tangent line affects the adjacent segment. The tangent line of a segment's other anchor point (not shown) also affects the segment's shape.



You can also draw straight paths by clicking with the Curve tool, similar to the way you use the Polygon tool; see "Drawing polygons" on page 16.1.

To draw a path with curved segments

1 Select the Curve tool in the toolbox.

2 Where you want the path to begin, do one of the following:

- Click to set the anchor point and, before releasing the mouse button, drag to position its tangent line.
- Click to set the anchor point without creating a tangent line.

When you release the mouse button, the anchor point appears.

3 Where you want the segment to end, do one of the following:

- Drag to simultaneously set an anchor point and position a tangent line.
- Click to set the anchor point without creating a tangent line.

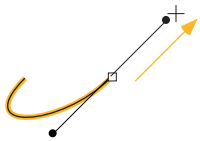
This finishes the first curve segment.

4 Repeat the previous step to draw additional segments.

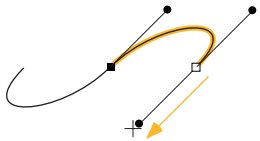
5 To complete the path, use one of the following options:

- For an open path, after you place the last anchor point, press Enter (Mac) or Esc (Windows). You can also double-click to place the last anchor point.
- For a closed path, click the starting anchor point, and then press Enter (Mac) or Esc (Windows). You can also double-click the starting anchor point.

To draw the curve shown in gray, press and drag to set the first anchor point and tangent line.



Press and drag to set the next anchor point and tangent line. The first segment (highlighted) grows as you draw out the tangent line.



Press and drag to set the third anchor point; the second segment (highlighted) grows as you drag the tangent line.

Shaping and editing segments as you draw

As you draw with the Curve tool, you can use modifier keys to constrain and edit the path segments.

◆ **To place an anchor point at a 45-degree interval relative to the previous one:** Press Shift as you set the second anchor point.

◆ **To create a straight segment:** Press Option (Mac) or Ctrl (Windows) as you click to set the segment's endpoint.

◆ **To remove the last segment:** Press Delete. You can continue to remove segments in the reverse order you created them, until you delete the entire object.

◆ **To constrain a tangent line to 45-degree increments:** Press Shift as you drag the tangent line.

Drawing auto curves

The Auto Curve tool draws and edits curved paths. This tool makes it easy to draw smooth curves because it automatically curves path segments as you simply click or drag the mouse.

When you use the Auto Curve tool, you don't have to position tangent lines that control the shape of curves. Instead, you simply click

to set anchor points and smooth curve segments appear. You can drag the mouse to see how the path will curve before you set each anchor point.

Like the other path tools, you can use the Auto Curve tool to draw new paths and to add segments to paths as you edit them.

To use the Auto Curve tool

1 Select the Auto Curve tool. The tool is in the Path toolbar in the toolbox.

2 Click in the drawing area to set the beginning point of a path. If you are editing a path, click to set the path's next anchor point.

3 Move the mouse and click to set the second anchor point. A straight segment connects the first and second points.

- You can press Shift when you click to snap the first segment to a 45-degree angle.

4 To set the third anchor point, do either:

- Click to set the anchor point. This completes a smooth curve from the first anchor point to the new anchor point.
- Hold down the mouse button and move the mouse to preview the curve. You can see the segments bend as you move the pointer. Release the mouse to set the new anchor point.

5 Repeat the previous step to continue adding anchor points to the path. You can also select other path tools (Curve, Polygon, Push, and Reshape) to continue adding segments to the path.

6 To finish drawing the path, do either:

- Press Esc.
- Double-click to set the final anchor point. You must double-click on the starting point to complete a closed path.

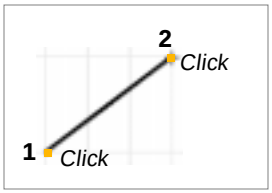
When you finish drawing, the path object is selected. Canvas applies the current pen ink, fill ink, and stroke to the path. You can use path editing tools and techniques to modify the path.

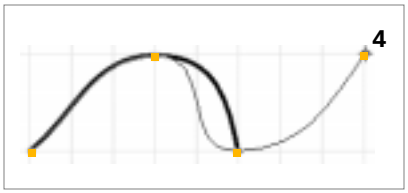
Drawing Auto Curves

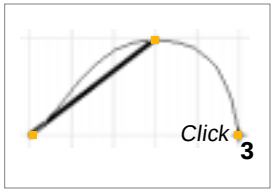
With the Auto Curve tool, click to set anchor points 1 and 2 to start a path.

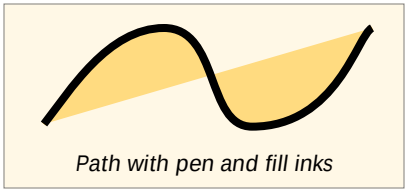
Click to set point 3. The first and second segments bend to form a smooth curve.

You can click to set more anchor points and draw additional curved segments. Press Esc to finish the path.









Editing object paths

Most vector objects in Canvas are paths. Whether you draw with Path tools (Curve, Freehand, Polygon, Auto Curve) or other shape tools (Rectangle, Oval, Line, Arc), you create paths, and you can use the same path-editing techniques to modify them.

Of course, you can also change a path object by using handles on the bounding box when the object is selected (see “To resize an object’s bounding box” on page 15.4).

Displaying inks and strokes

Canvas has two display modes you can use when you edit paths. You can display the fill inks, pen inks, and stroke on paths, or you can hide the attributes while you work in path edit mode.

◆ **To display attributes on paths:** Be sure that the command Object > Path > Live Curve Editing is selected and has a check mark in the menu. To hide attributes in path edit mode, select the command again.

You can change the path-editing display at any time. To use the Live Curve Editing command, objects do not have to be selected or be in path edit mode.

Editing paths with the Reshape tool

The Reshape tool provides an easy-to-use, interactive way to edit paths. Using the tool is as simple as dragging the mouse. The tool will reshape the parts of a path that you drag over.

To use the Reshape tool

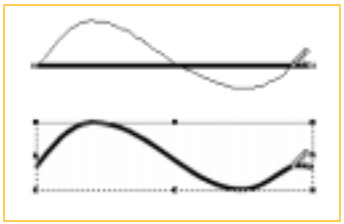
1 Select an object to edit. To use the Reshape tool, one vector object can be selected or be in path edit mode.

2 Select the Reshape tool. The tool is in the Path toolbar in the toolbox.

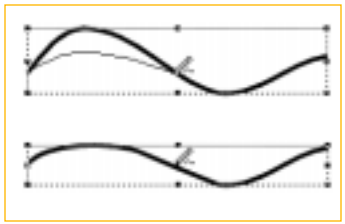
3 Move the pointer close to the path and a reshape symbol (~) will appear at the pointer. The symbol indicates that you can drag to reshape the path.

4 Drag to draw a new segment in the shape you want. When you release the mouse, Canvas applies the segment you drew to the path.

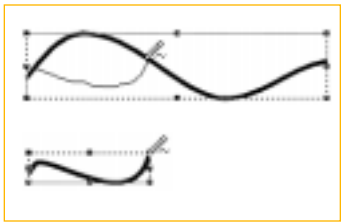
5 After you use the Reshape tool, the object remains selected or in edit mode. You can continue to use the Reshape tool to modify the path.



Reshaping a straight line into a curved path

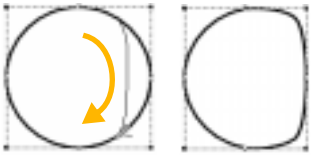


Changing the shape of a curve segment

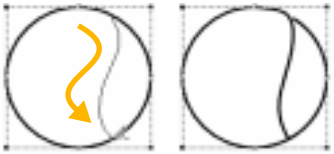


Dragging to reshape a segment and shorten the path

Reshape techniques



Dragging in one direction reshapes the circle



Changing direction adds a segment and opens the path

When you drag the Reshape tool, the direction that you drag affects the way the tool modifies the path.

If you drag in one direction and finish on the path, the tool will reshape the path to match the line that you draw.

If you finish dragging away from the path, the Reshape tool can create a new segment that opens a closed path. If you drag the tool on an open path, you can draw a new segment that closes the path. You can also drag the tool so it reshapes part of a path and removes the rest.

In general, if you drag in one direction along a path, the tool will change the shape of a segment without removing the rest of the path or opening the path. For example, if you follow the curve of a circle as you drag from the top toward the bottom, you can make the circle narrower. If you drag from one part of the circle and change direction, you can create a segment that changes the circle to an open path.

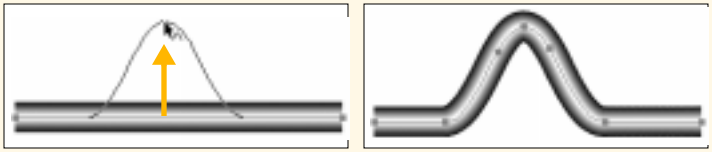
Experimenting with the Reshape tool is the best way to learn the various techniques you can use to modify paths.

Editing paths with the Push tool

The Push tool provides an alternative way of editing paths. The tool lets you form curves without having to edit anchor points and tangent lines. The Push tool is useful for people who are not experts at editing paths and who want to simply drag on path segments to bend them into shape.

The Push tool bends a path where you “push” (drag) on it. Imagine that a rope is laid out straight on a table. If you push your finger against the middle of the rope, you form a curve at that point. Using the Push tool has a similar effect on a straight segment of a path.

Dragging a path with the Push tool bends the path. The Range setting controls the width of the effect.



You can adjust the range of the Push tool effect. A smaller range results in sharper bends, and a larger range results in smoother bends.

To use the Push tool

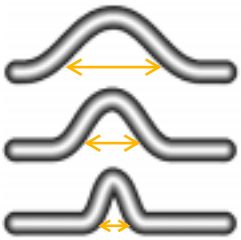
1 Select an object to edit. To use the Push tool, one vector object can be selected or be in path edit mode.

2 Select the Push tool. The tool is in the Path toolbar in the toolbox. If you want to change the Range of the Push tool, double click the tool's icon. Enter a value in the text box and click OK.

3 Drag on the path where you want to push a segment into a curve shape. When you release the mouse, Canvas reshapes the path.

4 After you use the Push tool, the object remains selected or in edit mode. You can continue to use the Push tool to modify the path.

Push tool Range



Range (top to bottom): 3 in., 2 in., 1 in.

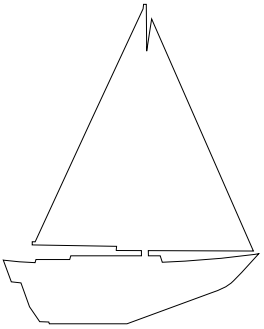
To change the Range of the Push tool, double-click the tool icon in the toolbox. A dialog box appears. The Range value is expressed in the rulers' measurement units.

To specify the Range value, type a number in the Range text box. You can type an abbreviation for the measurement units following the range value. For example, to set the Range to 10 picas when the ruler units are inches, enter "10p" in the text box. Click OK to implement the new setting.

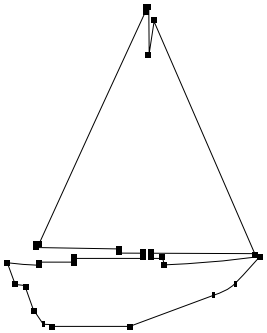
Depending on the Range setting, editing a path with the Push tool can add or remove anchor point from the path. For example, when the Range value is small, the Push tool is likely to add anchor points where you push a path. However, when the range is large and a path is not straight, the Push tool can smooth out a part of the path, which can result in fewer anchor points.

Working with objects in edit mode

To edit points and segments of a path, you place the path object in edit mode. In edit mode, a path's anchor points appear as small squares along the path. Every path has at least two anchor points.



Object path drawn with Curve tool



Object in edit mode, with anchor points visible

When an object is in edit mode, you can select one or more anchor points. You can even select anchor points and segments on more than one object at once, as long as the objects are in edit mode.

To place an object in edit mode

Do one of the following to place a path object in edit mode:

- Double-click the object.
- Select the object and choose Object > Path > Edit Path or choose Object > Edit > Object.
- Select the Selection tool after placing an anchor point while you are drawing a path.

◆ **To place multiple objects in edit mode:** You can place two or more objects in edit mode by selecting them, then choosing Object > Path > Edit Path.

◆ **To return from edit mode:** When you finish editing an object, double-click outside the object, or press Enter (Mac) or Esc (Windows) to leave edit mode.

Editing special vector objects

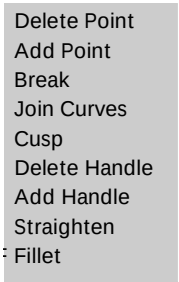
Some Canvas drawing tools create specialized objects. When you double-click one of these objects to place it in edit mode, Canvas displays special editing handles or configuration options, rather than the anchor points and segments of a regular path object.

The tools that create special vector objects are the Concentric Circles, Grid Maker, Multigon, Spiral, and EasyShapes tools. Also, when you

modify objects with the Envelope or Extrude commands, Canvas creates specialized objects.

If you want to use path-editing techniques to modify these objects, you can convert them to paths. This usually produces a group of objects. After you ungroup these objects, you will have regular paths that can be edited using the techniques in this chapter. You can also convert text characters to paths so that you can edit the shapes of individual characters. For more information, see "Converting objects and text to paths" on page 16.21.

Editing paths with the context menu



The path-editing Context menu

When a path is in edit mode, you can use the context menu to quickly add, delete, and change anchor points and tangent lines. To see this menu, Ctrl-click (Mac) or right-click (Windows) with at least one object in path edit mode. The available options vary depending on the location of the pointer. Each option is described next.

Delete Point Available when the pointer is on an anchor point and appears as a crosshair. Removes the anchor point from the path, and connects the adjacent anchor points with a new segment.

Add Point Available when the pointer is on a path segment and appears as a gray arrowhead. Inserts an anchor point with a tangent line where you click.

Break Available when the pointer is a grey arrowhead on a path. Splits the path segment at that location, and adds anchor points to the ends of the resulting segments.

Join Curves Available when you select two anchor points that are not connected. Connects the selected points with a straight segment.

Cusp Available when the pointer is on a tangent line handle or an anchor point. On anchor points, this option deletes the point's tangent lines. On tangent line handles, this option makes the path either smooth or cornered at the anchor point. To be smooth, the anchor point must have both sides of a tangent line. When smooth, the halves of the tangent line are always 180 degrees from each other and rotate around the anchor point like a propeller. When the anchor point is a corner, the tangent line segments can move independently around the anchor point, like the hands of a clock.

Delete Handle Available when the pointer is on a tangent line handle and appears as a crosshair. Removes the handle and the effects of the tangent line on the path.

Add Handle Available when the pointer is on an anchor point and there are fewer than two tangent line segments at the anchor point. Adds one or two tangent line segment to the anchor point.

Straighten Available when the pointer is on a path segment and appears as a gray arrowhead. Makes the path segment straight by removing tangent lines from the segment's anchor points.

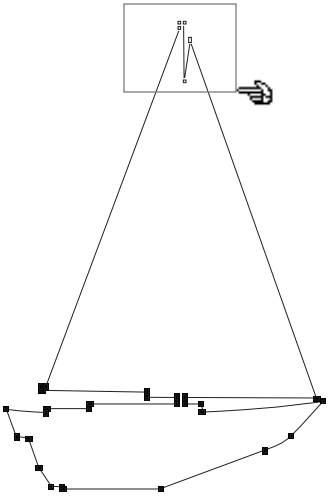
Fillet Available when the pointer is on a corner point (with less than two tangent lines between two segments. Fillet creates a radius corner between the two segments. When you choose Fillet, a dialog box appears. Enter a radius value in the text box and click OK. The larger the radius value, the larger the curved segment. A message appears if the radius value is too large for the angle of the segments.

Selecting anchor points and segments

When you edit paths, you need to select particular anchor points or segments before you can delete, move, or reshape them. Before you can select anchor points and segments, a path object must be in edit mode (see "To place an object in edit mode" on page 16.11).

When a path is in edit mode and you point to an anchor point with the Selection tool, the pointer becomes a crosshair. When you point to a segment, the pointer becomes a gray arrowhead.

You can select points in more than one path. When you move any selected point, all points in the selection move the same way. (If all the points in a path are selected and you drag one, the entire path moves.) This also works for segments belonging to separate paths.



You can use the Selection tool to select multiple anchor points.

◆ **To select anchor points and segments:** With the path object in edit mode, click an anchor point or segment to select it. To select multiple points or segments, use the Selection tool to drag a selection box around them, or Shift-click each point or segment.

◆ **To select all anchor points:** With the path object in edit mode, choose Select All in the Edit menu.

◆ **To select parts of separate paths:** Place the paths in edit mode, and Shift-click the point or segments.

When an anchor point is selected, it changes from a solid to hollow square. If the anchor point has tangent lines, they appear when the anchor point is selected. All tangent lines that affect the segments that touch the selected anchor point also appear. When you select a segment, the anchor point at each end is selected.

Adding and deleting points and segments

If a segment's anchor points are too far apart for you to adjust the shape as needed, you can add more. If you create or add more anchor points than you need, you can delete unnecessary ones.

Keep in mind that the more points on a path, the more complex and system resource-intensive it becomes. In particular, too many anchor points can cause printing problems. It's best to use the fewest possible anchor points placed as far apart as possible to create a path.

◆ **To add an anchor point:** With an object in edit mode, Ctrl-click (Mac) or right-click (Windows) a segment to which you want to add an anchor point. In the path Context menu, choose Add Point. You can also Option-click (Mac) or Ctrl-click (Windows) a segment to add a point.

◆ **To delete an anchor point:** With an object in edit mode, Ctrl-click (Mac) or right-click (Windows) the point you want to delete. In the path Context menu that appears, choose Delete Point. You can also Option+Shift-click (Mac) or Ctrl+Shift-click (Windows) a point to delete it, or select points and press the Delete key.

◆ **To delete a segment:** Select the anchor points at each end and press Delete. Deleting a segment of a closed path does not open the path; the remaining segments are joined and the path remains closed.

To add segments to an open path

You can add segments to the end of an open path using the Curve tool or Polygon tool.

1 With the object in edit mode, select the endpoint where you want to add a segment.

2 Select the Curve tool (to add straight or curved segments) or the Polygon tool (to add straight segments) in the toolbox.

3 Click to add a straight segment beyond the selected endpoint. With the Curve tool, you can add a curved segment by pressing the mouse button to establish the new anchor point and then dragging to position the tangent line.

4 To add additional segments, repeat the previous step. When you finish, press Enter (Mac) or Esc (Windows) to leave edit mode.

Closing and opening paths

A closed path is one that starts and ends at the same anchor point. An open path has separate starting and ending points. You can close an open path by letting Canvas create a new segment to join the path's two endpoints. You can open a closed path by splitting the path.

◆ **To close an open path:** With the path in edit mode and the Curve or Polygon tool selected, click one of the endpoints. Canvas closes the path by connecting the endpoints with a new segment. If the adjacent segments are curved, the new segment follows the curve.

◆ **To open a closed path:** With the object in edit mode, Ctrl-click (Mac) or right-click (Windows) an anchor point or segment to open the path Context menu. In the menu, choose Break; Canvas inserts segment end points to open the object at that location.

Using the Scissors tool to open and divide paths

Scissors tool 

You can use the Scissors tool to open a closed path and to divide a path into two objects. Splitting a path opens the path at the point where the scissors clip the path.

1 Select the Scissors tool in the toolbox. The pointer changes to a pair of scissors.

2 Point to the path where you want to split it (you don't need to select the object first). The pointer becomes a crosshair when it is on a point or segment that can be split.

3 Click the path when the crosshair is displayed. Canvas adds two endpoints where you click the path and the path opens.

4 If the path is closed and you want to split it into two paths, click the path again where you want to split it.

Dividing objects with the Knife tool

Knife tool 

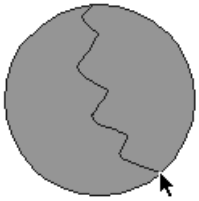
You can divide vector objects into separate pieces using the Knife tool. The Knife tool is located in the Effects toolbar.

When you drag the Knife tool, it draws a cutting path. If the cutting path divides an object into two parts, the result is two new objects. If the cutting path crosses itself, the area inside the path becomes a new object.

The Knife is similar to the Scissors tool; both tools divide vector objects. The Scissors tool divides an object with a straight line between the two points that you click. The Knife tool slices objects along a freeform cutting path. Therefore, you can use the Knife tool to cut curved edges.

You can use the Knife tool on open and closed vector objects. If you slice one or more open paths, the resulting objects are open paths.

If you slice an open path that crosses itself, the path separates where it crosses itself and where you slice it.



Drag the Knife tool…

…to slice an object

◆ **To use the Knife tool:** Select the Knife tool. Drag in the document to draw a cutting path that intersects the objects you want to divide. The cutting path must intersect at least two points on an object's perimeter. To constrain the path of the Knife tool to 45-degree increments, press Shift as you drag. Release the Shift key to drag freely.

Partial cuts If you stop dragging before the cutting path intersects a second point on an object's perimeter, the cutting path appears but the object stays intact. To use this cutting path to divide the object, you can drag a second cutting path so it intersects the perimeter of the object and the first cutting path. Or, you can intersect the cutting path with other cutting paths to create a closed shape. The part of the object that falls within the closed shape becomes a separate object.

Cutting holes You can cut out pieces of a vector object by dragging inside of the object and creating a closed path. The parts of the object that fall within the closed cutting path become separate objects. To create a closed cutting path, the path must cross itself.

Gradient inks If an object's fill ink is a gradient, and the style is Radial, Directional, Rectangular, or Elliptical, the gradient remains intact across the separated objects. However, if the gradient style is Shape, the gradient fills each divided object separately.

Knife tool options

To configure the Knife tool, double-click the Knife tool icon. In the dialog box that appears, select an option and click OK.

Cut Only Selected Objects Select this option to make the Knife tool slice only vector objects that are selected and intersected by the cutting path. This setting can prevent unintentional changes to nearby objects.

Cut All Objects Select this option to make the Knife tool slice any vector objects that the cutting path intersects, whether the objects are selected or not.

Joining two paths

You can use the Join command to create one path from two separate, open path objects.

◆ **To join two paths:** Select the two open path objects that you want to join (they should not be in edit mode). Choose Object > Path > Join. Canvas connects the two paths by extending the existing segments or creating a new segment, depending on the distance between the objects.

When you use the Join command to connect two objects that are more than 15 pixels apart, Canvas creates a new line segment between the two closest endpoints. When you join objects whose endpoints are 15 or fewer pixels apart, Canvas extends the two objects to a midpoint between the two closest endpoints.

When the two endpoints on the paths to be joined are 15 or fewer screen pixels apart, you can add a segment by pressing Shift when you choose Join. When the distance between the endpoints is greater than 15 pixels, you can extend the existing segments by pressing Shift when you choose Join.

To join paths at selected endpoints

Canvas, by default, joins paths at the closest endpoints. However, you can select which endpoints to join.

1 Place an open object or multiple open objects in edit mode; see “To place an object in edit mode” on page 16.11.

2 Click an endpoint you want to join to another path. The endpoint becomes hollow to indicate that it is selected.

3 Shift-click another endpoint. The endpoint also becomes hollow to indicate that it is selected.

4 Choose Object > Path > Join, or Ctrl-click (Mac) or right-click (Windows) one of the selected points. In the context menu, choose Join Curves.

Moving anchor points and segments

With a path in edit mode, you can move points and segments to alter the shape of the path.

Drag an anchor point or segment to move it. You can also press the keyboard arrow keys to move selected points and segments. Moving reshapes the segments you drag or the segments attached to the points that you move.

Pressing Shift while dragging points or segments will constrain their movement to 45-degree intervals.

When you begin to drag a segment, the anchor points display their tangent lines. You can control the movement of the tangent lines by using modifier keys when you drag the segment.

Expand or contract curves Press Tab and drag a segment to change the length of its tangent lines without changing their angles. This is the way that segments could be reshaped (without pressing Tab) in Canvas 3.5 and earlier versions.

Reshape adjacent segments To reshape a segment and adjacent segments together (if they are joined with smooth anchor points), press Command (Mac) or Alt (Windows) and drag the segment.

Reshaping paths by editing anchor points

A path can contain two kinds of anchor points: smooth points and corner points.

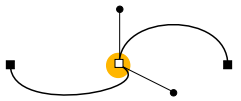
Smooth point An anchor point that connects two curve segments where the curve flows smoothly through the anchor point without a sharp change in direction. Circles and sine waves are examples of paths that have only smooth anchor points.

Corner point An anchor point where the path makes a sharp turn at the anchor point. Corner points can connect two straight segments, two curved segments, or one curved and one straight segment.

Tangent lines

All smooth points, and some corner points, have tangent lines passing through them. Canvas displays the tangent lines when a point is selected.

A corner point can have one, two, or no tangent lines.When you select a corner anchor point with two tangent lines, each tangent line can move independently.



A corner anchor point with independent tangent lines

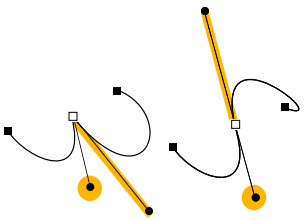
When you create paths with only straight segments, the anchor points are corner points. When you draw curved paths with the Curve, Freehand, or Auto Curve tools, the anchor points are smooth points. Adding anchor points to curved segments produces smooth points.

To change a smooth point to a corner point

You can edit, reshape, and resize two adjoining curve segments independently by converting their smooth anchor point to a corner point.

1 With the object in edit mode, click the anchor point to reveal its tangent lines.

2 Press Tab and drag one of the handles to move one of the tangent lines. The tangent line pivots at the anchor point and affects only one side of the anchor point.



Tab-click a corner point's handle to snap the other tangent line into alignment and smooth the path

To change a corner point to a smooth point

To smooth out a sharp turn in curved segments, you can change the corner point between them to a smooth point.

Note: The corner point must have two tangent lines for this procedure. If it has fewer than two, first add tangent lines to the point.

1 With the object in edit mode, click the anchor point to display its tangent lines.

2 Tab-click the handle of the tangent line you want to keep in place; the other tangent line snaps into alignment.

Adding and removing tangent lines

An anchor point can have as many as two tangent line segments. Corner points can have one, two, or no tangent lines, and smooth points must have two. You can quickly convert a smooth point to a corner point by deleting one of its tangent lines. Also, to convert a corner point with one or no tangent lines to a smooth point, you must add tangent lines.

To add a tangent line

1 In path edit mode, select an anchor point with one or no tangent lines. The anchor point cannot be an endpoint with one tangent line, because endpoints can have only one tangent line.

2 Press Tab and drag away from the anchor point to place a new tangent line segment. You can also Ctrl-click (Mac) or right-click (Windows) and choose Add Handle in the context menu. As you do this, the new tangent line begins altering the segment based on how you drag to position the tangent line.

3 Repeat the previous step to add a second tangent line.

To delete tangent lines

1 In edit mode, click an anchor point to display its tangent lines.

2 Depending on how you want to edit the anchor point, do one of the following:

- To delete one tangent line, Ctrl-click (Mac) or right-click (Windows) the tangent line handle and choose Delete Handle in the context menu. You must use this method for anchor points with only one tangent line, and to delete one of two tangent lines attached to an anchor point.
- To delete an endpoint's tangent line, you can also Tab-click the anchor point.
- To simultaneously delete both tangent lines of an anchor point, Tab-click the point.

Straightening curve segments

You can straighten a curved segment by selecting it and using the Straighten command in the context menu. This command deletes the tangent line(s) that are curving the segment.

◆ **To straighten a segment:** With the object in edit mode, Ctrl-click (Mac) or right-button click (Windows) the curved segment that you want to straighten. Choose Straighten in the context menu.

Reshaping curve segments

To adjust the shape of a curve, in addition to moving points and segments along the path itself, you can adjust the tangent lines that control the curve. The angle of the tangent line affects the curve shape, while the length of the tangent line affects the size of the segment.

At a smooth anchor point, adjusting the angle of a tangent line affects the curves on both sides of the anchor point. At a corner anchor point, you can reshape the segments on each side independently. For more information, see “Reshaping paths by editing anchor points” on page 16.18.

To reshape a curved segment

1 With the object in edit mode, click one of the segment’s anchor points to display its tangent lines.

2 Drag the handle of the tangent line to change the shape of the associated curve. In the case of a smooth point, the tangent line affects both adjacent curve segments.

Path editing shortcuts

To do this	Shortcut (Mac)	Shortcut (Windows)
Add an anchor point	Option-click path	Ctrl-click path
Delete an anchor point	Option+Shift-click anchor point	Ctrl+Shift-click anchor point
Change the length of the tangent lines on both sides of a smooth anchor point at the same time	Option-drag tangent line handle	Ctrl-drag tangent line handle
Constrain tangent line to 45-degree increments	Shift-drag tangent line handle	
Move tangent line segment independently (change anchor point from smooth to cusp)	Tab-drag tangent line handle	
Align tangent line segments (change corner point with two tangent lines to smooth point)	Tab-drag tangent line handle	
Add tangent line to an anchor point	Tab-drag an anchor point	
Delete an anchor point’s tangent lines	Tab-click the anchor point or endpoint	
Close an open path	Click an endpoint with a Path drawing tool	Alt-click an endpoint
Reshape a segment without changing the tangent line angles	Press Tab and drag the segment	
Reshape A segment and adjacent segments	Press Command and drag a segment	Press Alt and drag a segment

Converting objects and text to paths

Some vector objects have specialized properties and unique edit modes instead of the standard path edit mode. For example, you can-

not directly edit the path segments of macros, concentric circles, grids, multigons, spirals, and objects modified by the Envelope or Extrude commands. However, you can convert these objects to paths so you can edit them the same as any other vector object.

If you create paths from a specialized vector object, the new shape does not have the same unique editing capabilities as the original. For example, if you convert a multigon star object to paths, you can no longer use the edit handles that let you adjust the depth and twirl of the points. Similarly, placed macros are no longer linked to their parent macros in the Gallery palette after you convert them to paths.

You can also convert text so you can reshape characters as vector objects. This has the benefit of making the characters independent of their fonts; the font is no longer required to view and print the characters properly. However, once you convert text to paths, you can no longer perform text operations, such as editing, spell-checking, and formatting, on the text. Also, characters with “holes” in them (such as a, b, d, e, g, o, p, r, and q) are converted to composite paths, which cannot be extruded.

◆ **To convert an object to paths:** Select the object you want to convert and choose Object > Path > Convert To Paths. Canvas converts the object to one or more paths.

Ungrouping objects made of multiple paths

When you convert multiple objects, characters, or specialized vector objects to paths, Canvas creates a separate path for each shape and groups them. You can choose Object > Ungroup to separate them.

For example, if you convert a five-letter word to paths, the resulting object is a group of five paths. To edit just one of the five paths, first choose Object > Ungroup. Or, use the Direct Selection tool to select one path without ungrouping.

Making and breaking composite paths

You can create openings in a filled path by incorporating multiple paths into a single, composite path. Areas between the paths and areas where the paths intersect are transparent.

◆ **To create a composite path from multiple paths:** Select the paths you want to make into a composite path. Choose Object > Path > Make Composite.

◆ **To separate a composite path:** Select the composite path and choose Object > Path > Break Composite.

Simplifying vector paths

The Reduce Points command lets you simplify vector paths by reducing the number of anchor points in the path.

Simplifying is a good practice when paths you import or create have a very high number of anchor points. These paths can cause slow printing or printer errors, especially when memory is limited. If you have problems printing a complex vector path, try simplifying it.

You can use the Reduce Points command when one vector object is in path edit mode, or when one or more vector objects are selected.

Reduce Points works with objects created with the Curve, Auto Curve, Freehand, and Polygon tools. You can apply it to objects created with other tools if you use the Object > Path > Convert to Paths command to convert the objects to vector paths.

Reduce Points is not available when specialized vector objects (concentric circles, Smart Shapes, multigons, and similar objects) are selected or in edit mode. These objects must be converted to paths if you want to simplify them.

To use the Reduce Points command

1 Select one or more vector objects, or place one object in path edit mode (select it and choose Object > Edit). In edit mode, you can select three or more anchor points and apply Reduce Points.

2 Choose Object > Path > Reduce Points.

3 A dialog box appears. Drag the slider to set the relative number of anchor points to use for the path.

Loose leaves fewer points in the path by tracing the original path more smoothly. **Tight** removes fewer points by tracing the original more closely. When more points are removed, the change in the path can be greater.

4 Click OK to modify the path.

Converting polygons to Bézier objects

The Fit Bézier command changes a polygon to a Bézier curve path. This command can be applied to a single selected polygon that is not in edit mode.

Using this command can have varied results, depending on the settings you use. You can convert a polygon without changing its shape. Or, you can use the command to smooth the straight segments of a polygon into gentle curves.

Fit Bézier is useful when you want to use handles attached to smooth anchor points to "bend" straight path segments into curves. Using Fit Bézier adds handles to all the corner points (which do not have handles) that define a polygon.

To use the Fit Bézier command

1 Select a polygon (open or closed).

A polygon can be created with the Polygon tool, or with the Curve tool if the path has only corner points, not smooth points. Objects created with the Rectangle tool or Line tool can be converted to polygons with the Object > Path > Convert to Paths command.

2 Choose Object > Path > Fit Bézier.

3 A dialog box with two sliders appears. Use these to adjust the following conversion settings:

Loose-Tight: Controls how closely the modified path will conform to the original path. Tight results in little deviation from the original path. Loose allows the modified path to be smoother and deviate farther from the original.

Round-Sharp: Controls how many corners will become rounded in the modified path. Sharp preserves corners where segments meet at acute angles. Round allows all corners to become rounded.

These settings can interact and produce similar results at different slider positions. For example, setting one slider at Tight and the other at Round can produce a path that closely matches the original, but with all corners being rounded. Setting one slider at Loose and the other at Sharp can result in a path that overall is smoother, but which has some corners that are not smoothed at all.

4 Click OK when you're done. Canvas modifies the object based on the settings you specified.

CHAPTER 17

PRECISION DRAWING AND DIMENSIONING

This chapter describes precision drawing tools and techniques that can help you create scale drawings, floor plans, architectural designs, and other types of technical drawings. This chapter explains how to

- display size information as you draw
- set up the scale for scale drawings
- add dimension objects to illustrations
- use Smart Mouse to align objects

Some of the techniques described elsewhere in this book also apply to precision drawing. For information on document setup and using rulers, refer to Chapter 3, “Document Setup.”

Setting up a document’s measurement scale

Canvas offers a variety of options for creating scale drawings. You can set up a ruler to control the scale of an entire document. You can also customize scale settings for individual dimension objects. Other settings affect the format of measurement and position data.

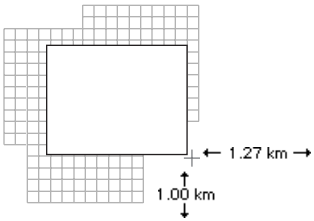
The following settings affect the measurement of objects in a document:

Rulers You set up a document’s overall drawing scale using the Rulers command and Rulers dialog box. The ruler scale affects all object measurements, including those made with the dimensioning tools. The ruler scale also affects data in the Object Specs palette and status bar. See “Setting up rulers and the drawing scale” on page 5.7.

Number Form A setting in the Preferences dialog box affects the format of data in the Status bar and other displays. This option controls the precision of data and the number format (decimal or fractions). See “Measurement units preferences” on page 9.14.

Dimensions You can create custom scale settings for dimension objects using the Dimensioning dialog box. You can customize individual dimension objects, or set a custom scale for all dimension objects created with a dimensioning tool. See “Customizing the dimensioning tools” on page 17.6 for more information.

Displaying dimensions as you draw



When Show Size is active, Canvas displays the scaled size of the object as you draw.

Canvas can display the horizontal and vertical dimensions of an object as you draw it. The Show Size command makes dimensions (in scale) appear at the pointer as you drag with any drawing tool. These dimensions do not remain in the document.

◆ **To display dimensions when you use drawing tools:** Choose Layout > Display > Show Size. When you select a drawing tool and drag the pointer in an illustration, the object's vertical and horizontal measurements appear at the pointer.

When Show Size is on, the command changes to Hide Size.

◆ **To turn off the dimensions display:** Choose Layout > Display > Hide Size. This command only appears when Show Size is on.

Using the Status bar display

The Status bar at the bottom of the screen displays dimensions and position data that can assist you when you draw objects.

The data in the Status bar are based on the overall document scale as defined by the current ruler setting. When you draw a vector object, the status bar displays the horizontal and vertical dimensions for most objects. When you move an object by dragging it with the Selection tool, the status bar displays the horizontal and vertical distance that the object has moved. The measurements are based on the overall measurement scale as defined in the Rulers dialog box.

Using the dimensioning tools

You can easily add formatted dimensions to documents with the Canvas dimensioning tools. These tools can measure horizontal, vertical, oblique and perpendicular distances; measure diameter, radius, angle, area, and perimeter; and mark the centers of arcs and ovals.

Some dimensioning tools create a single dimension, while others let you create baseline and chain dimensions. Baseline dimensions are a series of measurements made from a common starting point. Chain dimensions are a series of measurements in a row.

✔ Tip
The Smart Mouse can help ensure precise measurements. You can set the Smart Mouse so the pointer snaps to corners and anchor points when you use dimensioning tools. See "Using Smart Mouse for precise alignment" on page 17.11.

You can create dimension objects that conform to industry standards, including the ANSI, DIN and JIS standards. You can also customize the standard settings — the size of lines, gaps, text, and tolerances. You can also save settings that you have customized as new standards.

The 17 dimensioning tools are grouped in a palette. To open the palette, press the dimensioning tool that appears in the Object tools palette. You can drag the palette away from the toolbox to keep it open while you work.

To add dimensions to an illustration

1 Select a dimensioning tool in the toolbox. When you move the pointer into the document, a prompt appears at the pointer.

2 To begin dimensioning, position the pointer and click as directed by the prompt. The prompt varies, depending on which dimensioning tool you use. For example, if you use the Horizontal dimensioning tool, the prompt says "Click 1st Point."

Refer to the table "Dimensioning procedures" on page 17.5 for details on what you should do when each prompt appears.

3 When the "Anchor" prompt appears, move the pointer to position the dimension. If you drag away from the measurement points, the witness lines extend and the text follows the pointer.

4 To anchor the dimension in place, click once.

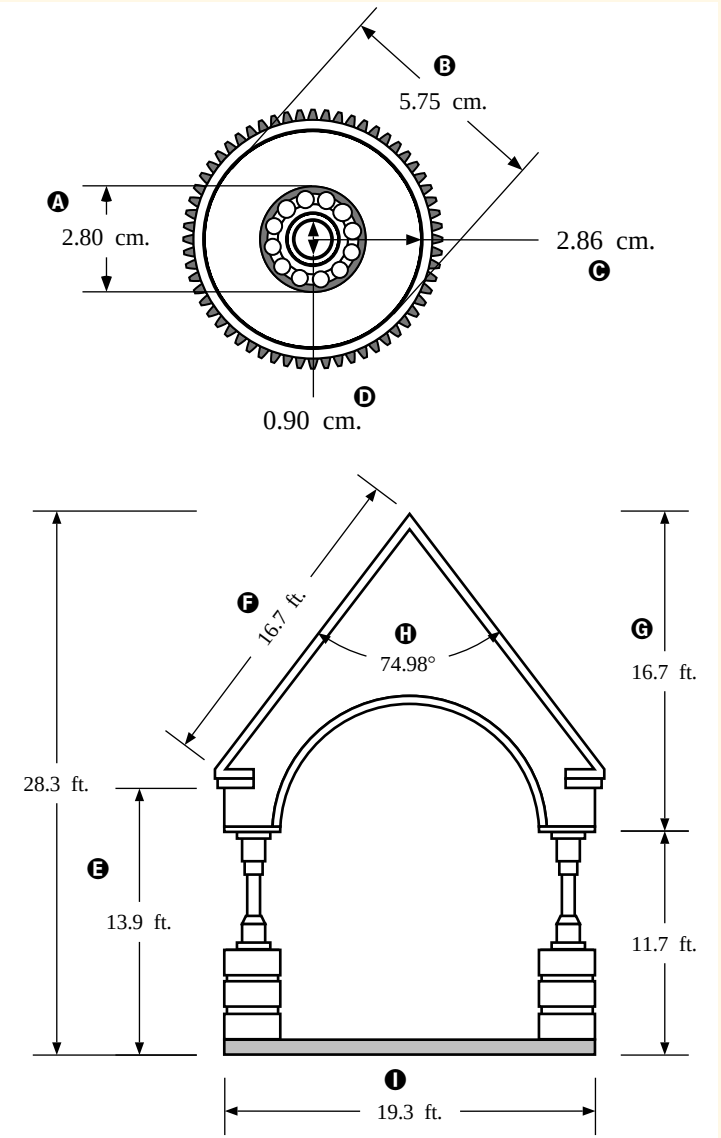
5 For chain and baseline dimensions, you can click additional measurement points and anchor each part of the dimension object. After you anchor the last part, press Enter (Mac) or Esc (Windows) to finish the object.

Types of dimensioning tools and measurements

You use the dimensioning tools to add measurements to illustrations. Different tools let you create different types of dimension objects.

Baseline and chain dimensioning tools create groups of dimensions. Baseline dimensions contain several measurements from a common starting point. Chain dimensions are a series of measurements.

- Ⓐ Vertical
- Ⓑ Oblique
- Ⓒ Radius
- Ⓓ Diameter
- Ⓔ Vertical Baseline
- Ⓕ Oblique (with aligned text)
- Ⓖ Vertical Chain
- Ⓗ Angle
- Ⓘ Horizontal



Dimensioning procedures

Dimensioning tool	Prompts	Procedure
Horizontal, Oblique, and Vertical	Click 1st Point, Click 2nd Point	Click the start point for the measurement, then click the end point and anchor the dimension object.
Baseline and Chain (Horizontal, Oblique, and Vertical)	Click 1st Point, Click Next Point	Click the start point and then click the end point for the first measurement; anchor the first part of the dimension object. Click the next measurement point and anchor the next part of the dimension object. Continue until finished, then press Enter (Mac) or Esc (Windows).
Angle	Click 1st Line, Click 2nd Line	Click the start point for the angular measurement, then click the end point.
Perpendicular	Click Line, Click Point	Click the line to measure from, then click a point anywhere to take a perpendicular measurement from the line to the point.
Object Side	Click Object Side	Click the side of the object to be measured.
Radius, Diameter, and Center	Click Arc/Ellipse	Click anywhere on the arc or ellipse and then anchor the dimension object.
Area and Perimeter	Click Object	Click anywhere on the object to be measured and then anchor the dimension object.

Linking dimensions to measured objects

Because dimension objects aren't attached to the objects they measure, dimensions do not change when you resize objects you have measured. However, you can group a dimension object and the object that it measures. When you do this and then you resize the object, the dimension changes accordingly.

◆ **To group an object and a dimension object:** Select the dimension object and the measured object and choose Object > Group.

Attributes of dimension objects

When you create a dimension object, Canvas uses the current ink and stroke settings, which are shown by the Pen ink, Fill ink, and Strokes

icons in the toolbox. The dimension text uses the current text settings, as indicated in the Text menu by a check mark.

You can change the current ink, stroke, and text settings for new dimension objects, and you can change these settings for existing dimension objects.

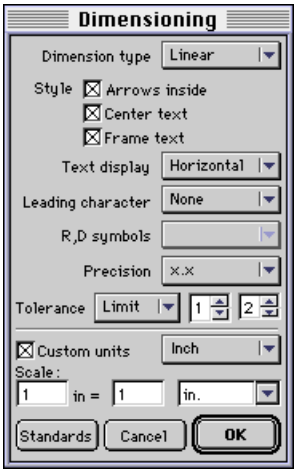
◆ **To change the type attributes of a dimension object:** Select the dimension object and use the Text menu or the Type palette to choose the font, size, style, and other attributes of the text.

◆ **To change the appearance of a dimension object:** Select the object and use the Inks and Strokes palettes to select ink color, pen size, and arrows for the dimension object.

◆ **To change attributes for new dimension objects:** Make sure that no objects are selected in the document, and then use the Text menu (or the Type palette), and the Inks and Strokes palettes to change the current settings for new objects and text.

✔ **Important**
Dimension objects can not display arrows if all the preset arrows have been deleted from the Arrow tab in the Strokes palette.

Customizing the dimensioning tools



You can customize the measurement units, scale, arrow position, tolerance text, and other settings for dimension objects. You use the Dimensioning dialog box to configure these settings. You can set up different configurations for the three categories of dimensioning tools — angular, linear, and radial. You can also use the Dimensioning dialog box to change existing dimension objects.

Using the Dimensioning dialog box

You can open the Dimensioning dialog box by double-clicking a dimensioning tool icon or a dimension object, depending on whether you want to configure the tool or edit a dimension object. Use one of the following three methods to open the dialog box.

◆ **To change the properties of regular dimension objects:**

Double-click the dimension object to open the Dimensioning dialog box. To change multiple dimension objects, select them and then double-click one of the objects.

◆ **To change the properties of chain and baseline dimension objects:** Select the dimension object and choose Ungroup in the Object menu. Then, double-click one of the dimension objects to open the Dimensioning dialog box. You can also double-click a dimension object with the Direct Selection tool to open the dialog box without ungrouping the objects first.

◆ **To change the settings for dimensioning tools:** Make sure that no dimension objects are selected, then double-click a dimensioning tool icon to open the Dimensioning dialog box.

1 Choose the type of dimensions you want to configure in the Dimension Type pop-up menu. (If a dimension object was selected, the object type appears in the pop-up menu).

Select this type	To configure these dimensioning tools
Angular	Angle
Radial	Radius, Diameter, Center
Linear	Horizontal, Vertical, Side, Horizontal Baseline, Vertical Baseline, Horizontal Chain, Vertical Chain, Perpendicular
Object Info	Area, Perimeter

2 In the Style area, adjust the settings for arrow placement, text position, and text framing.

3 Choose the text alignment method in the Text Display pop-up menu.

4 To configure leaders for linear and radial dimension objects, select one of the following options in the Leading Character pop-up menu:

None	Does not include a leader
Left	Includes a left-pointing leader
Right	Includes a right-pointing leader
Automatic	Applies to radial dimension objects only. Includes a leader pointing left when dimension object is left of the object's center, and a leader pointing right when dimension object is aligned with or right of the object's center.

5 To configure radius and diameter symbols for radial dimension objects, select one of the following options in the R,D Symbols pop-up menu:

None	Does not include any symbols
Leading	Places symbols before the dimension text
Trailing	Places symbols after the dimension text

6 To set the dimension precision, choose an option in the Precision pop-up menu. The options tell Canvas to use fractions or the specified number of decimal places in dimension text.

7 To specify the format of tolerance data in dimension objects, choose one of the following options in the Tolerance pop-up menu. Type the tolerance numbers in the text boxes.

None	Does not include any tolerance amount
One	Prints the tolerance amount from the first text box, with "± "and the dimension text.
Two	Prints tolerance numbers from both text boxes. To use a negative number, type a minus sign (–) before the number
Limit	Prints two dimensions, calculated from the actual dimensions and the two tolerance values.

8 To set a custom scale for dimension objects, turn Custom Units on. This overrides the measurement units specified for the document rulers. Choose a measurement unit in the adjacent pop-up menu and type the actual measure in the first text box. Type the scaled measurement in the second text box. Choose the scale measurement unit in the adjacent pop-up menu.

For example, if you want to use a scale of 1 centimeter equals 1 meter, do the following: turn on Custom Units; select Centimeter in the first pop-up menu; type "1" in the first and second text boxes; and choose "m." in the second pop-up menu.

9 Click OK to close the dialog box and implement the settings.

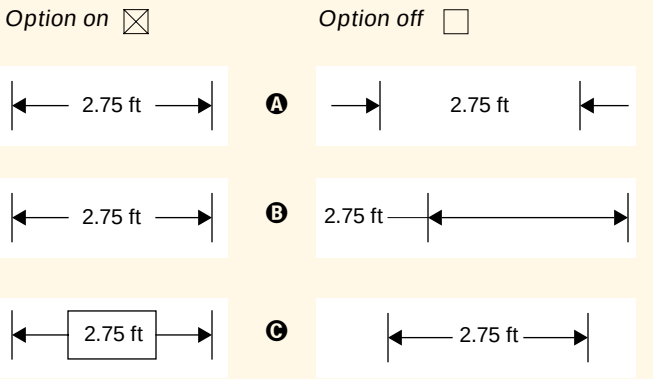
Style and Text Display settings

Use the following style options in the Dimensioning dialog box to customize the appearance of dimension objects.

Ⓐ **Arrows Inside.** Dimension arrows appear next to the dimension text when this option is on.

Ⓑ **Center Text.** Must be off if you want to drag dimension text outside the witness lines.

Ⓒ **Frame Text.** Turn this option on to frame the dimension text.



Use the following options in the Text Display pop-up menu to format the dimension text.

Horizontal. Text is always aligned horizontally in all dimension objects.

Horz/90º. Text is aligned horizontally, except text is rotated 90º vertically for vertical dimension objects.

Aligned. Text is always aligned with the angle of the dimension arrows.

Above. Text runs above the dimension arrows.

Below. Text runs below the dimension arrows.

Using industry standards for dimension objects

If you want to use industry standard settings for dimension objects, click the Standards button in the Dimensioning dialog box to open the Dimension Standards dialog box. You can choose several industry standards in the pop-up menu. You can also use the Dimension Standards dialog box to further customize dimension objects.

Dimension Standards settings

The settings in the Dimension Standards dialog box specify the length and position of various elements of dimension objects, based on industry standards.

Current standard. Choose from five standard measurement systems: ANSI (American National Standards Institute) DIN (Deutches Institut für Normung), BS-380 (British Standards Institute), ISO (International Organization for Standardization), and JIS (Japanese Industrial Standard).

Settings you create also appear in this pop-up menu.

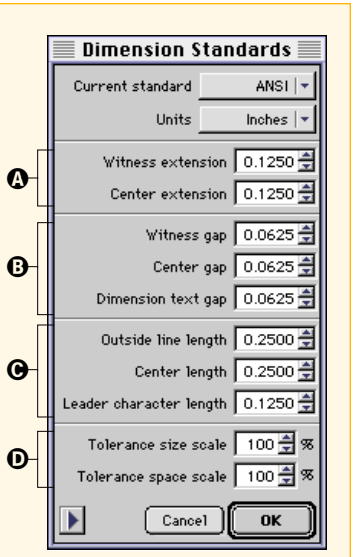
Units. Choose the measurement units you want to use for all settings in the dialog box.

Ⓐ **Extension.** Set the length of the witness lines' extensions and the center line extension.

Ⓑ **Gap.** Set the size of the gap between the witness lines and measurement points on objects; the gap between the center extension and center point mark; and the gap between the dimension text and dimension arrows.

Ⓒ **Length.** Set the length of the arrow lines (applies only when arrows are outside the witness lines); the length of center extension lines' leader characters; and the length of the center extension line.

Ⓓ **Tolerance scale.** The size of tolerance text and space between tolerance text, as a percentage of the dimension text size and spacing.



Saving and deleting settings

If you customize the settings in the Dimension Standards dialog box, you can save the settings as a custom standard. Press the triangle button at the bottom-left corner of the Dimension Standards dialog box to display a menu for saving and deleting dimension standards.

When you save or delete standards, they remain saved or deleted whether you click OK or Cancel to close the Dimension Standards dialog box.

◆ **To save the settings as a new standard:** Press the triangle button at the bottom-left corner of the Dimension Standards dialog box. In the pop-up menu, choose "Save settings as." Type a name for the custom standard in the dialog box that appears. Click OK. The new standard will appear in the Current Standard pop-up menu.

◆ **To delete a custom standard:** Press the triangle button at the bottom-left corner of the Dimension Standards dialog box. In the

pop-up menu, choose “Delete standard.” In the dialog box that appears, choose a custom standard in the pop-up menu and click OK.

Using Smart Mouse for precise alignment

Smart Mouse is a drawing aid that can help you align objects precisely. Smart Mouse is particularly useful when using dimensioning tools, because it can snap the pointer to the corners (and other points) of objects, so dimension objects are perfectly aligned.

You can use 12 types of Smart Mouse constraints. The constraints make the pointer (and objects that you draw or drag) snap to

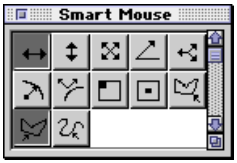
- the corners or centers of objects
- even divisions (such as the midpoints) of object segments
- specified lengths or angles
- horizontal, vertical, or diagonal movement
- tangential or perpendicular alignment with objects
- the edges of vector objects

Types of Smart Mouse constraints

Relative constraints Indicate the relationship between the beginning position and current position when you draw or drag an object. These constraints can display pointers to indicate a constraint is met. The relative constraints are: Horizontal, Vertical, Diagonal, Angle, Multiple Angle, Length, and Tangent & Perpendicular.

Absolute constraints Indicate the relationship between the pointer and objects. These constraints (except Object Edges) can display source lines and pointers to show a constraint is met. The absolute constraints are: Object Corners, Object Fractions, Polygon & Bézier Anchors, Polygon Fractions, and Object Edges.

To activate Smart Mouse constraints



Constraint icons appear in the Smart Mouse palette. The active constraints are shaded.

To use the Smart Mouse, select the constraints and then turn on Snap To Smart Mouse. Refer to the table “Smart Mouse constraints” on page 17.12 to learn how each constraint works.

1 Choose Layout > Smart Mouse. This opens the Smart Mouse palette, which contains icons for all constraints.

- To activate or deactivate a constraint, click its icon. Active constraint icons are highlighted.

2 Choose Layout > Snap To > Smart Mouse to turn on the Smart Mouse. A check mark shows that Smart Mouse is active.

Note: Be sure Snap To Grid (in the Layout > Snap To menu) is off when you use the Smart Mouse. If Snap To Grid is on, the pointer will snap to the grid and not to active Smart Mouse constraints.

Smart Mouse constraints

When this constraint is active		Smart Mouse snaps objects and constrains the pointer to
	Angle	A specified angle
	Diagonal	Straight diagonal movement — all multiples of 45º
	Horizontal	Straight horizontal movement— 90º and 270º, or 0º and 180º, depending on the current coordinate system
	Vertical	Straight vertical movement — 0º and 180º, or 90º and 270º, depending on the current coordinate system
	Length	A specified length in points (based on 100% magnification)
	Multiple Angle	All multiples of the specified angle
	Object Corners	The corners of the bounding boxes of vector objects
	Object Edges	Edges of the paths of vector objects (not their bounding boxes); when Object Edges is active, other constraints don't affect the pointer
	Object Fractions	A specified division of vector objects; for example, specify 1/2 to snap to the center of objects
	Object Points	Any anchor point on the paths of vector objects
	Object Segments	Specified divisions of the segments of vector objects; for example, the pointer snaps to the midpoints of segments if you specify 1/2
	Tangent & Perpendicular	Movement in a straight line, tangent or perpendicular to vector objects

Identifying multiple constraints

Up to two Smart Mouse constraints can be met at the same time. For example, you can drag an object in such a way that it triggers both the horizontal constraint and object corner constraint. Although you can activate several constraints, only two constraints can affect the pointer at once.

Tip
To temporarily hide Smart Mouse pointers, press the Shift key. Smart Mouse pointers reappear when you release the Shift key.

Smart Mouse can display special pointers to indicate that constraints are met. You can toggle the pointer display if more than one constraint is active. The Pointer option (see "Constraint settings," next) must be active to see Smart Mouse pointers.

◆ **To toggle the Smart Mouse pointer:** Press Command (Mac) or Alt (Windows) when a constraint pointer is visible. If another pointer appears, both constraints are met. The symbols won't change for different settings of one constraint type, such as two different values for the Angle constraint.

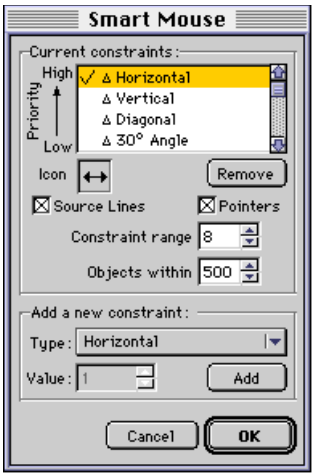
Customizing Smart Mouse constraints

You can activate constraints, change their values, and add and delete constraints in the Smart Mouse dialog box.

1 Choose Smart Mouse in the Layout menu to open the Smart Mouse palette if necessary, then double-click a constraint icon to open the Smart Mouse dialog box.

2 To activate or deactivate a constraint, click to the left of the constraint name in the scrolling list. You can activate multiple constraints, but only two can affect the pointer at once.

3 Configure the constraint settings described next and click OK.



Constraints are listed at the top of the Smart Mouse dialog box, from High to Low priority. A check mark indicates active constraints. Constraints preceded by a delta symbol (Δ) are relative constraints.

Constraint settings

The settings in the Current Constraints area at the top of the Smart Mouse dialog box affect the behavior of all Smart Mouse constraints. Select a constraint in the list to see its symbol in the Icon box.

Priority When multiple constraints are active, those at the top of the scrolling list take precedence over those lower in the list. To change the priority of a constraint, drag it to a new position in the list.

Source Lines If checked, Canvas displays a line to show that the pointer, or an object you are moving, is aligned horizontally or vertically with a snap point — such as the corner of an object.

Pointers If checked, constraint symbols appear as you draw or drag objects to indicate that a constraint is met.

Constraint Range The maximum distance, horizontally or vertically, from a target point at which the constraint causes the pointer to snap to the target point.

Objects Within For absolute constraints only, specifies how close the pointer must be to an object for the object to trigger the constraint.

Adding and deleting constraints

You can add new Smart Mouse constraints and delete ones you don't need. When you add a constraint, it appears in the Smart Mouse window; constraints you remove no longer appear.

1 Double-click an icon in the Smart Mouse window to open the Smart Mouse dialog box. If the Smart Mouse Window isn't open, choose Layout > Smart Mouse.

2 To add a constraint, choose one in the Type pop-up menu. For a relative constraint, enter the constraint value in the Value box, and then click the Add button.

For this Constraint	Enter this value
Object Fractions, Object Segments	The number of divisions. For example, type 2 if you want the constraint to snap to the middle (1/2 point) of an object or segment.
Angle	The angular measurement in degrees.
Length	The distance in points.

3 To delete a constraint, select the constraint in the scrolling list at the top of the dialog box, and then click the Remove button.

4 Click OK to implement any changes and close the Smart Mouse dialog box.

CHAPTER 18

VECTOR EFFECTS

Canvas provides several special effects that let you develop complex illustrations from basic objects. You can apply the effects described in this chapter to any vector object; some can be applied to text objects, too. These commands help save time by quickly generating new objects and letting you easily modify the appearance of existing objects.

As you apply effects to objects, keep in mind that some of these operations are system memory-intensive and might significantly increase the resource and storage requirements of a document.

Perspective effects

Commands in the Object > Path > Perspective submenu can be used to modify vector objects. The 1 Side, 2 Sides, and Vanishing Point commands let you slant the bounding boxes of vector objects to align with vanishing points. By applying these commands, you can make vector objects appear to be drawn in perspective views.

About the vanishing point

The Perspective commands apply perspective effects based on a vanishing point. There is one global vanishing point in a Canvas document. When you use the 1 Side or 2 Sides commands, you set the vanishing point by dragging a control handle. When you use the Vanishing Point command, you can set the vanishing point by clicking in the document or entering coordinates.

Using the 1 Side and 2 Sides commands

The 1 Side and 2 Sides commands let you apply perspective effects to vector objects by dragging control handles. To use these commands, select a single vector object or a group of vector objects. These commands are not available if multiple objects are selected, or if a paint or text object is selected.

To apply perspective with 1 Side or 2 Sides

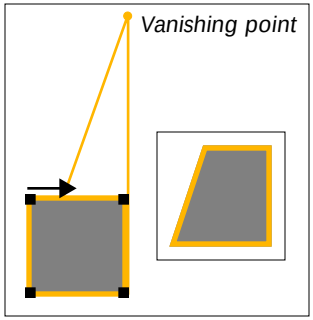
1 Select a vector object or a group of vector objects.

2 In the Object > Path > Perspective submenu, choose 1 Side or 2 Sides.

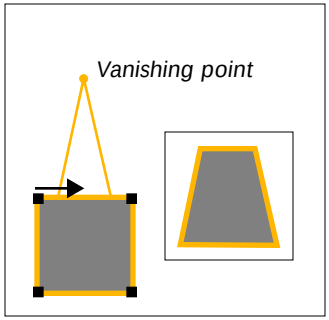
3 Control handles appear at the corners of the bounding box of the selected object. Drag any of the handles to apply the perspective effect. As you drag a handle, guide lines indicate the position of the vanishing point, which extend beyond the current view.

- If you choose 1 Side, the side of the object's bounding box where you drag a handle will slant to a vanishing point. You can adjust the object's sides independently.
- If you choose 2 Sides, as you drag a handle, the opposite sides of the object's bounding box will slant equally toward a vanishing point located along the object's vertical or horizontal center axis.
- When the pointer is on a control handle, a four-arrow symbol indicates that you can drag horizontally or vertically. To change directions, point to a control handle until the four-arrow symbol appears again.

4 When you finish, press Esc to deselect the object.



1 Side perspective



2 Sides perspective

Using the Vanishing Point command

The Vanishing Point command applies a perspective effect to one or more vector objects. The command slants the bounding boxes of selected vector objects so the objects appear in perspective based on a vanishing point that you select.

The Vanishing Point command is available when vector objects or groups of vector objects are selected. The command is not available if a paint or text object is selected.

To apply perspective using a vanishing point

1 Select one or more vector objects or groups of vector objects.

2 Choose Object > Path > Perspective > Vanishing Point.

3 A dialog box appears. It displays the coordinates of the global vanishing point. You can change the coordinates to move the vanishing point, or you can click in the document to set the vanishing point.

- To enter coordinates, type coordinate values in the text boxes. Coordinates are based on the document's rulers.
- To set the vanishing point visually, click Choose. Move the pointer and click to set the vanishing point. The coordinates of the point you click appear in the text boxes.
- To restore the previous vanishing point coordinates, click Reset.

4 Click OK to apply the perspective effect.

Note: The Effects > Remove Effects command will not remove perspective effects that have been applied to objects.

Offsetting paths

You can use the Offset Path command to create new objects that follow the path of a vector object.

An offset object's path follows the inside or outside of the original object's path. You can specify the offset distance and the number of objects to create.

You can offset one vector object at a time. Composite objects created by the Concentric Circles, Spiral, Cube, GridMaker, or Multigon tools cannot be offset.

To offset an object

1 Select a vector object and choose Effects > Offset Path.

2 In the Offset Path dialog box, type the offset distance in the Distance box. In the Copies box, type the number of copies to make. Click OK to create the offset objects.

Canvas applies the current inks and stroke to offset objects. The new objects appear in front of the original if they are smaller; otherwise, they appear behind it.

The direction of the offset depends on whether you type a positive or negative Distance value.

When you offset an object that has an open path, type a negative value to offset the new object to the inside of the curve. Type a positive value to offset the new object to the outside of the curve.

When you offset an object that has a closed path, type a negative number to offset the new object to the inside of the original path. Type a positive number to offset the new object to the outside of the original path.

An offset object can differ in shape from the original object, if a large offset distance makes the path cross itself to follow narrow angles or tight curves of the original object.

Using clipping paths

A clipping path is a special object that creates a frame or window on an object. You can use text objects and vector objects as clipping paths.

You can apply a clipping path to one or more objects. The clipping path frames the objects it is applied to. Anything inside the clipping path remains visible, while anything outside the path is hidden, or “clipped.”

If you apply an oval clipping path to a photo, for example, the photo is visible inside the oval, while any part of the photo outside the oval is not visible.

Because clipping paths are vector objects, clipping effects print smoothly at maximum resolution on any printer, including PostScript and non-PostScript devices.

Clipping paths create hard-edged effects. Clipping paths are often used to “cut” photos and illustrations into shapes such as circles or curves. You can use text as a clipping path to create the effect of text characters filled with photos or other graphics.

If you want to create feathered or graduated clipping effects, you can use vector transparency masks and channel masks instead of clipping paths. For information, see “SpriteLayer effects” on page 14.1.

To apply a clipping path

1 Position a text or vector object in front of the objects to be clipped. (You can select an object and choose Object > Arrange > Bring to Front to put the clipping object in front of other objects.)

2 Shift-click the clipping object and the objects to be clipped to select them all.

3 Choose Object > Clipping Path > Make. Canvas clips the selected objects.

If you want to use a special object (such as a star created by the Multigon tool) as a clipping path, the object must be converted to a vector path first. Select the object and choose Object > Path > Convert to Paths. If a selected object can’t be used as a clipping path, the Clipping Path > Make command is not available.

◆ **To hide clipping paths:** Choose Object > Clipping Path > Hide. Canvas makes the strokes of all clipping paths invisible.

◆ **To show clipping paths:** Choose Object > Clipping Path > Show. Canvas shows the clipping paths with a 1-point black stroke.

◆ **To remove a clipping path:** Select the clipping path or a clipped object and choose Object > Clipping Path > Release. Canvas restores the clipped objects to full view, and the clipping path object appears with its original attributes.

Text in front of paint object

Text clipping path

Editing clipping paths

After applying a clipping path, you can move it and the clipped objects independently. Dragging the clipping path frames a different

part of the clipped objects. Dragging a clipped object changes its position inside the frame of the clipping path.

You can apply several effects to a clipping path. Select the clipping path and choose Effects > Freeform to display handles that you can drag to skew and rotate the clipping path. You can also apply the Fractalize, Rotate, and Flip commands to a selected clipping path.

You can reshape a clipping path in several ways. Select a clipping path and drag its handles to change the size or shape of its bounding box. To reshape a vector object path, double-click it, or select it and press Command+E (Mac) or Ctrl+E (Windows). With the path in edit mode, you can use path-editing techniques to move, add, or delete anchor points. When you finish editing, press Esc to reapply the clipping path.

To edit a text clipping path, use the Text tool or double-click the text to put it in edit mode. You can insert and delete characters in edit mode. When you finish, press Esc to reapply the clipping path.

To change the formatting of a text clipping path, select the clipping path and use the Text menu or the Type palette to change its font, style, size, or other attributes. When a text clipping path is selected, you can use the Spell Check Selection command to check its spelling.

Because clipping paths are special objects, they do not display the pen inks, fill inks, or strokes of their original objects. Canvas displays clipping paths with 1-point black strokes (which the Clipping Path > Hide command makes invisible).

If you select a clipping path and change its inks or stroke, Canvas applies the attributes to the object, but the attributes aren't visible unless you use the Release command to convert the clipping path back into a vector or text object.

Combining objects

The Combine command makes new objects from the intersection of two or more vector objects. You can outline the overlapping objects, delete all except the overlapping area, subtract the overlapping area, and perform other combinations.

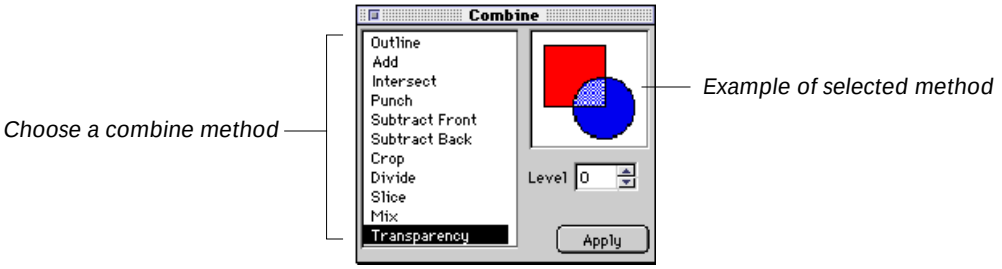
To combine objects

1 Select two or more objects that you want to combine. Each selected object must overlap at least one other selected object.

2 Choose Effects > Combine to open the Combine palette, if necessary.

3 In the Combine palette, choose a combine method from the list (the methods are described below). An example of the selected combine method appears on the right.

4 Click Apply to implement the current settings.



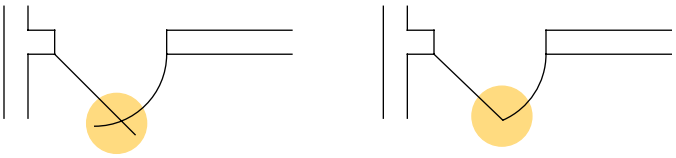
Selecting a combine method

In the Combine palette, you can choose various methods for combining objects. Some methods require that the paths of overlapping objects intersect for the effect to be visible or work properly. In addition, some methods work only with closed vector objects, and not with lines and open curves.

Trim Trims intersecting lines or arcs by shortening them until they meet at a vertex. You can trim a line to a line, an arc to an arc, or an arc to a line. In each case, Canvas trims the shorter segments of the intersecting lines and arcs. Trimmed lines and arcs remain separate and retain their attributes.

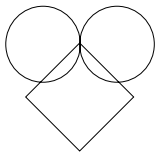
Trim also trims lines or arcs where they intersect closed vector objects. The vector objects do not change.

If Canvas can't trim the selected objects, a message tells you that the operation requires at least one open path.

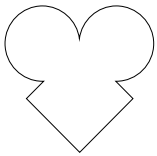


Original objects *Trim applied*

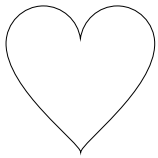
Outline Creates one path around the selected objects and fills the interior of the new shape with the ink of the front object.



Original objects: two circles and a rotated square



Objects combined with the Outline method



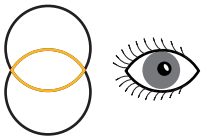
Outline shape smoothed into a heart using path-editing techniques

Add Joins two objects where they overlap to create a compound path, and fills the new shape with the ink of the front object. Compound paths can include multiple closed shapes that have holes in them, unlike objects created with the Outline option.

With the Add method, Canvas merges the handle to the cup where they overlap, leaving a hole inside the handle

Original objects

Combined with Add method



The Intersect method helps you create some useful, basic shapes. Here, the intersection of two circles (highlighted) results in an eye shape.

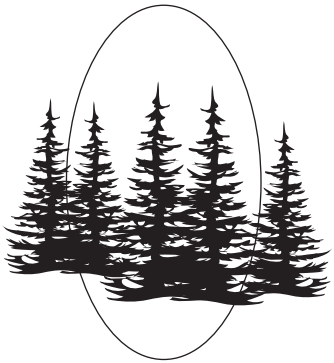
Intersect Creates a new object from the intersection of all selected objects and fills the new object with the ink of the front object. All selected objects must be closed paths and share a common area.

Punch Removes the area where selected objects intersect and fills the new object with the ink of the front object. If you select more than two objects, Canvas starts with the back object and continues forward through the stacking order.

Subtract Front Removes from the back object the areas of overlapping objects in front. The back object retains its ink attributes.

Subtract Back Removes from the front object the areas of overlapping objects behind it. The front object retains its ink attributes.

Crop Removes areas of objects that are not behind the top object.



An oval used to crop a vector drawing of pine trees

A gradient-filled oval provides a background

Divide Creates new objects where selected objects overlap. This option lets you use lines to “cut” other objects in pieces.

Slice Cuts the path of an object where it intersects with objects in front of it in the stacking order. Unlike other combine methods, slice results in open-ended paths. For example, slicing a circle in half with a line produces two arcs, as opposed to two closed semicircles.

Mix Creates new objects where selected objects overlap, similar to the Divide option. However, Canvas fills overlapping areas with a new color (the original colors must be solid). To determine the new color, Canvas compares the CMYK values of all the overlapping objects and uses the highest value of each color. (If you are using RGB colors, Canvas first converts the colors to CMYK.) For example:

	Cyan	Magenta	Yellow	Black
Color 1	50	30	25	5
Color 2	25	40	20	0
New Color	50	40	25	5

Transparency Creates new objects where selected objects overlap, and fills overlapping areas with a new RGB color (the original colors must be solid). However, transparency lets you specify the level of transparency. When you select the Transparency option, enter a per-

centage in the text box that appears; 100 percent is completely transparent, and zero is opaque.

Using the Transparency method, the artist created the illusion that you can see through the wine glass. Where the glass overlaps the wine bottle, you can faintly see the bottle's label and shape.

Note: If multiple overlapping objects are grouped, Canvas treats the group as a single object and doesn't apply the transparency or mix effect within the group.

Blending objects

Using the Blend effect, you can create gradual transitions in shape, color, and stroke width between two or more objects. Canvas generates a series of objects (from back-to-front through the stacking order) that appear to transform one object into another.

Artists often use blends to create highlights and shadows in vector drawings that provide the illusion of roundness and lighting. In addition, you can use blends to copy and evenly distribute objects around shapes to create borders.

Canvas can blend solid color inks only. If you blend objects with hatches, symbols, textures, or gradients, Canvas generates the blend objects but doesn't fill them with an ink.

To blend objects

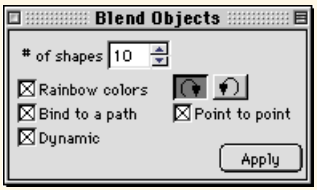
Select two or more vector objects. If necessary, choose Blend in the Effects menu to open the palette. Configure the settings and click Apply.

# of shapes. The number of objects Canvas creates for the blend. Higher numbers result in smoother blends.

Rainbow colors. Creates a rainbow-like blend of colors between objects. This introduces more color variations than a standard blend, which uses only combinations of the original colors. When you turn on this option, two buttons appear; choose a clockwise or counter-clockwise path around the color wheel.

Bind to a path. Turn on to use the path of an object (not in the current selection) to arrange blend objects. When you click Apply, Canvas prompts you to *Choose Path;* click the object to which you want to bind the blend objects.

Point to point. Available when blending two objects. This option lets you rotate blend objects, creating the illusion that one object is twisting into another. When you click Apply, Canvas prompts you to *Choose 1st Point*; click an anchor point on one object. Canvas then prompts you to *Choose 2nd Point*; click an anchor point on the other object. To reverse the blend direction, Option-click (Mac) or Ctrl-click (Windows) when you choose the two points.



Dynamic. Lets you use the Direct Selection tool (hollow arrow) to accelerate, decelerate, expand, contract, and redirect the blend after Canvas creates it. Dynamic blends aren't available for specialized objects, such as multigons, spirals, concentric circles, and grids.

Using blends for dimensional effects

By specifying a high number of blend objects, you can create gradual transitions between shapes and colors. With the appropriate settings, colors seem to fade and mix into each other, and the blend objects do not appear as distinct objects. This effect is often used to add realistic highlights and shadows to objects so they appear three-dimensional.

When configuring the blend settings, keep in mind that the size of the final output affects the number of shapes required to make the blend appear smooth. For large posters, you might need to use a lot of shapes, but fewer shapes are required for small illustrations.

In addition, objects that you blend must have the same number of anchor points for the blend to appear smooth. Canvas uses the anchor points to calculate the steps and shapes in a blend; an inconsistent number of anchor points can cause unwanted twists and distortions.

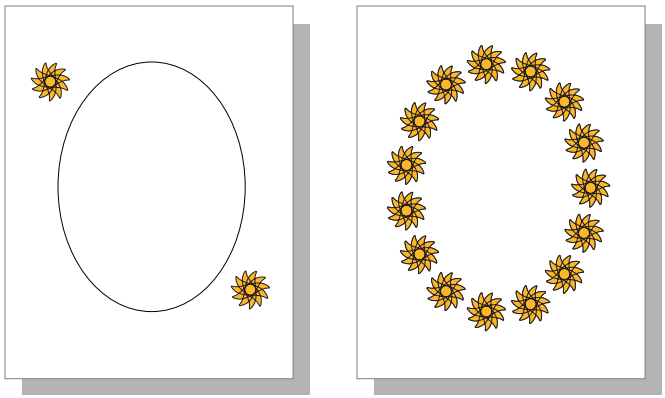
✔ Tip

To ensure that blended objects have the same number of anchor points, copy an object, edit its shape, and blend between these objects.

Using blends to create patterns

Although blends are often used to create gradual, smooth transitions between shapes and colors, you can also use the Blend command to create and evenly space a pattern across a layout. By specifying a low number of shapes and widely spacing the front and back objects, you can make each blend object a distinct object. This effect can be useful for creating borders and other patterns.

The artist created this border by first creating a flower-like multigon, copying it, and drawing an oval. To distribute the flowers evenly around the oval, the artist selected the two multigons, turned on the "Bind to a path" option in the Blend palette, specified a relatively low number of shapes (15) for the blend, and chose the oval as the binding path.

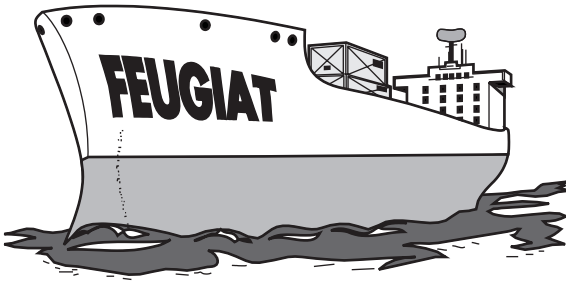


Distorting shapes

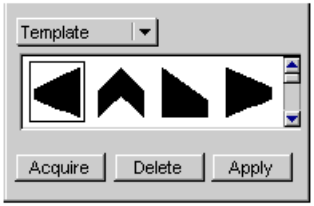
The Envelope command lets you distort shapes and text, as if an illustration was drawn on a rubber sheet and then stretched.

When an object is in envelope edit mode, its bounding box acts like the rubber sheet. Canvas includes several envelope styles that offer various handles you can use to stretch an object's bounding box. Using this effect, you can create new shapes, add a sense of motion to an illustration, or arrange text so it appears to be painted on a three-dimensional object.

The Envelope command distorted the type to match the contour of the ship's hull



Using envelope templates



Canvas has several envelope templates that you can use to instantly distort shapes. The silhouettes in the template scroll list show the distortion created by each template.

In addition, you can create your own envelope templates. After you apply the envelope effect to an object, you can acquire the shape of the envelope as a template.

To apply an envelope template

1 Select a vector object.

2 Choose Effects > Envelope to open the Envelope palette, if necessary.

3 In the palette, choose Template in the pop-up menu.

4 Click a preview shape in the scroll list to select it, and click Apply.

To save an envelope as a template

To store an object's envelope as a template, you must first have used the envelope effect on the object. (See "To apply an envelope effect," next.) You can't acquire a standard vector shape, such as a circle, unless you first apply the envelope effect

1 Select an object that has been edited using the envelope effect. The object cannot be in envelope edit mode.

2 Choose Effects > Envelope to open the Envelope palette, if necessary.

3 In the pop-up menu, choose Template.

4 Click Acquire; a preview of the envelope shape appears in the scroll box.

◆ **To delete an envelope template:** In the Envelope palette, choose Template in the pop-up menu. Click a preview shape in the scroll box to select it, and click Delete.

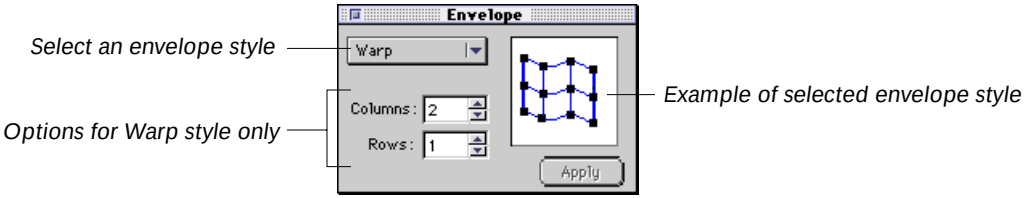
Using envelope styles

In addition to envelope templates, Canvas has six envelope styles that let you edit shapes in different ways. Each style moves and changes the bounding box in a particular way. See the table below for information on the attributes of each style.

To apply an envelope effect

1 Select a vector object.

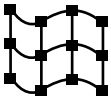
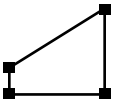
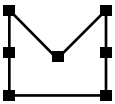
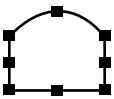
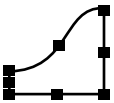
2 If necessary, choose Effects > Envelope menu to open the Envelope palette.



3 In the palette, choose an envelope style in the pop-up menu and click Apply.

4 Drag the envelope handles that appear on the bounding box of the object to edit the shape.

Envelope styles and editing options

Example	Style	Number of handles	Envelope behavior
	Warp	Enter the number of horizontal and vertical handles in the text boxes.	Each handle behaves like a path anchor point and can move in any direction.
	Distort	Four	Each side of the envelope edit box is a straight line; handles can move in all directions. This style is useful for creating perspective.
	Straight Line	Eight	All handles are connected by straight lines. Corner handles are constrained to right-angle movements; side handles can move in all directions.
	Single Cusp	Eight	Side handles form convex or concave curves between corner handles. Side handles can move in any direction; corner handles are constrained to right-angle movements.
	Double Cusp	Eight	Side handles form S-shaped curves between corner handles. Side handles can move in any direction; corner handles are constrained to right-angle movements.

Example	Style	Number of handles	Envelope behavior
	Bézier	Eight	All handles behave like smooth anchor points and can move in any direction.

Extruding objects

The Extrude command lets you create objects that appear to have three dimensions. You can extrude vector and text objects in parallel style, and vector objects in circular and semi-circular ("sweep") style.

You can rotate and scale extruded objects in three-dimensional space. You can set the placement, intensity, and color of a simulated light source for shading extruded objects. Solid color fill inks can be applied to extruded objects. Strokes and other inks are not supported.

Note: Canvas extrusions resemble QuickDraw 3D objects, but QuickDraw 3D is not required to extrude objects. You can save extruded objects in QuickDraw 3D file format (3DMF) if QuickDraw 3D is installed (Mac only).

To extrude an object

1 Select an object for the extrusion you want to create:

- For parallel extrusion, select a text or vector object, or a group object containing one or both types of objects.
- For circular or sweep extrusion, select a vector object.

2 Choose Effects > Extrude to display the Extrude palette.

3 Select a preset or custom extrusion setting:

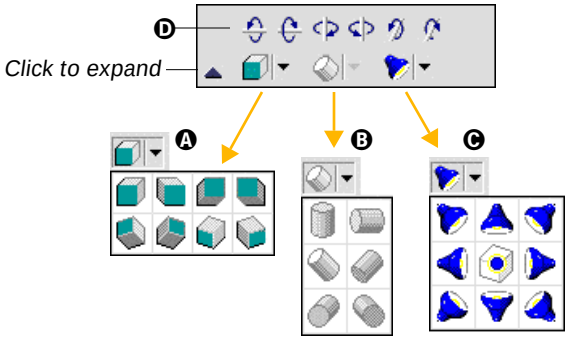
Using presets: From the preset extrusion pop-up palettes, select an extrusion icon to extrude the selected object. The icons show the angle and position of the extruded object. Canvas uses a default extrusion depth for parallel extrusions, and a default Steps setting for circular extrusions.

Using custom settings: Click the arrow to expand the palette. Choose an extrusion style, lighting color, and other options. Click Apply to extrude the selected object.

4 If you select Circular or Sweep style, an extrusion axis appears. See "Completing a circular or sweep extrusion," next.

Extrusion palette

- Ⓐ Parallel presets
- Ⓑ Circular presets
- Ⓒ Lighting presets
- Ⓓ Rotate buttons



Completing a circular or sweep extrusion

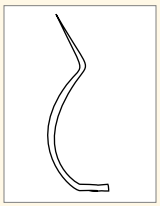
When you set up a circular or sweep extrusion, you can specify the number of steps you want Canvas to use. The more steps, the smoother and less "blocky" the extrusion appears.

◆ **To specify the number of steps for a circular or sweep extrusion:** In the Extrude palette, enter a number between six and 60 in the "# of Steps" text box.

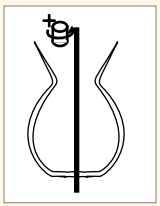
After you apply a circular or sweep extrusion to an object using the expanded Extrude palette, you need to set the extrusion axis, which is represented by a black bar. A mirror image of the selected object shows the extrusion at 180 degrees.

◆ **To set the extrusion axis:** Drag the black bar right, left, up, or down, depending on the direction you want to extrude. The mirror image of the object moves as you drag the axis. Press Enter or double-click to complete the extrusion.

Circular and sweep extrusions

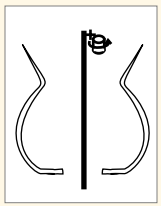


Original object



Axis

Circular extrusion



Axis

180º sweep extrusion

Extrusion options

You can use pop-up palettes of extrusion and lighting presets in the Extrusion palette to modify extruded objects. If you expand the Extrude palette, you can use options to control lighting and rotation of extrusions. You can set these options before you extrude an object, or to edit an extruded object.

- Before extruding a selected object, set up the options you want and click Apply to extrude the object.
- After extruding an object, double-click it, change the settings you want, and click Apply to apply the settings.

You can control the color and position of the light source to change the shading of extruded objects. Canvas uses shades of gray to create highlights and shadows. Canvas then mixes the highlights and shadows with the color of the light source and the fill color of the object.

Extrusion styles

In the expanded Extrude palette, you can select the extrusion style from the pop-up menu.

Parallel Adds depth to an object, as though the shape were cut out of a slab of clay. You can create parallel extrusions with text objects and vector objects.

Circular Extrudes a shape in a circular path. You can set the diameter of the extrusion path and the number of steps (6-60) in the extrusion. You can apply circular extrusions to vector objects, but not text.

Sweep Extrudes a shape along a circular path, and lets you specify the number of degrees (10 to 360) to extrude. You can also set the diameter of the extrusion path and the number of steps (6-60) in the extrusion. You can apply sweep extrusions to vector objects, but not text.

Extrude palette options

Ⓐ Select an extrusion style from the pop-up menu. For Sweep style, also enter the angular length, from 10 to 360 degrees.

# of Steps: For Circular or Sweep style, the number of steps controls the number of facets on the surface of the extrusion. Enter a value from 6 to 60.

Light color: Choose a light source color from the palette.

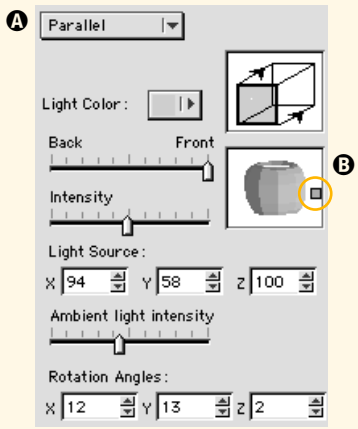
Back/Front: Drag the slider to specify the depth of the light source in three-dimensional space (along the *Z* axis).

Intensity: Drag the slider to adjust the overall brightness of the light source.

Ⓑ Drag the handle to set the horizontal (X) and vertical (*Y*) position of the light source and preview the effect.

Light Source: Use the handle (Ⓑ) and Back/Front slider, or enter *X*, *Y*, and *Z* coordinates to set the position of the light source.

Ambient Light: Drag the slider to adjust the highlight and shadow contrast.



Rotation Angles: Enter X, Y, and Z values in degrees to rotate the extruded object in 3D space.

Editing extruded objects

Rotation buttons

You can rotate extruded objects in several ways:

- Click the rotation buttons on the Extrude palette
- Enter values in the Rotation Angles text boxes in the expanded Extrude palette.
- Rotate and scale extruded objects interactively.

To rotate and scale an extruded object, the object must be in extrusion edit mode. To place an extruded object in edit mode, Double-click the extruded object.

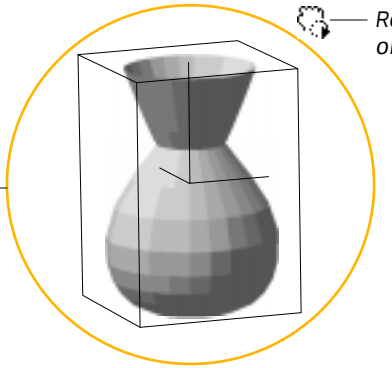
Immediately after you extrude an object, the object is in extrusion edit mode. To exit this mode, double-click outside the object or press Esc.

In edit mode, Canvas displays three axes, representing the three dimensions. Each axis has a handle, and when you roll the pointer over a handle, it changes to an extrusion pointer. Otherwise, the pointer appears as a rotation pointer.

To rotate an extruded object interactively

When you first apply the Extrude effect, the object might appear flat if it is facing you (with the *Z* axis pointing directly at you).

To see all dimensions, rotate an edge of the object toward you. With the rotation pointer, drag a side in the direction you want to rotate the object. As you drag, Canvas displays a circle to show the space in which the object can rotate. Dragging inside the circle rotates the object in all three dimensions; dragging outside the circle rotates the object on the plane that is facing you.



You can also rotate an extruded object in two dimensions, like other vector objects, using the Rotate or Freeform commands in the Effects menu. The object can't be in extrusion edit mode to use these commands. When you use the Rotate and Freeform commands, Canvas does not reapply lighting effects as with three-dimensional rotation. In other words, the light source appears to move with the object, instead of remaining in the same place as the object rotates.

Changing the shape of extruded objects

When an extruded object is not in edit mode, you can resize and reshape it like other two-dimensional vector objects. You can

- drag a handle on the bounding box to resize the object
- place the object in freeform mode to skew the object

- use the Scale or Object Info commands to resize the object
- apply the Envelope effect to warp and distort the object

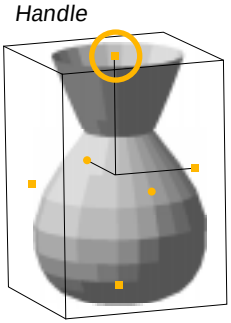
In addition to these two-dimensional editing functions, extruded objects have unique, three-dimensional properties. When an object is in extrusion edit mode, you can make it thicker, wider, or taller, and Canvas redraws the object to account for lighting changes.

Editing extruded objects

When you drag a handle, Canvas extrudes the object outward, along the corresponding axis. In other words, dragging a handle to the right extrudes the object to the right and the left simultaneously.

Extrusion symbol when pointer in on an extrusion handle

Rotation symbol when pointer in not on an extrusion handle



Changing the color of extruded objects

When you extrude a vector object, Canvas uses combinations of a solid-color fill ink, shades of gray, and the light-source color to create a three-dimensional appearance. After you extrude an object, you can apply solid color fill inks and change the color of the light source in the Extrude palette. When you change colors, Canvas redraws the object to show the interaction of the new colors with the object's shape and shading.

Colorizing objects

You can use the Colorize command to tint vector objects with solid color fill or pen inks when you want to mix two colors, or shade one color with another. Doing this in the Inks palette can be complicated, because you have to create a custom color and set the correct values to approximate a two-color mixture. The Colorize command lets you simply select two colors and choose the percentage of each.

To colorize a vector object

1 Select at least one vector object that has a solid color fill or pen ink. Colorize has no effect on gradient, hatch, texture, and symbol inks.

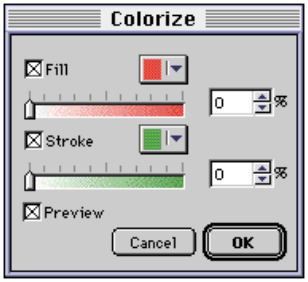
2 Choose Effects > Colorize.

3 In the Colorize dialog box, turn on the Fill and Stroke options to colorize both, or select the one ink you want to colorize.

4 In the pop-up color palettes, select the colors you want to add to the inks of the selected objects.

5 Use the sliders or enter a percentage in the text boxes to set the amount of color to mix with the object's color.

6 Turn on Preview to see the effect or click OK to colorize the object.



How colorization works

Canvas uses the percentages you specify to determine the new color values for the selected object. For each color value (for example, Red, Green, and Blue in the RGB color model), Canvas finds the difference between the tint and the original color. Then, Canvas multiplies the differences by the percentage you specify, and adds these values to the original color values.

Colorization calculations

An object's color has a red value of 40%. To tint 50% with a color that has a red value of 100%, Canvas calculates a new red value of 70%. The same calculations apply to the green and blue values for an RGB color.

Original *Tint color* *Result*

Difference in red values: 100 - 40 = 60

*Value difference multiplied by tint percentage: 60 * 50% = 30*

Original color value plus tint value is new value: 40 + 30 = 70% red

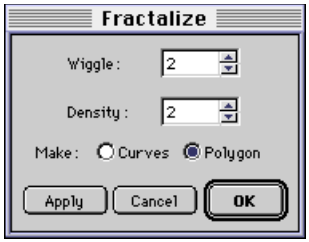
Fractalizing objects

Fractals are mathematical transformations that simulate the irregularities and patterns in natural shapes, such as coastlines and mountain ranges. When you fractalize a vector object, its outline becomes jagged. You can use the Fractalize command to add a fractal effect to any vector object except dimension objects and Smart Lines.

Vector objects

Fractalized mountains

◆ **To fractalize an object:** Select at least one object and choose Effects > Fractalize. Enter the Wiggle and Density values, and choose Curves or Polygon fractals. Click Apply to preview the effect. Click OK to apply the effect and close the dialog box.



Wiggle The amount a fractalized path can deviate from the original path. Enter a number between 0 and 20; higher numbers increase the amount of wiggle.

Density The smoothness of the fractalized path. Enter a number between 0 and 5. Higher values increase the number of anchor points Canvas add to the path. Lower densities result in sharper angles.

Curves or Polygon Polygon fractals can be jagged and use many anchor points, while curves fractals are smoother and require fewer additional anchor points.

Note: Canvas fractalizes objects by adding several anchor points to an object's path. High wiggle and density settings and polygon fractals can add numerous anchor points, which require more memory to print. Lower settings and curves fractals can help to conserve system resources and eliminate problems you might have while printing.

Creating shadows for objects

The Shadow command lets you apply two types of offset ("drop") shadows to selected objects. You can use the command to apply a shadow made of vector objects or an image. Canvas places the shadow directly behind the selected object in the stacking order.

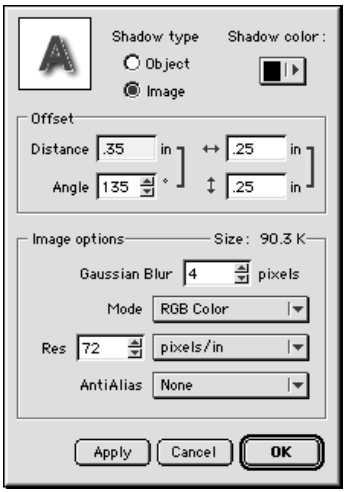
You can edit shadow objects independently from the objects they are shadowing. You can skew them to create oblique shadows, and use filters to change their appearance. The original object and the shadow are not grouped, so editing or moving one doesn't affect the other.

Vector (left) and image type shadows with different offsets

You can apply shadow effects to any vector or text object except dimension objects and Smart Lines. If you apply a vector shadow to a group of objects, Canvas groups the shadow objects and places the shadow behind the original group. If you apply a shadow to a paint object, Canvas creates a shadow of the paint object's bounding box.

◆ **To create an offset shadow:** Select an object and choose Effects > Shadow. In the Shadow dialog box, select options (described next). Click Apply to see the effect. To accept the settings and close the dialog box, click OK.

Shadow options



Shadow type Select Object to create a vector object shadow. Select Image to create a paint object shadow. A vector shadow has a hard edge and can be edited like any vector object. An image shadow can be softened using the Gaussian Blur option and can be edited like any paint object.

Shadow Color Select the color to apply to the shadow object from the color palette.

Offset You can specify the location of the shadow relative to the original object. Enter the distance and angular direction to offset the shadow in the first text boxes, or enter the horizontal and vertical distances to offset the shadow in the second text boxes.

Image Options These options are available when Image is selected. You can specify the amount of blur in the Gaussian Blur box. Select the color mode of the paint object from the Mode menu.

Set the image resolution in the “Res” box. To apply anti-aliasing, select an option from the menu.

Size The value shows the amount of memory required for the paint object based on the current Image Options settings.

Binding groups

The Bind Group command in the Effects menu lets you align a group of objects to the path of a vector object, such as a curve or polygon.

To use the Bind Group command, you must select an object group (a set of vector objects that have been united with the Group command in the Object menu).

To bind an object group

1 Select the object group that you want to bind to a path and select the path to which you want to bind the object group. Both the object group and the path must be selected.

2 Choose Effects > Bind Group.

Using the Transform palette

You can use the Transform palette to move, scale, rotate, and skew selected objects. You can keep the palette open for easy editing and positioning of objects.

To display the Transform palette, choose Effects > Transform. To close the palette, click the Close box (Mac) or double-click the Control menu box (Windows).

You can change the palette’s layout from horizontal to vertical by dragging the lower-right corner.

You can change the size, location, and orientation of selected objects by using options and entering values in the Transform palette. Canvas applies the current settings when you press Enter or tab to the next box.

Once an object has been transformed, it becomes a new object. Therefore, the reference point is reset to reflect its position on the new object. The values in the text boxes display the size and position of the new object. The text boxes that show rotation and skew display 0. And the scaling percentage text boxes display 100 percent.

Locating the reference point

Reference point

The reference point is displayed on the transform palette. It is a point on the selected object (or its bounding box) that position data are based on. The reference point is also the fixed point used in an object's transformation. For example, with a rectangle selected, click the upper-left corner point. The X Y boxes show the coordinates of the rectangle's upper-left corner, if Absolute coordinates are specified.

Transform menu options

You can choose different options to transform objects. The option you choose determines the type of data that appears in the boxes on the palette. You can choose from one of the following options:

Relative Changes the position of the object relative to the current position, or height and width values. The value in the first boxes, Delta X and Delta Y, is 0 when you select an object. To move the object, type the distance to move. The next two boxes, W and H, display the object's width and height. Type new values to resize the object.

Absolute Specifies X Y coordinates or height and width values. The first two boxes, X and Y, display the coordinates of a selected object's reference point. To move an object, type new coordinates for the reference point. The next two boxes, W and H, display the object's width and height. Type new values to resize the object.

Start/End Points The first two boxes, X and Y, show the coordinates of the object's reference point. To resize an object by moving the reference point, type new coordinates for the reference point.

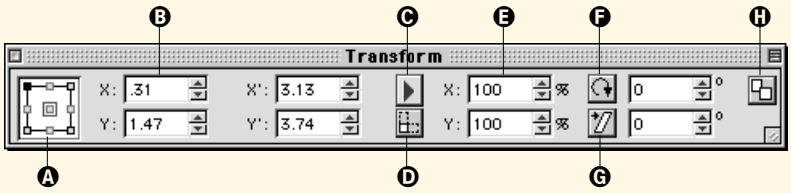
The next two boxes, X' and Y', show the coordinates of one of the corner points on the object (or the object's bounding box). The point is the upper-right corner when the reference point is the lower-left corner. The point is the lower-right corner when the reference point is the upper-left corner. The point is the lower-left corner when the reference point is the upper-right corner. The point is the upper-left corner when the reference point is the lower-right corner.

For a line, you cannot select a reference point. The X and Y boxes always indicate the starting point of the line and the X' and Y' boxes always indicate the end point of the line. To resize an object, type new coordinates for this point.

Distance and Angle The first two boxes show the X Y coordinates of a line's start point. This is only available when a line is selected.

The second two boxes show the line's length and angle. You can change these values to change the length, angle, or position of the line. A representation of the angle is given in the reference point box.

Transform palette settings



You can select options and enter data in the Transform palette to change the size, location, and orientation of selected objects.

A Reference point. Click a point in the box to set the reference point for the object. The location of the reference point depends on the object's shape. With a rectangle selected, the corner points in the box correspond to the rectangle's corners. With an oval or other shape selected, the corner points in the box correspond to the corners of the object's bounding box.

Rotation point. Shift-click a point in the box to set the rotation point for the object. A red square in the box indicates the current rotation point. The rotation point is a point on the object around which the object rotates if you enter a rotation angle.

B Position data. The type of data that appears in the boxes, and their labels, depends on whether you choose Relative, Absolute, Start/End Points, or Distance and Angle in the menu (**C**).

C Choose an option for specifying location and size data. You can choose Relative, Absolute, Start/End Points, or Distance and Angle.

Choose **Relative** to change position relative to the current position, or height and width values.

Choose **Absolute** to specify X Y coordinates or height and width values.

Choose **Start/End Points** to specify X Y coordinates.

Choose **Distance & Angle** to specify X Y coordinates, distance, and angle for lines.

D When this button is selected, the palette constrains objects so they are resized proportionally. For example, if you type a width value, Canvas calculates the height value to keep the object's proportions the same.

E The X and Y boxes show 100% when you select an object. You can resize an object by percentages by changing the values. For example, to resize a rectangle so it is twice as wide, type 200 in the X box. To make it one-half as tall, type 50 in the Y box.

The Y box is not available when the proportion option (**D**) is selected.

F Rotation. Click to select clockwise or counter-clockwise rotation. Type the angle of rotation in the box to rotate the object.

G Skew. Click to select horizontal or vertical skewing. Type the skew angle in the box to skew the object.

H When this is selected, the Transform palette operates as if multiple selected objects were a group object. If this option is not selected, the palette affects selected objects individually.

With multiple objects selected and the group option (**H**) not selected, coordinate values are 0; you can enter new values, which Canvas applies to each object when you press Enter.

IV

TEXT & TYPOGRAPHY

CHAPTER 19

TEXT ENTRY AND LAYOUT

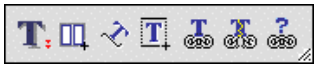
Canvas has a full range of text and typography features that let you integrate text with illustrations and images. You can enter, format, edit, and arrange text in Canvas. You can also import text files, and use Publish and Subscribe or Object Linking and Embedding (OLE) to place text in documents. To help you edit and proof text, Canvas provides spell-checking and text-searching tools.

This chapter describes how to perform the following operations with text:

- Create and work with text objects.
- Type text into new objects and flow text between text columns.
- Insert headers, footers, page numbers, the current date and time in Publication documents.
- Create empty text objects for layout templates.

Text tools

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ



Ⓐ Text Ⓑ Section Ⓒ Path Text, Ⓓ Text Object Ⓔ Text Link Ⓕ Text Unlink Ⓖ Text Info

The Text toolbar in the toolbox contains the tools you can use to create text objects and to edit text. Each of these tools is described in later sections in this chapter.

- Use the Text tool to create text objects and edit text.
- Use the Text Object tool to draw fixed text objects for page layouts.
- Use the Path Text tool to type text along a vector path.
- Use the Text Link tool to link text objects to create text flows.
- Use the Text Unlink tool to break text object links.

Press to open toolbar of text tools

Text objects

All text in a Canvas document is contained in objects called text objects. Text objects can contain a single character or line of text, or thousands of words, sentences, and paragraphs.

Note: Dimension objects contain dimension text. For more information on text in dimensions, see the description of Dimensioning tools beginning on page 17.2.

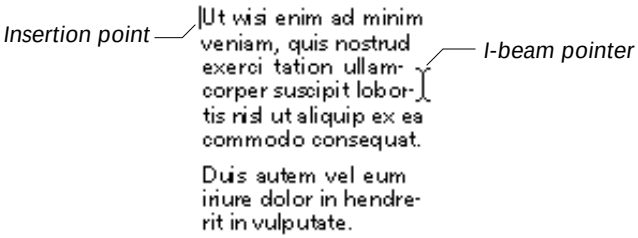
Selecting and editing text objects

A text object can be selected or be in edit mode. These states are mutually exclusive. In other words, a text object can't be in edit mode and be selected at the same time.

When a text object is in edit mode, the Text tool is active and you can add, move, and delete text in the text object. For text-editing procedures, see "Text edit mode" on page 20.1.

When a text object is selected, you can change its dimensions, delete it, move it, and apply commands and operations to it, the same as you would with other objects. For more information, see the chapter titled "Working with objects" on page 10.1.

A selected text object has handles at the corners and midpoints of its bounding box.



In edit mode, an insertion point appears in the text, and the Text tool pointer is an I-beam.

Typing text in a document

You use the Text tool or the Vertical Text tool to type text into a document. This section describes using the Text tool for typing.

The Vertical Text tool does not appear unless "Enable two-byte script" is selected in the Preferences dialog box. The Vertical Text tool is designed for Japanese and other languages with vertical text. For information on the Vertical Text tool and other features for working with two-byte languages, see "Tools and options for two-byte and vertical text" on page 9.9.

Using the Text tool

Text tool 

The Text tool is used to create new text objects, type text into a document, and edit text.

When you create text objects with the Text tool, you can choose whether or not to set the column width before typing.

- If you set the column width before typing, text will wrap to the next line when it reaches the right boundary of the text object.
- If you don't set the column width before typing, the right margin expands indefinitely to accommodate the amount of text you type. This is called a "caption" text object.

In either case, you can change the size of the text object by selecting it and dragging a selection handle.

Whether you should set the column width before or after typing depends on the amount of text you want to type. For short labels and callouts, you might find it easier to simply type and let Canvas adjust the right margin. However, for paragraphs or newsletter columns, it's probably easier to set the column width before typing.

To type text with the Text tool

1 Select the Text tool in the toolbox. The pointer displays an I-beam when moved into the document window.

2 Do one of the following to set the location and type the text:

- To enter one line of text, click in the document; an insertion point appears where you click. Begin typing and the right margin extends to fit the line of text that you type.
- To define a text column, drag diagonally to create a rectangular text object. The object's width matters, but not its length; Canvas contracts or expands the length to accommodate the text you type. An insertion point appears at the top of the object. Begin typing, and when you reach the right margin, Canvas wraps the text to the next line.

3 When you finish typing, press Esc to exit text-editing mode. You can also end text editing by pressing Enter (Mac), or by selecting another tool. The text object remains selected.

4 When a text object is selected, you can change its dimensions by dragging one of the selection handles on the edge of the object.

To deselect the text object, press Esc, select another object, or click outside the object.

To type text in an object

When a vector object such as an oval is selected, you can use the object as a text container and type text in it without selecting the Text tool.

To type text in an object, select the object and simply begin typing (without clicking in the object first). The text you type stays inside the left and right boundaries of the object. When you finish typing, press Esc to end text editing.

Select a vector object and begin typing to wrap text inside the object.

If you start to type more text than can fit in the object, a text overflow indicator appears. You can resize the object to fit the text, or flow extra text to another text object; see "Flowing overset text into new text columns" on page 19.19 for more information.

Typing text in an object is the same as wrapping text inside an object. See "Wrapping text inside an object" on page 23.1 for more information on how to work with this type of text.

Typing text on paths

You can use the Path Text tool to type text so it follows the path of a vector object, such as a circle, polygon, or open curve. You can also use the tool to create text that flows along multiple paths.

To type text on a path

Path Text tool 

1 Select the Path Text tool in the Text toolbar. In the document window, the pointer is an arrow. The arrow changes to an I-beam when you point to a vector object path.

2 To set the insertion point, click the path. Begin typing and the text follows the vector path. You can type multiple lines of text. To start a new line, press Enter at the end of the previous line.

3 When you finish typing, press Esc. The text object becomes selected.

Vector path

Overset symbol

Flowing text

As you type text on a path, if you reach the end, you can flow text to another path. Click the overset symbol at the end of the text object. Then, click the next vector path at the point where you want the overset text to start flowing. You can continue typing to enter additional text.

If you don't want to flow overset bound text, you can resize the path so that all the bound text can flow along it. If no text is overset, the overset symbol does not appear at the end of the text object.

You can also use the Text Link tool to link text to another path. Select the Text Link tool in the Text toolbar. The pointer displays the number "1." Click the first text object. The pointer changes to the number "2." Click the object you want the text to flow to. When you finish, press Esc.

Adjusting text on a path See the section about adjusting bound text, starting with "Binding text to vector objects" on page 23.5, for information on changing the text baseline, flipping the text, and adjusting the spacing between the text and the path.

Typing special characters

You can insert special characters using Keycaps (Mac) or Character Map (Windows). The table below shows key strokes for some special characters. On Windows, the numbers must be typed on the numeric keypad.

Character	Mac Keystroke	Windows keystroke
– (em dash)	Option + -	Alt + 0151
™	Option + 2	Alt + 0153
£	Option + 3	Alt + 0163
§	Option + 6	Alt + 0167

Character	Mac Keystroke	Windows keystroke
¶	Option + 7	Alt + 0182
•	Option + 8	Alt + 0149
®	Option + r	Alt + 0174
©	Option + g	Alt + 0169

Typographic quotes

You can set a preference so Canvas inserts typographic (“curly”) quotation marks in text you type. For more information, see “Use Smart Quotes” on page 9.8.

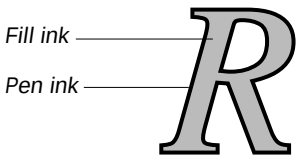
To control line breaks

“Soft” returns are forced line breaks which do not create new paragraphs.

To create a soft return, place the insertion point where you want the soft return and press Shift+Return. Text to the right of the soft return moves to the next line.

◆ **To view soft return symbols:** Choose Layout > Display > Show Text Invisibles. To hide soft return symbols, choose Layout > Display > Hide Text Invisibles.

Attributes of new text



A text character that has a gray fill ink and a black pen ink, with a 2-point pen stroke

When you type text, Canvas applies the current attributes and the current type format settings to the characters you type.

Type formatting Canvas applies the current settings for the font, style, type size, justification (alignment), leading, and kerning to the characters you type. These settings are selected in the submenus in the Text menu or with the controls in the Type palette. For more information on formatting, see “Applying text formats” on page 21.4.

Inks Canvas applies the current fill ink, if it’s a solid color fill ink, to the text characters. If the current fill ink is a gradient, hatch, symbol, or texture, Canvas applies 100% black to the text characters. The pen ink for text you type is always 100% black, and is not visible until you apply a pen stroke to the text.

Strokes Canvas applies no stroke to text characters you type. This means that no outline appears on the characters, and the pen ink

applied to the text is not visible because the pen ink appears only when an object or text has a visible stroke.

Creating text layouts

Text Object tool 

The Text Object tool lets you place empty text objects, or columns, in page layouts. Empty text columns created with the Text Object tool keep their width and length, unlike text objects made with the Text tool, which shrink and expand to fit the amount of text you type. The Text Object tool is especially useful for designing templates and master pages, because you can set up text columns and add type later.

✔Tip
When the bounding boxes of text objects are visible, you can hide them by choosing Display > Hide Text Boxes in the Layout menu. To show text boxes again, choose Display > Show Text Boxes in the Layout menu.

If you type or paste text into a column created with the Text Object tool, and there is more text than will fit in the column, Canvas hides the overflow text and displays an overflow indicator. See “Flowing overset text into new text columns” on page 19.19 for information on flowing text from one object to another.

Note: The Text Object tool doesn’t select text or place a text object in edit mode. For these operations, use the Text tool.

To create an empty text column

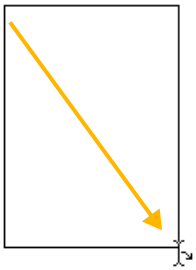
Text Object tool pointer 

1 Select the Text Object tool. When you move into the document window, the pointer is an I-beam with an arrow.

2 Drag to set the width and length of a rectangular text column.

3 Canvas deselects the Text Object tool and selects the Text tool. The new text object is in edit mode, with an insertion point at the top of the column.

- You can begin typing in the new text object immediately, or press Esc to end text editing. The text object remains selected; press Enter (Mac) or Esc (Windows) to deselect it.



Drag the Text Object tool to create an empty text object.

Positioning text objects

You can arrange text objects the same way you arrange other types of objects. You can drag text objects with the mouse, resize them by dragging a selection handle, “nudge” text objects with keyboard arrow keys, and set coordinates and dimensions in the Object Specs palette.

Copying and removing text objects

You can use the Copy, Cut, Clear, Paste, Duplicate, and Replicate commands in the Edit menu to copy and delete text objects. These

commands operate on text objects the same as on vector objects. For more information on these commands, see “Copying, cutting, pasting, and deleting objects” on page 10.7.

Inserting headers and footers

In Publication documents, you can add header and footer text objects using commands in the Text menu. Headers and footers are special text objects that can contain codes for the current date, current time, and page number, in addition to text you type. Canvas updates the date, time, and page number codes each time it redraws the screen.

Canvas inserts headers at the top of the printable area (the top of the on screen page layout) and footers at the bottom of the printable area. Both types of objects initially span the width of the page, but you can resize and move them just like other text objects.

To create header and footer text objects

1 Because you can’t add headers and footers in edit mode, press Enter (Mac) or Esc (Windows) to end text editing, if necessary.

2 Choose Text > Insert > Header or Text > Insert > Footer. Canvas creates the text object, and places it in edit mode.

Inserting dates, times, and page numbers

In Publication documents, you can insert date, time and page number codes in header and footer text objects. Canvas will update the values for these codes each time it redraws the screen. Canvas uses the date and time as set in the operating system. Refer to your system documentation for information on setting the current date and time.

You can insert the current date and time in standard text objects, but Canvas does not update this text; it is “stamped” into the document as regular text.

◆ **To insert the date, time, or page number in a Publication document:** With a header or footer object in edit mode, choose an option in the Insert submenu in the Text menu; refer to the table for descriptions of the Insert submenu commands.

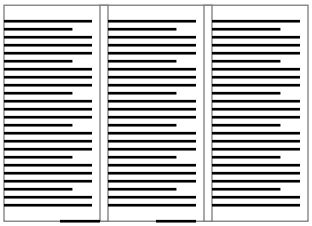
You can apply text formatting to the date, time, and page codes. For example, you can change fonts, type sizes, and justification, as you would apply formatting to normal text with the Text menu or the Type palette.

Date, time, and page number commands

To insert	In this type of object	Do this
Updating date code	Header or footer	Choose Insert > Date, or type *$d*
Date stamp	Any text object	Choose Insert > Date Stamp
Updating time code	Header or footer	Choose Insert > Time, or type *$e*
Time stamp	Any text object	Choose Insert > Time Stamp
Current page number	Header or footer (page count is static in normal text objects)	Choose Insert > Page #, or type *$p*
Total page count	Header or footer (page count is static in normal text objects)	Choose Insert > Total Page #, or type *$t*

Creating column layouts

To create text columns in a document, you could manually arrange separate text objects. However, the Section tool and column guides make text layout almost automatic. This section describes how to work with the Section tool and column guides to create text layouts.



A 3-column section

Column guides and sections

A section is a rectangular area that arranges text in columns. A section is made of column guides, which are non-printing lines that define the text columns and gutters (spaces between columns).

Sections make it easy to arrange and modify text in columns. You can place one or more sections on a page. After you place text in a section, you can change the number or the size of the columns in the section and Canvas will adjust the text to fit.

Displaying column guides

You can display or hide all the section column guides in a document.

◆ **To show column guides:** Choose Layout > Display > Show Guides when column guides are not displayed. To hide column guides, choose Layout > Display > Hide Guides when column guides are displayed.

Creating sections

You can create sections with the Section tool or the Column Guides command.

- The Section tool lets you place multiple sections at specified locations on one or more pages. You can also use the tool to modify sections.
- The Column Guides command lets you place sections on pages that don't contain sections. If the current page has sections, the Column Guides command lets you change the settings for any section on the page.

Whether you are creating or modifying sections with the Section tool or the Column Guides command, the Column Guides dialog box is the control center for configuring sections.

When you create a section, the section's column guides appear on a guide layer in the document. By default, guide layers are non-printing and have a bright blue override color. You can use the Document Layout palette to change the override color or make a guide layer printable.

When you add text to a section, Canvas creates a text object in each column in the section. The text objects are placed on the current layer.

To create sections with the Column Guides command

1 Go to the page where you want to place a new section and choose Layout > Column Guides.

2 In the Column Guides dialog box, you can select a preset column arrangement or set up custom columns. In the Apply To menu, choose where to place the new section. See "Column Guides settings" on page 19.12.

3 Click OK to create a new section with the current settings.

If the document contains no sections, Canvas creates one or more new sections, according to the Apply To setting.

Modifying sections

If you choose the Column Guides command, and the current page contains one or more sections, you can use the Column Guides dialog box to modify or delete a section.

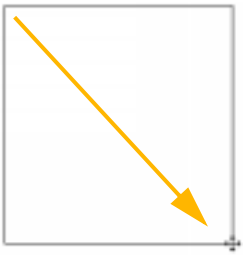
Enter the name of the section to modify in the Section Name box. You can use the menu to select the name of any section on the page. When you click OK, Canvas applies the settings in the Column Guides dialog box to the section specified in the Section Name box.

If you choose the Delete Section command in the dialog box, Canvas deletes the section specified in the Section Name box.

Using the Section tool

Section tool 

You can drag the Section tool in a document to create a section. You can also use the Section tool to move and modify sections. The Section tool is in a toolbar with other text tools in the toolbox.



Drag to create a section

To create a section with the Section tool

1 Select the Section tool, and then drag in the document to set the width and height of the section.

2 In the Column Guides dialog box, select options for the section. You can select preset column guides or specify a custom setup. See "Column Guides settings" on page 19.12.

3 Click OK to create a new section with the current settings.

Modifying sections with the Section tool

You can use the Section tool to move, resize, and modify sections.

Moving sections

To move a section, drag it with the Section tool. When you move a section, text objects contained in the section move with the section.

Note: You must use the Section tool to move or resize a section. Unlike vector, paint, and text objects, you can't use the Selection tool to modify a section.

Resizing sections

To change the width of a section, drag one of its sides. To change the height of a section, drag the top or bottom border of the section. To change both dimensions at once, drag a corner of the section.

To adjust the width of columns in a section, use the Section tool to drag column guides. The Fixed Widths and Fixed Gutters options in the Column Guides dialog box limit how sections can be resized. If both options are selected, you can't drag the sides, columns, or gut-

ters to resize a section; you can drag the top or bottom to make it longer or shorter.

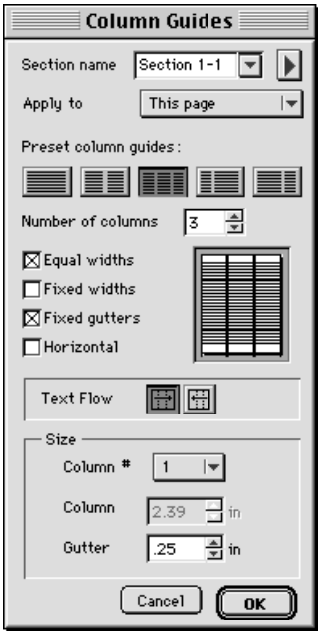
Modifying sections

To change the configuration of a section, including the number of columns and their widths, double-click the section with the Section tool. This opens the Column Guides dialog box. Change the settings in the dialog box and click OK to apply the settings to the section.

◆ **To delete a section:** Double-click the section with the Section tool. In the Column Guides dialog box, choose Delete Section in the pop-up menu and click OK.

Column Guides settings

The Column Guides dialog box appears when you create or modify sections with the Section tool or the Column Guides command.



Section Name

Canvas applies a default name when you create a section. You can type a new name in the text box to change a section's name.

To modify a section, enter its name. You can select a section name in the Section Name menu. The menu contains names of sections on the current page or pages.

When you modify a section, Canvas modifies all sections that have the same name if you select an option in the Apply To menu that refers to more than one section.

Apply To

When you create and modify sections, choose an option in the Apply To menu to specify where you want to apply the column guides settings.

This Page Applies the settings to the current page only. In a Publication with facing pages, it applies the settings to both (left and right) current pages.

All Pages Applies the settings to all pages in the document.

All Left Pages Applies the settings to all left-hand pages in a Publication with facing pages.

All Right Pages Applies the settings to all right-hand pages in a Publication with facing pages.

Left Page Applies the settings to the current left-hand page in a Publication with facing pages.

Right Page Applies the settings to the current right-hand page in a Publication with facing pages.

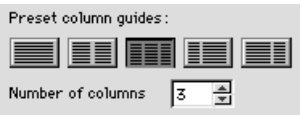
Section options

You can also delete sections, fit sections to a page, or fit sections to the top half or bottom half of a page. Choose an option from the triangle pop-up menu.

Delete Section Deletes the current section. If the Apply To setting refers to more than one section, this deletes all matching sections.

Fit to Page Creates a full-page section.

Fit to Top Half or Fit to Bottom Half Creates a half-page section on the top half or the bottom half of the specified pages.



Preset column guides

These buttons let you select a preset column guides arrangement. You can select 1, 2, or 3 columns of equal width, or 2 columns with a wider column on the left or right.

Number of Columns

This setting specifies the number of columns; it overrides the preset column guides. Type the number of columns. The maximum number you can set depends on the width of a section.

Equal Widths This option makes the column widths equal to the value in the Column box, and makes the gutter widths equal to the value in the Gutter box.

Deselect this option to set the width of a specific column.

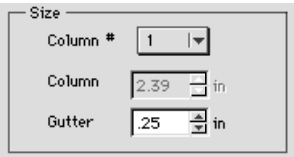
When Equal Widths is selected, you can't set a specific column width (the Column box is not available), because the column width is based on the number of columns, the gutter width, and the section size.

Fixed Widths This option prevents changes to the width of the section's columns. If you use the Section tool to drag a column guide, the entire column moves, which changes the width of the gutters without changing the width of the column.

Fixed Gutters This option prevents changes to the width of the column gutters. If you use the Section tool to drag a column guide, the gutter moves, which changes the width of the adjacent columns without changing the width of the gutter.

If both Fixed Gutters and Fixed Widths are selected, you can't drag the column guides in a section to adjust the widths of columns or gutters.

Horizontal This option appears if "Enable two-byte script" is selected in the Preferences dialog box. It creates horizontal columns for text in a section.



Size

If Equal Widths is not selected, you can set widths for specific columns and gutters in the Size area.

Column # To adjust a specific column or the gutter to the right of the column, select the column by number. The widths of the selected column and gutter appear in the Size area. Columns are numbered from left to right.

Column Enter the width of the column specified in the Column # menu. If you select a preset column option, the Column value can't be changed unless Equal Widths is deselected first. This box is not available if Equal Widths is selected.

Gutter Enter the width of the gutter to the right of the column specified in the Column Number pop-up menu.

Text Flow

To change the direction of the text flow, click the button that indicates left to right (the arrow points right) or right to left (the arrow points left).

Applying section settings throughout a document

The Column Guides dialog box lets you create or modify multiple sections at once. The Apply To setting controls how Canvas applies the column guides settings. When you click OK, Canvas modifies matching sections and creates new sections as necessary, depending on the setting selected in the Apply To menu.

For example, if you choose All Pages while creating a section, Canvas creates a matching section on each page in the document.

In Publications with facing pages, you can apply the column guides settings to left-hand or right-hand pages, or both.

Canvas will modify existing sections and create new matching sections, if necessary, based on the Apply To setting. For example, a

document with 10 pages has matching sections on five pages. If you choose All Pages while modifying a section, Canvas will modify the existing sections and create a new section on each of the pages without a matching section.

The Apply To setting can complement your actions. If you drag the Section tool on a left page in a Publication, but choose Right Page in the Apply To menu, Canvas creates a section on the left page and on the right page.

Placing text in sections

After you create a section, you can place text in the section by typing or pasting text from the Clipboard. You can also place text using the Place command. Canvas links the text objects in the section so that text will flow from column to column.

If the last column in a section contains overset text, you can flow the text to another column by clicking the overset symbol and then clicking in a column.

If you create sections on multiple pages, Canvas links the columns in the first section when you place text in the section. If you want text to flow to another section, you can click the overset text indicator in the last column in a section, and then click in the first column in another section to flow text from one section to the other

To place text using the Place command

You can use the Place command to place text from a text file into a section.

1 Select the Text tool and click at the top of the first column in the section. An insertion point appears in the column at the height where you clicked.

2 Choose File > Place. Select the text file you want to place and click Place. The text from the text file appears in the section and flows from column to column.

To type text in a section

You can use the Text tool to type text in a column in a section.

1 Select the Text tool and click at the top of the first column in the section. An insertion point appears in the column at the height where you clicked. Canvas creates linked text objects in the section when you click in the section with the Text tool.

2 Begin typing. Text will wrap to the next line when it reaches the column edge. If you continue typing to the end of the column, text will flow to the next column in the section.

If a section has multiple columns, you can skip one or more columns by clicking in the section where you want the text flow to begin.

To paste text into a section

After you create a section, you can paste text from the Clipboard to create text columns.

1 Use the Edit > Copy command to place text on the Clipboard.

2 Select the Text tool and click at the top of the first column in the section. An insertion point appears in the column at the height where you clicked.

3 Choose Edit > Paste. The text on the Clipboard appears in the section and flows from column to column.

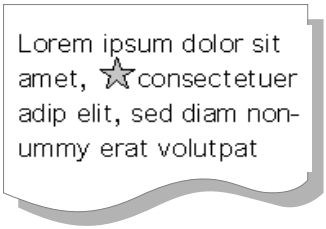
If the final column in a section contains overset text, you can flow the text into another text object or section, or resize the section to contain the overset text. See “Flowing overset text into new text columns” on page 19.19.

Placing graphics in text objects

You can use the Insert Picture command to anchor graphics in a text object. This feature lets you use custom bullets, special illustrations for drop caps, and small logos within text.

An inserted picture behaves like a text character.

- Inserted pictures move with the surrounding text.
- Indent and justification settings apply to inserted pictures.
- You can adjust an inserted picture’s baseline and kerning.
- An inserted picture rotates and skews with the surrounding text.



Text with an inserted picture

Some text formatting features do not apply to inserted pictures.

- If you scale the surrounding text, an inserted picture does not distort or scale with the text.
- Spread and Overprint commands do not affect inserted pictures.
- Strokes or inks applied to the text don't affect inserted pictures.
- Inserted pictures might not be imported from the Clipboard by other applications.

When the insertion point is in a text object and you choose the Insert Picture command, Canvas inserts the contents of the Clipboard as a raster image into the text.

Because Canvas converts the Clipboard contents to a raster image when you use Insert Picture, you cannot edit objects that have been inserted into text. For example, if you insert a multigon object into text, you can't use editing handles to reshape or scale it.

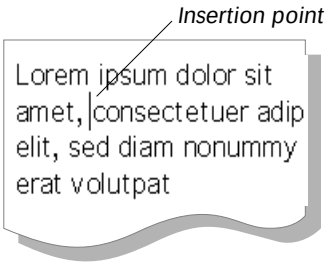
If you insert text characters using the Insert Picture command, the inserted text characters are not editable.

To insert a picture into text

The Insert Picture command is available when any object is on the Clipboard and the insertion point is in a text object.

1 Select the object or objects that you want to insert into text.

2 Choose Edit > Cut or Edit > Copy to place the selection on the Clipboard. If you selected multiple objects, they become a single composite graphic when inserted into text.



3 Select the Text tool in the toolbox. Click in the text where you want to insert the graphic. An insertion point appears where you click.

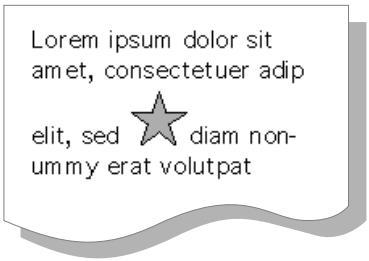
4 Choose Text > Insert Picture. The Clipboard contents appear at the insertion point.

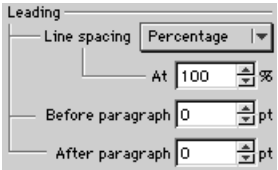
How inserted pictures affect leading

When you use the Insert Picture command, the leading of the paragraph might change, depending on the Line spacing method:

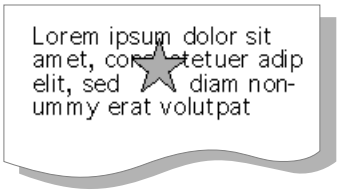
- If the Line spacing is defined by Percentage in the Leading area of the Type palette, Canvas adjusts the Line spacing to fit the picture based on the defined percentage, if necessary.
- If the Line spacing is defined by Points, the spacing between lines stays the same, regardless of the size of the picture.

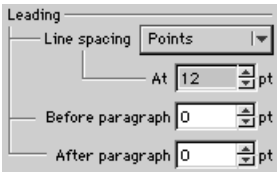
Line spacing set to 100%





Line spacing set to 12 points





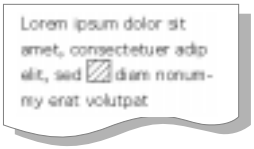
Using macros for inserted pictures

If you want to be able to edit an inserted picture, you can insert a macro object into text. A macro object is an object linked to an editable original in the Gallery palette. If you change the original in the Gallery palette, the inserted picture macro object will change to match the original.

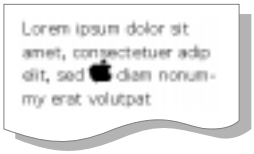
For example, you can use the Insert Picture command to place simple placeholder macro objects (such as small squares) where you want finished graphics to appear in text. When the final graphic is available, replace the placeholder macro in the Gallery palette with the finished graphic. With this method, you do not have to change each instance of a graphic individually or alter the publication's layout.

Placeholder macro

Final graphic



Text with placeholder macro inserted



Placeholder macro replaced by apple graphic

Flowing overset text into new text columns

You can flow text when all the text won't fit in a text object.

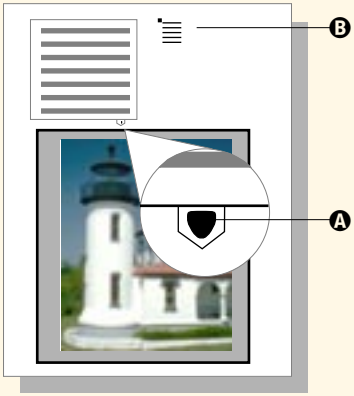
An indicator tells you when an object has overset text. If you select a text object and drag a handle to reduce its size so all the text does not fit, the overset indicator appears.

Click the overset indicator (A) to change the pointer to a text flow pointer (B). You can click or drag the pointer to create a new column for the overset text.

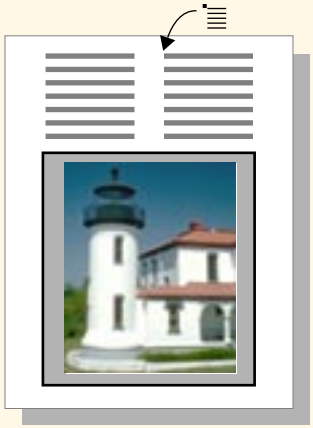
To flow text into a column with the same margins as the original column, click the text flow pointer where you want the upper-left corner of the new column to appear. To flow text into a column with different margins than the original column, drag the text flow pointer to specify the column width.

You can flow text between as many columns as you want.

Resizing a text column can result in overset text



If you click the overset indicator (A), the text flow pointer (B) appears



Clicking with the flow pointer creates a new column the same size as the original, and flows the overset text into it.

A plus sign replaces the overset sign on the first column, indicating that text flows to another column.

Flowing text from column to column

You can create text flows so that text runs from one text object to another. You can flow text to a new text object when the text won't all fit in an existing text object; the term "overset text" is used to refer to the text that doesn't fit in a text object or column.

You can also link empty text objects to create a preset text flow when you create templates for page layouts.

Flowing overset text to a new object

If you reduce the size of a text object, or change the text formatting, and all the text no longer fits in the text object, you can create another text object to hold the overset text. Doing this creates a link between the first and second text object, as shown in "Flowing overset text into new text columns," above.

Displaying text flow bars

Text object has overset text

Text flows to another text object

A text flow bar is a solid line with a flow symbol. Flow bars appear at the bottom of text objects when they contain overset text or are part of text flows. The symbol under a flow bar indicates the flow condition.

- An arrow indicates that a text object contains overset text.
- A plus sign indicates that text flows to another text object.
- The last object in a text flow does not display a flow bar unless text is overset.

◆ **To display flow bars:** Choose Layout > Display > Show Text Flow Bars. To hide text flow bars, choose Layout > Display > Hide Text Flow Bars.

Linking text objects

Text Link tool 

After you create text objects using the Text tool or Text Object tool, you can use the Text Link tool to link the objects and create a text flow. When text you type or insert fills one object, it flows to the next linked text object. The linked text object can be on another page (in a Publication document) or another slide (in a Presentation document). You can link columns in a chain to create articles in a multi-page document such as a newsletter. The Text Link tool is especially useful for creating templates for publications.

Note: Text objects created with the Text tool expand as needed when text is added. However, if you use the Text Link tool to link objects

created with the Text tool, the objects no longer expand or contract to hold the text. Instead, they remain a fixed length, the same as objects created with the Text Object tool.

✔ Tip

If text boxes aren't visible, choose Display > Show Text Boxes in the Layout menu; this makes it easier to find and link empty text objects.

To link text objects

You can use this procedure to link an object containing text or an empty text object to other text objects.

1 With the Text or Text Object tool, create at least two text objects. Select the Text Link tool in the Text toolbar. The pointer displays the number "1".

2 Click the first text object — the object you want to flow *from*. The text link pointer changes to the number "2".

3 Click the next text object — the object you want to flow *to*. If you click anything but a text object, Canvas cancels the linking operation.

4 To link another text object to the chain, repeat the linking procedure: Click the object text will flow from, and then click the object the text will flow to.

5 When you finish, press Enter (Mac) or Esc (Windows).

Unlinking text objects

Text Unlink tool 

You can use the Text Unlink tool to break the links between text objects that have been linked into a text flow. To unlink one text object from the next object in the flow, select the Text Unlink tool and click the first text object.

Checking text flows

Link Info tool 

The Link Info tool lets you check text flows in a document. You can use the tool to display arrows showing the flow of text among linked text objects.

The Link Info tool is in the Text toolbar.

Ⓐ Flow arrow

To check a text flow

1 Select the Link Info tool.

2 Point to a text object. Press and continue holding down the mouse button to display flow arrows.

If the text object is part of a linked text flow, arrows show the flow sequence. Flow arrows are displayed until you release the mouse button. If the text object is not linked, no flow arrows appear.

A flow arrow starts at the lower-right corner of the first object in a flow, and points to the upper-left corner of the next object in the flow, and so on throughout the flow.

Note: With the Link Info tool selected, you can use the same procedure to display flow arrows.

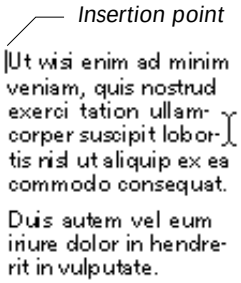
CHAPTER 20

TEXT EDITING AND PROOFING

You can insert, search, replace, move, delete, copy, and spell check text in Canvas documents. This chapter describes how to navigate through text for editing, how to make text selections, and how to use spelling tools and the Find feature for text search-and-replace.

Text edit mode

To edit text, put a text object in edit mode. In edit mode, you can revise, delete, insert, and select specific text. Only one object is in text edit mode at a time. You can put a text object in edit mode with the Text tool or the Selection tool.



In edit mode, an insertion point appears in the text object.

When you put a text object in edit mode, the text object becomes opaque, the selection handles disappear, and a flashing insertion point appears. Also, the Text tool becomes the active tool.

◆ **To enter edit mode using the Text tool:** Select the Text tool and click in a text object. An insertion point appears where you click, and you can begin typing or editing.

◆ **To enter edit mode using the Selection tool:** With the Selection tool, double-click a text object. If you double-click on a word, the word becomes selected and is highlighted. The Text tool is selected, and you can begin typing or editing.

◆ **To edit text bound to a path:** With the Path Text tool or the Text tool, click the text. An insertion point appears in the bound text, and you can begin typing or editing.

Leaving text edit mode

When you finish text editing, you can leave edit mode by doing any of the following:

- Press Esc (Mac or Windows) or Enter (Mac only). Canvas switches to the Selection tool from the Text tool. The text object you were editing is selected.
- Select another tool in the toolbox. The text object you were editing is selected.

- Click outside the text object. Canvas creates a new text object where you click. The text object you were editing is not in edit mode and isn't selected.
- Choose the Save command in the File menu. The text object you were editing is not in edit mode, and the Text tool remains active.

Text selection and navigation

You can move the insertion point and select characters, words, lines, and paragraphs using the mouse or the keyboard.

The mouse lets you quickly select text or text objects and move the insertion point. However, if you work with a lot of text, you might find that the keyboard techniques let you move the insertion point more precisely to edit more quickly.

Making text selections

Before you can cut, copy, move, delete, type over, or perform other operations on text characters, you need to select the text within a text object. You can select text when a text object is in edit mode. For information on putting a text object in edit mode, see "Text edit mode" on page 20.1.

The phrases "selected text," "text selection," and "highlighted text" all refer to an active selection of characters within a text object. Selected text appears highlighted; the highlight color depends on your system's color settings.

Keep in mind that a text selection is not the same as a selected text object. When you select a text object, you can move, copy, delete, and perform other operations on the entire object. When you make a text selection, the editing actions will affect only the highlighted characters within the object.

◆ **To deselect all highlighted text:** Click anywhere in the text object or layout. Clicking outside the selected text object creates another text object at that location.

Using the keyboard for text editing

While editing text, you can use the key combinations listed in the following table to move the insertion point and select text.

Key combinations for text editing

Press this key	and these keys	to do this in edit mode
None	Up arrow, Down arrow, Right arrow, Left arrow	Move insertion point 1 space right or left
	Page Up, Page Down	Move insertion point 3 lines up at the left margin (Page Up) or down at the right margin (Page Down)
	Home, End	Move insertion point to the beginning (Home) or end (End) of the text object
Option (Mac) Ctrl (Windows)	Right arrow, Left arrow	Move insertion point to the next word end (Right arrow) or beginning (Left arrow)
	Up arrow, Down arrow	Move insertion point to the left margin of the line, or up 1 line at the left margin (Up arrow), or down 1 line to the left margin (Down arrow)
	Home, End	Move insertion point to beginning (Home) or end (End) of line
Shift	Right arrow, Left arrow	Extend selection 1 space right or left
	Up arrow, Down arrow	Extend selection 1 line up or down
	Page Up, Page Down	Extend selection 3 lines up or down
	Home, End	Extend selection to the beginning (Home) or end (End) of the text object
Shift + Option (Mac) Shift + Ctrl (Windows)	Right arrow, Left arrow	Extend the selection 1 word right or left
	Up arrow, Down arrow,	Extend the selection to left margin (Up arrow) or right margin (Down arrow). From the margin, extend the selection to the other margin, or up or down 1 line
	Page Up, Page Down	Extend selection 3 lines up or down

Using the mouse for text editing

Using the mouse and modifier keys, you can quickly place the insertion point, select specific words, and select sections of text in edit mode. For information on putting a text object in edit mode, see “Text edit mode” on page 20.1.

Mouse actions for text editing

To do this in text	Do this with the pointer
Select a continuous block of text	Drag over the text you want to select
Select all text between the insertion point and another location	Press the Shift key and click where you want the selection to end. Windows users can use the right mouse button like the Shift key (hold down the right button and click with the left).
To deselect all highlighted text	Click anywhere in the text object. (Clicking outside the text object creates a new text object at that location or puts another text object into edit mode.)
Deselect text between the insertion point and another location in the selection	Press Shift and click in the highlighted text
Select a word	Double-click the word
Select a line of text	Triple-click the line

Copying, pasting, deleting, and moving text selections

✔ Tip

To help you in editing text, you can display symbols for spaces, paragraph breaks, and indents. Choose Layout > Display > Show Text Invisibles. To hide these symbols, choose Layout > Display > Hide Text Invisibles.

You can cut and copy a text selection, and then paste the selected text in the same document, in another Canvas document, or to and from a non-Canvas document using the Clipboard.

Whether pasted text retains its formatting depends on the operating system and the source of the text.

- Text pasted from the Mac OS Clipboard that originated in another application will be formatted with the current Canvas text formatting when pasted into a Canvas document, regardless of the formatting applied in the originating application.
- In Windows, text pasted from another application can be embedded into a Canvas document, using Object Linking and Embedding (OLE) to preserve its formatting. See “Embedded text objects and editions containing text” on page 20.15.

If you copy and paste selected text (and not an entire text object) within Canvas, the text retains its character attributes, but it adopts the paragraph formatting of the surrounding text.

To delete text

1 Select the text you want to delete.

2 Choose an operation based on the results you want:

- To remove the text to the Clipboard, choose Edit > Cut.
- To delete the text from the document without saving it to the Clipboard, choose Edit > Clear, or press Delete.

◆ **To replace selected text:** Begin typing, or use the Paste command, to replace a text selection with the text you type or paste from the Clipboard. This saves the step of deleting the selected text.

◆ **To replace all text in a text object:** Select a text object and begin typing. The text you type adopts the formatting of the replaced text. If multiple text objects are selected, the text you type replaces the text in the object that was created first.

To copy selected text

When you copy selected text, you can create a new text object or insert the text into an existing text object.

1 Select the text you want to copy.

2 Choose Edit > Copy. Canvas copies the selection to the Clipboard.

3 Depending how you want to paste the selection, do one of the following:

- To paste text into an existing text object, put the insertion point in the text where you want to paste the insertion.
- To paste text as a new text object, be sure no objects are in text edit mode by pressing Esc. You can set the width of the new text object by selecting the Text tool and dragging. Otherwise, text will be pasted in one long line that might extend off the screen.

4 Choose Edit > Paste to insert the text from the Clipboard.

Changing text attributes

While a text object is selected, you can change the formatting of all the text it contains using the Text menu, the Type palette, or the text ruler.

Finding and changing text

Use the Text tab in the Find palette to search for specific text in selected text objects and entire documents. You can replace or delete found text selections one at a time or all at once.

The Text tab also lets you search for text with specific font, size, and style attributes, and change the attributes of found text.

To find and change text

1 Choose Edit > Find to open the Find palette. Click the Text tab to select it. To search for text, type the text in the Find box. You can specify that you want to find only whole words, or text matching the capitalization (case) of the Find text.

2 If you want to replace found text, type the replacement text in the Change To box. When the Change To box contains at least one character (including a space), the Change All button is available.

3 Click Find to locate the first occurrence of the specified text. If one or more text objects are selected, Canvas searches the text contained in the first selected object. If no text objects are selected, Canvas searches the entire document.

4 If Canvas finds the specified text, it highlights the text in the document. You can click Find to search for the next occurrence of the specified text. If the Change To box contains replacement text, the Change button is available. Click Change to replace the highlighted text with the Change To text.

5 To continue searching, click Find. Repeat the previous step if Canvas finds another occurrence of the search text. When Canvas completes the operation, it displays a message. Click OK in the message box to continue.

Note: You can click Change All to replace all occurrences of the Find text with the text in the Change To box, without first clicking Find.

Finding and changing text attributes

You can search for and change text attributes (whether or not you also search for specific text). The text attributes you can search for and change are font, type size, and text style.

1 To search for text attributes, click the arrow at the bottom-left corner of the Find palette.

2 In the Find Attributes section, select a font name from the font pop-up menu. Type a size (in points) or select a size from the size pop-up menu. Click the style buttons to set the styles you want.

3 In the Change Attributes To section, you can specify replacement attributes in the same way that you specify the Find attributes.

4 Click Change or Change All to replace the attributes specified in the Find Attributes section with the attributes specified in the Change Attributes To section. If you have also typed text in the Find box, the replacement text attributes can be applied only to text that matches the Find text.

Clicking the Clear button removes all settings in the Find Attributes and Change Attributes To areas.

Text search options

The options on the Text tab in the Find palette let you specify criteria for text searching and replacement.

Find. Type the text you want to find. You can leave this box blank to search for text attributes only.

Change To. If you want to replace found text, type replacement text here. If you want to delete found text, leave the Change To box empty.

Whole Word. Select Whole Word to specify that the Find text is an entire word. For example, if you type "time" and select Whole Word, Canvas will not find "times," "untimely," or "timer."

Match Case. Select Match Case to include the capitalization of the Find text in the search criteria. For example, if you type "Time" and select this option, Canvas will not find "TIME" or "time."

Change. If Canvas locates the text and attributes you specified, it highlights the text in the document. Click Change to replace the highlighted text with the Change To text and to apply the replacement attributes specified in the Change Attributes To section.

Change All. Click to replace all occurrences of the text and attributes you specified with the replacement text and attributes. Canvas makes the changes without highlighting found text.

Find button. Click to search for the next occurrence of text specified in the Find text box and attributes specified in the Find Attributes area.

Find Attributes

The text attributes that you specify here tell Canvas what to search for.

Ⓐ Click to display Attributes options.

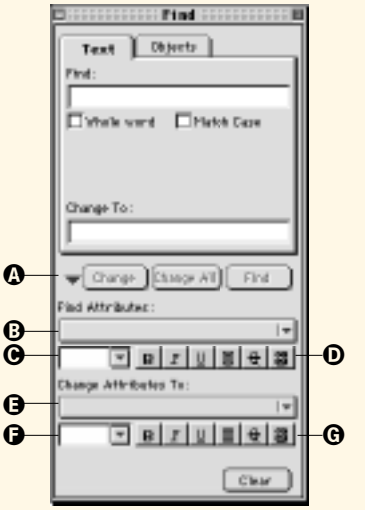
Ⓑ To search for a particular font, select the font name from the pop-up menu.

Ⓒ To search for a type size, enter the size or select the size from the pop-up menu.

Ⓓ To search for a type style, select a style button. You can select bold, italic, underline, outline, strikethrough, and shadow styles.

Change Attributes To

The text attributes that you specify here can be applied to text that matches the attributes specified in the Find Attributes area.



Ⓔ Select the font from the pop-up menu.

Ⓕ Enter the replacement size (in points) or select the size from the pop-up menu.

Ⓖ Click style buttons to specify replacement styles. You can choose bold, italic, underline, outline, strikethrough, and shadow.

Clear. Click to delete all the settings from the Find Attributes and Change Attributes To areas.

Automatic text correction

Canvas can automatically fix typographical mistakes as you type. The Auto Correct dialog box lets you select several automatic correction options. It also lets you specify common misspellings, typing errors, and abbreviations that you want Canvas to replace as you type.

When any text replacement option is active, Canvas checks each word you type. It corrects or replaces text as appropriate once you press the Spacebar.

To set up automatic correction

1 Choose Text > Spell Checker > Auto Correct.

2 In the Auto Correct dialog box, select the replacement options you want to use. The options are described below.

3 Click OK to implement the current settings.

Auto Correct options

Use the options in the Auto Correct dialog box to specify corrections you want Canvas to make as you type.

Two Initial Capitals Corrects a word that you type beginning with two capitalized letters.

Capitalize the First Letter of Sentences Capitalizes the first letter you type following typical sentence-ending punctuation, such as periods, question marks, or exclamation points, even if these marks are followed by quotation marks or parenthesis. Canvas may or may not capitalize the first letter following unusual punctuation, such as website addresses or abbreviations in the middle of sentences, so sentences containing unusual punctuation should be checked.

Note: Auto Correct does not capitalize the next word if you insert sentence-ending punctuation in existing text.

Capitalize the Names of Days Capitalizes the full names of days of the week. For example, this option replaces “saturday” with “Saturday.” It does not expand abbreviations for day names, such as “wed.” or “Thurs.,” unless you add these abbreviations to the replacement list.

Correct Accidental Usage of the Caps Lock Key (Windows only)

Corrects non-standard word capitalization. If the first letter of a word is lowercase and the other letters are uppercase, this changes the first

letter to uppercase and the rest of the letters to lowercase. For example, this replaces “rEPEL” with “Repel.” If the first two letters of a word are uppercase and the rest are lowercase, this changes the first letter to uppercase and the rest of the letters to lowercase, replacing “REpel” with “Repel,” for example.

Replace Text as You Type Replaces text that you type with any specified replacement text. Each set of typed text and replacement text appears in the scrolling list in the Auto Correct dialog box. You can add items to this list and delete selected items as described next.

Setting up text replacement

You can specify abbreviations, common misspellings, and other text that you want Canvas to replace as you type.

You can use this feature to expand abbreviations for common phrases and long names that you type throughout a document. For example, if you often type “Department of Agriculture,” you can specify that the abbreviation “DA” be replaced by the full name.

To set up text replacement

1 Choose Text > Spell Checker > Auto Correct. In the Auto Correct dialog box, be sure Replace Text as You Type is selected.

2 In the Replace box, type text that you want to be replaced. In the With box, type the replacement text. Click Add to place the text in the scrolling list.

3 Repeat this procedure to specify more automatic replacements. You can add as many items to the scrolling list as you want. When you finish, click OK.

Note: Auto Correct does not remove specified text from a document if you type nothing in the With box. Also, Auto Correct won't replace spaces with more or fewer spaces (such as replacing two spaces with one space). However, you can use the Text tab in the Find palette to find and replace spaces.

◆ **To remove replacement entries:** Select the entry in the scrolling list and click Delete.

Automatic spelling correction

When you use the Spelling pop-up menu (page 20.12) to correct a misspelling, Canvas adds the item to the Auto Correction list. The misspelled word appears under Replace and the correction appears under With. If you make the same spelling mistake again and "Replace Text as You Type" is selected in the Auto Correct dialog box, Canvas corrects the error. If "Replace Text as You Type" is not selected, Canvas won't make these automatic corrections.

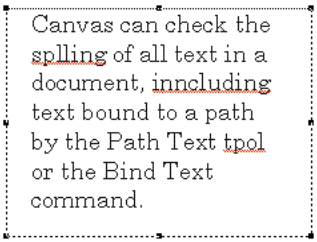
Checking the spelling of text

Canvas can check the spelling of all text in a document, including text bound to a path by the Path Text tool or the Bind Text command. Canvas can check the spelling of specific words, selections and entire documents. Canvas can also check the spelling of words as you type.

Canvas checks the spelling of text by looking up words in the Canvas Dictionary and the User Dictionary. The Canvas dictionary contains 100,000 words; this dictionary file can't be modified. You can add words to the User Dictionary to stop Canvas from marking unrecognized words that are spelled correctly.

Showing and hiding unrecognized words

Canvas marks words that it can't find in either the Canvas Dictionary or the User Dictionary with a red wavy underline. Canvas can check spelling while you type or after you finish entering text.



Unrecognized words marked

When Show Spelling Errors is active, Canvas checks the spelling of a word after you type it and press the Spacebar, tab, or deselect the text object. Canvas marks an unrecognized word with a red wavy underline.

◆ **To mark unrecognized words:** Choose Layout > Display > Show Spelling Errors. If you do not want Canvas to mark unrecognized words, Choose Layout > Display > Hide Spelling Errors.

Using the spelling pop-up menu

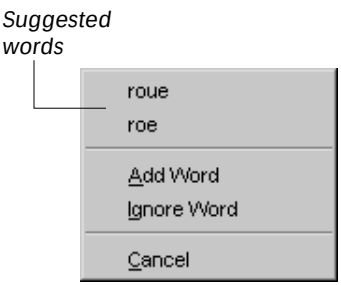
While using the Text tool to edit text, you can choose suggested replacements for words marked as unrecognized.

The spelling pop-up menu lets you choose replacement words. You can also use the menu to add unrecognized words to the User Dictionary.

To use the spelling pop-up menu

With a text object in edit mode, point to a word that Canvas has marked as unrecognized. Control-click the word (Mac) or right-button click the word (Windows).

The spelling menu pops up. Do one of the following:



Spelling menu

Replacement word To replace an unrecognized word with a suggested word, choose the suggested word in the pop-up menu.

When you choose a replacement word in the Spelling menu, Canvas adds the unrecognized word and the replacement word to the Auto Correct dialog box. The unrecognized word appears in the Replace text box and the suggested word appears in the With text box. See "Checking the spelling of text" on page 20.11.

Add Word To add an unrecognized word to the User Dictionary, choose Add Word. After you choose Add Word, Canvas adds the word to the User Dictionary and will recognize any future use of the word.

Ignore Word To ignore the spelling of the unrecognized word, click Ignore Word. If you choose Ignore Word, Canvas will ignore the word in any document until you quit Canvas.

Cancel To close the spelling menu without making any changes, choose Cancel or click outside the pop-up menu.

Spell checking a selection or document

You can check the spelling of selected text, a selected text object, and an entire document using commands in the Spell Checker submenu.

1 To limit the spell checking to specific text or a text object, select the text or the text object. To spell check an entire document, you don't have to select anything.

2 To begin spell checking, choose Text > Spell Checker > Spell Check Selection (if you selected text or a text object), or Text > Spell Checker > Spell Check Document.

3 If Canvas finds an unrecognized word, the Spelling Checker dialog box appears. For descriptions of the spelling options, see "Spelling Checker," next.

4 Canvas displays a message when the spell check is complete. Click OK to close the message box.

Note: Canvas deselects any selected objects (but not text) when you use the Spell Check Selection or Spell Check Document commands.

Spelling Checker

The Spelling Checker dialog box appears during spell checking of a selection or document if Canvas finds a word that is not in its dictionaries.

Ⓐ Canvas displays unrecognized words in context. You cannot edit the text in this box.

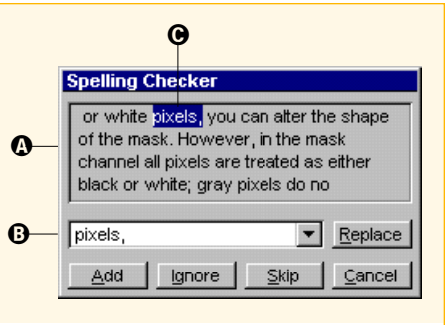
Ⓑ You can type a new spelling in this text box, or click the down-arrow to choose from the list of suggested spellings.

Ⓒ The highlighted word in this box is the unrecognized word.

Replace. Click this button to replace the unrecognized word with the contents of the text box (Ⓑ)and continue to spell check the document.

Add. If Canvas doesn't recognize a word that is actually spelled correctly, you can add the word to the User Dictionary so that Canvas will recognize it in all future documents. After saving the word, Canvas continues to spell check.

Ignore. Allows an unrecognized word in the current document without adding the word to the dictionary. Canvas ignores all instances of the word until you close Canvas.



Skip. Allows the current instance of an unrecognized word, but Canvas alerts you the next time this word occurs.

Cancel. Interrupts the spell check and closes the dialog box.

Continuing a spelling check

If you cancel a spell check, you can choose Continue Spell Check in the Spell Checker submenu to pick up where you left off. Canvas remembers the words you chose to ignore.

Modifying the User Dictionary

In addition to more than 100,000 words in the Canvas Dictionary, you can store an unlimited number of words in a personal user dictionary. By adding words to the User Dictionary, you can "teach" Canvas new words and special terms, and prevent Canvas from stopping unnecessarily while checking spelling.

To add words to the User Dictionary

1 Choose Text > Spell Checker > Show Added Words. The User Added Words dialog box appears.

2 In the dialog box, type a new word to add.

3 Click the Add button.

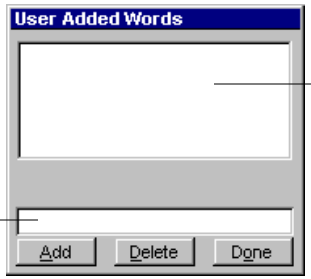
4 Click Done to close the dialog box when you are through adding words.

To delete words in the User Dictionary

1 Choose Text > Spell Checker > Show Added Words. The User Added Words dialog box appears.

2 In the list, select a word to delete, and then click the Delete button.

3 Click Done to close the dialog box when you are through deleting words.



Words you add to the user dictionary appear in a scrolling list. To delete a word, select the word and click Delete.

You can add words to the dictionary by typing the word in this text box and clicking Add

Importing text from other applications

You can import text created in other applications into Canvas. This capability is especially useful if you are compiling documents from different applications into a Canvas layout. For example, you might need to assemble a publication with contributions from several writers who each use different word processors.

Canvas supports several methods for importing text. You can open a text file, place a text file, paste text from the Clipboard into a Canvas document, and use object embedding or Publish and Subscribe. The Acquire command, however is used to import raster images, not text.

Opening a text file with the Open command creates a new Canvas Publication document for the imported file. Placing, pasting, and embedding text inserts the text into the current document. For information on pasting text from the Clipboard, see "Copying, pasting, deleting, and moving text selections" on page 20.4.

The formatting of imported text might differ from the formatting of the original text in its native application. Although some software products might have similar capabilities, the methods used can vary significantly. It might be necessary to reformat imported text using the typographic tools in Canvas.

✔ Tip

If you have difficulty opening or placing a text document because of the formatting, try converting the file to plain text before importing the file.

Also, try copying and pasting the text you want to import. This removes formatting that Canvas doesn't understand.

To place a text file in an existing Canvas document

You can place text using the Place command. See "To place text using the Place command" on page 19.15.

To place text using the same margins as the original file, click the Place icon in the document. If the file you are importing contains text only (no images or objects), you can also drag the Place pointer to simultaneously import and set margins for the text. However, if the file you want to import has images or objects, dragging the place icon scales the text, images, and objects as a group.

Embedded text objects and editions containing text

In Windows, you can use Object Linking and Embedding (OLE) to insert text in a Canvas document with the Paste Special command. You can also use Publish and Subscribe in the Mac OS to subscribe to an edition that contains text.

However, Canvas treats embedded text objects and editions as objects, not text. You cannot apply effects, such as wraps or binds, to text in these objects. In addition, Canvas cannot spell check, hyphen-

ate, or format this text. All formatting and effects must be performed in the original application or publisher.

For more details and procedures, see “Using Object Linking and Embedding (Windows)” on page 7.23 and “Using Publish and Subscribe (Mac)” on page 7.26.

Exporting text from Canvas documents

You can copy text from Canvas and paste it into other applications using the Clipboard. In addition, you can use the Canvas file filters to save selections and documents in other file formats; see “File and data exchange” on page 7.1. Keep in mind that if you save a document containing text, and use a format that supports only raster images, Canvas rasterizes the text before saving the file, so you can’t edit it in the saved file.

✔ Tip
Always save a copy in Canvas format of files you want to export, in case the file conversion doesn’t give the results that you expected.

Also, several Canvas typographic capabilities aren’t available in other applications. For example, character inks and strokes, text typed on a path, and wrapped text are unlikely to convert reliably. In some cases, such as rotated text, the export filters might rasterize the characters, and you will not be able to edit them as text.

To export text to other file formats

1 Choose File > Save As.

2 In the File Format (Mac) or Save as type (Windows) pop-up menu, choose a file format. Type a name for the file, and then click Save.

Note: Canvas warns you that saving files in other formats might result in a loss of some information whenever you save using a format other than Canvas 6.

CHAPTER 21

FORMATTING TEXT

You can control all aspects of text formatting in Canvas. This chapter explains how to specify font, font styles, type size, character position and scaling, kerning, letter and word spacing, paragraph alignment and spacing, and hyphenation. This chapter also explains how to select text for formatting and how to apply format settings.

You can also save format settings as named character and paragraph styles so you can use them again.

Selecting text and objects

The following section is a review of some basic selection techniques used to format text.

To select and deselect text objects

You can select text objects the same way you select other objects in Canvas.

- To select a single object, use a Selection tool to click the text object or drag a selection rectangle around the object.
- To select multiple objects, hold down the shift key and click text objects with a Selection tool. You can also drag a selection rectangle around all the objects you want to select.
- To deselect an object, press the Shift key and click the object. Other objects remain selected.
- To deselect all objects, press the Enter key (Mac) or Esc key (Windows) twice, or click an area of the screen where there are no objects.

To select all text objects

To select all text objects with a single command, select the Text tool in the toolbox and then choose Edit > Select All.

- In an Illustration document, this procedure selects all text objects on the current layer.
- In a Publication document, this procedure selects all text objects on the current page or current two-page spread.
- In an Animation document, this procedure selects all text objects on the current layer of the current frame.

- In a Presentation document, this procedure selects all text objects on the current layer of the current slide.

To select text within a text object

Before you can select specific characters, words, lines, or paragraphs, the text object must be in edit mode.

1 To place an object in edit mode, use one of these methods:

- With a Selection tool, double-click the text object. The pointer becomes an I-beam and an insertion point appears in the text.
- Click the Text tool in the toolbox. The pointer becomes an I-beam. Click the I-beam within the text. An insertion point appears.
- For bound text only, click the Path Text tool. The Path Text tool is in a pop-out toolbar with the Text tool.

2 Use one of the following methods to highlight the text you want to select.

To	Do this
Select a continuous block of text	Drag the I-beam over text.
Select all text between the insertion point and another location	Press the Shift key and click where you want the selection to end.
Deselect text between the insertion point and another location within the selection	Press the Shift key and click within the highlighted text.
Select a word	Double-click the word with the I-beam pointer.
Select a line of text	Triple-click the line with the I-beam pointer.
Select all text in the text object	Choose Edit > Select All.
Deselect all highlighted text	Click anywhere in the text object or layout. Clicking outside the selected text object creates another text object at that location. Choosing another tool in the toolbox ends text edit mode.

Working with linked text objects

When you link text objects so text flows from one column to another, you can select all of the text in the flow. This lets you apply formatting changes and text styles to all the text at once, even if the columns are on separate pages or slides.

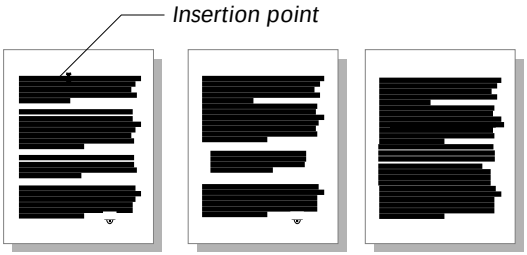
For information on linking text objects, see “Flowing text from column to column” on page 19.20.

To select all text in a flow

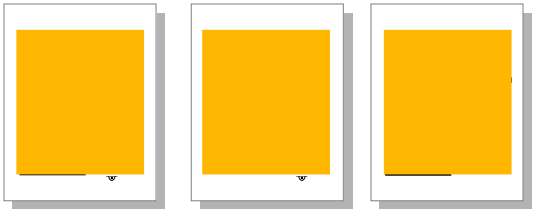
1 Select the Text tool and click one of the linked text objects; this places the text object in edit mode and sets the insertion point in the text. You can also double-click a text object with the Selection tool to enter edit mode.

2 Choose Edit > Select All. Canvas highlights all the text in the linked text objects.

To deselect the text, click outside any text object, or press Enter.



Three linked text objects span three pages of a Publication document. The insertion point is in the first text object.



When you choose Select All, Canvas selects the text throughout the flow.

Note: When text is highlighted, anything you type replaces the highlighted text. If you select a long text flow across several columns, and then type a single letter or press the Spacebar, all the highlighted text will be erased. If this happens, choose Edit > Undo.

Applying type formatting to a text flow

Once you select the text in a flow, you can apply formatting changes using the Type palette, the commands in the Text menu, and the Text Ruler. Of course, changes that you make to selected text on other pages or slides will not be shown until you switch to the other pages or slides.

Applying text formats

Canvas provides three ways to format text: the Text menu, the Text Ruler, and the floating Type palette. The Text menu and Text Ruler provide basic formatting options, while the Type palette provides advanced controls and features. You might find that the Type palette and Text Ruler are easier to use because you can keep them open as you edit a document. However, using menu commands can help to familiarize you with the hot-key command shortcuts and make text formatting quicker.

When you use menu commands or the Text Ruler to apply formatting, the settings you choose affect the document immediately. However, when you use the Type palette, the settings take effect when you click Apply. You do not have to click Apply before switching to another tab within the Type palette; Canvas remembers all changes and applies them simultaneously with one click. However, you must apply or save the new settings *before clicking the pointer anywhere outside the Type palette*. If you don't, the settings will be lost.

Depending on the text selection you make, the format settings you choose can be applied to existing text, stored as the preset for new text objects, or applied to text you are about to type.

To format existing text

You can change the formatting of existing text by selecting a text object or a portion of text within the object.

◆ **To apply character formatting to existing text:** Select the characters you want to change. Using Text menu commands, the Type palette, or the Text Ruler, choose the formatting you want to apply.

◆ **To apply paragraph formatting to existing text:** Select text in the paragraph you want to change, or place the insertion point anywhere in the paragraph. Using Text menu commands, the Type palette, or the Text Ruler, choose the formatting you want to apply.

To establish formatting for new text objects

When you create a new text object, Canvas applies a preset format to text you type. You can define the preset format for new text objects. To establish or modify the preset, follow these steps:

1 Be sure you have not selected any text or text objects, and no text objects are in edit mode. To deselect all objects, press Enter (Mac) or Esc (Windows) twice.

2 To change format settings, use Text menu commands, the Type palette, or the Text Ruler. If you use the Type palette, be sure to click the Apply button after making changes.

Canvas uses the specified settings to format new text objects that you create.

To change formatting before typing new text

You can set the format for text you are about to type — without changing the preset format for new text objects.

1 Place the text object in edit mode (see "To select text within a text object," page 21.2). The pointer should appear as an I-beam and an insertion point (a flashing vertical line) should appear in the text.

2 Place the insertion point by clicking the I-beam where you want the new formatting to begin.

3 Use the Text menu commands, the Type palette, or the Text Ruler to choose formatting options. If you use the Type palette, be sure to click the Apply button after making changes.

4 Begin typing. The text will appear with the formatting you chose. If you begin typing in the middle of a paragraph, only the new text will have the new settings.

Using the Text Ruler

You can use the Text Ruler to set fonts, sizes, styles, and other formatting. To set tabs, you must display the Text Ruler.

◆ **To display the Text Ruler:** Choose Layout > Display > Show Text Ruler. The Text Ruler and document rulers appear. To hide the Text Ruler, choose Layout > Display > Hide Text Ruler. This removes the Text Ruler, but leaves the document rulers. To hide the document rulers and the Text Ruler, choose Layout > Display > Hide Rulers.

Selecting text for formatting

You can use the Text Ruler to apply formatting to text objects, selected text characters, and text you are about to type.

Text objects When you select text objects, any formatting you set with the Text Ruler will apply to the entire text objects.

Text selections When you make a selection by highlighting text, you can apply the following formatting to the selection: font, type size, type styles, fill ink, text frame ink, text background ink, text frame stroke, and character style.

If you apply justification, leading, kerning, or paragraph styles, the formatting applies to all paragraphs that contain selected text.

Before typing When you place the insertion point in a text object, you can use the Text Ruler to set formatting for the next text you type. For example, to apply bold style, click the Bold style button on the Text Ruler before typing.

When the insertion point is in a paragraph (and no text is selected), you can set the following formatting: font, type size, text style, fill ink, text frame ink, text background ink, and character style.

If you apply justification, leading, or paragraph styles, the formatting applies to the paragraph that contains the insertion point.

To use the Text Ruler

1 Select the text you want to format.

2 Depending on the formatting you want to apply, do one of the following:

Type mode 

Styles mode 

- To adjust fonts, type styles, leading, and kerning, click the “T” on the Text Ruler to put it in Type mode.
- To apply paragraph and character formatting, click the “S” on the Text Ruler to put it in Styles mode.
- To apply text attributes, set tabs, and specify leader characters, the Text Ruler can be in either mode.

3 Select formatting options (see “The Text Ruler” next).

Type mode

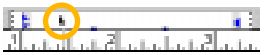
Styles mode

The Text Ruler

The Text Ruler has two modes, Type and Styles. One mode is active at a time.

A Justification. Click a button to set the alignment of selected text objects, the current paragraph, or all highlighted paragraphs. Select left, center, right, or full justification.

B Tabs. To select a type of tab to insert, choose the symbol for left, center, right, decimal, or comma tab in the pop-up menu. Click in the ruler bar to set a tab.



C Tab menu. To edit a tab's properties, select the tab in the pop-up menu when the insertion point is in the paragraph that contains the tab.

D Text attributes. Use the pop-up palettes to apply (from left to right) a text character ink, text background ink, text frame ink, and text pen size to selected text or text objects.

Type mode

Click the "T" on the Text Ruler to use Type mode. The following can be set in Type mode: font, size, styles, leading and kerning.

E Font. Type a font name in the box and press Enter or choose one from the pop-up menu. The font applies to selected text objects, highlighted text, or the next text you type.

F Type size. Enter a type size in the box and press Enter or select one from the pop-up menu. The type size applies to selected text objects, highlighted text, or the next text you type.

G Type styles. Select buttons to apply standard type styles. To raise the baseline of selected characters, click the style button on the far right. This also reduces the type size by a fixed percentage.

H Leading. By default, "auto" appears in the Leading text box and leading is 120% of the type size. To change it, enter the leading in points and press Enter. Leading applies to selected text objects, the current paragraph, or all highlighted paragraphs.

I Kerning. Enter the amount of kerning in points and press Enter. To tighten kerning, type a negative number. To loosen kerning, type a positive number.

Styles mode

Click the "S" on the Text Ruler to use Styles mode. You can select saved Character and Paragraph styles.

J Paragraph style. Type a paragraph style name in the box or select one from the menu.

K Character style. Type a character style name in the box or select one from the menu.

Positioning tabs

You can set tabs and indents by using the Ruler Bar in the Text Ruler. The Ruler Bar appears below the formatting area of the Text Ruler when a text object is selected or in edit mode. The Ruler Bar is aligned with the selected text object.

A new text object has tab stops at half-inch intervals beginning at the left border of the text object. You can move the insertion point to each of these tab positions by pressing the Tab key. In addition, you can edit a default tab by double-clicking it on the Ruler Bar.

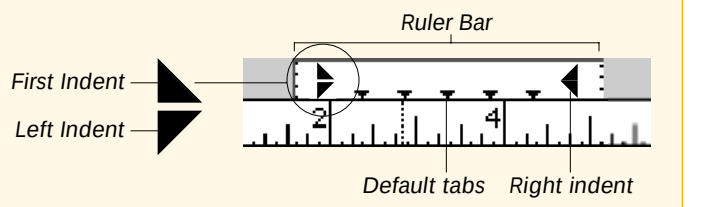
Note: The Ruler Bar shows tab positions for one selected object. You cannot use the Text Ruler to set tabs for multiple selected text objects

Ruler Bar

When you select a single text object, the Ruler Bar appears.

You can set the right and left indents of a selected text object by dragging the Right and Left Indent markers in the Ruler Bar.

To indent the first line of a paragraph, drag the First Indent marker to the desired position in the Ruler Bar.



To set the distance between the left border of a text object and the left margin of a paragraph, drag the Left Indent marker.

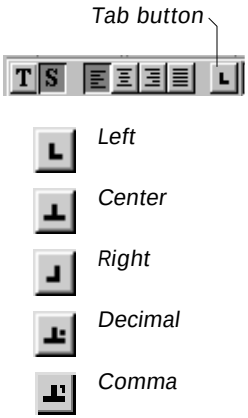
To set the distance between the right border of a text object and the right edge of a paragraph, drag the Right Indent marker.

To set tabs

1 Depending on how you want the tab settings to apply, do one of the following:

- To set a tab for one paragraph only, place the insertion point anywhere in the paragraph.
- To set tabs before typing a new paragraph, place the insertion point at the beginning of the paragraph.

2 If necessary, display the Text Ruler by choosing Layout > Display > Show Text Ruler. The Text Ruler and document rulers appear.



3 On the Text Ruler, click the tab button to select a tab. You can select the following:

Left The left edge of the text is flush with the tab position.

Center Text is centered around the tab position.

Right The right edge of text is flush with the tab position.

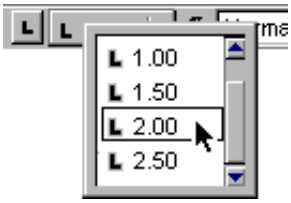
Decimal The first decimal (or period) in a string of text aligns directly under the tab position. For example, if you align "123.45.678" to a decimal tab, the decimal between the "3" and "4" will fall under the tab position.

Comma The first comma in a string of text aligns directly under the tab position.

4 To set the position of the tab, click in the Ruler Bar at the tab location. A new tab applies to selected text objects, the current paragraph, or all highlighted paragraphs.

Setting a tab removes the default tab stops to the left. To move a tab, drag the tab marker to a new position.

Editing a tab



Select a tab in the menu on the Text Ruler. The Tabs dialog box appears so you can edit the tab you selected.

You can edit a tab two ways: Place the insertion point in the paragraph with the tab you want to edit, and then choose the tab in the menu on the Text Ruler. Or, in the Ruler Bar, double-click the tab you want to edit. The Tabs dialog box appears.

Configure the options in the Tabs dialog box. You can select a new tab type, or modify the numeric position and leader character of the tab you're editing. To apply the tab settings, click OK when you finish.

Tab Position. Specify the distance between the tab and the left border of the text object.

Type of Tab. You can change the alignment setting of a tab by choosing one of these options.

Leader Character. You can use a character to fill tabbed space. To adjust the spacing of the leader character, you can use kerning options. To specify a leader character, type a character in the text box.

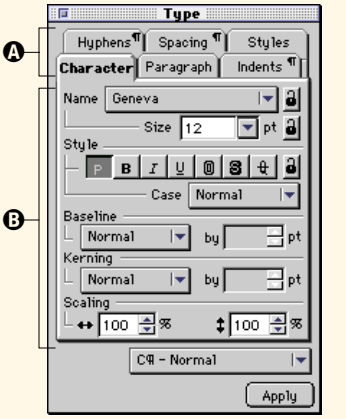
Using the Type palette

When you adjust settings in the Type palette, the new settings don't take effect until you click Apply. Be sure that you don't click outside the palette before applying the settings, or they will be lost.

To open the Type palette, choose Type in the Text menu. The Type palette contains six tabs: Character, Hyphens, Indents, Paragraph, Spacing, and Styles.

Ⓐ Click a tab to bring it to the front. The paragraph symbol (¶) on some tabs indicates that these are paragraph-level options.

Ⓑ Configure the settings you want and click Apply to implement them.



Text inks and strokes

In Canvas, there are six attributes you can apply to text: fill inks, pen inks, strokes, frame inks, background inks, and frame strokes.

To apply these attributes, you can use the Fill inks icon, the Pen inks icon and the Strokes icon in the toolbox. Or, you can use the Text Ruler, which includes palettes that let you apply fill inks, frame inks, background inks and frame strokes. These palettes appear in both modes of the Text Ruler.

Note: If your monitor resolution is 640x480, you can see the palettes on the Text Ruler only in Styles mode.

Inks and Strokes palettes on the Text Ruler

Ⓐ *Fill ink*
Ⓑ *Frame Ink*
Ⓒ *Background ink*
Ⓓ *Frame stroke*

Applying inks and strokes

You can apply the following attributes to one or more text objects, and to text selections.

Fill ink An ink applied to the inside, as opposed to the outline, of the characters in a text object or a text selection. To apply a fill ink, you can use the Fill ink palette on the Text Ruler, or the Fill ink icon in the toolbox.

Pen ink An ink applied to the stroke of text characters. To apply a pen ink, you use the Pen ink icon in the toolbox.

Stroke The outline of text characters. To apply a stroke, you use the Strokes icon in the toolbox.

Text frame ink An ink applied to the stroke on the bounding box of a text object, or a box around a text selection. To apply a frame ink, you can use the Frame ink palette on the Text Ruler, or the Pen ink icon in the toolbox.

Text background ink An ink applied to the background of a text object or a text selection. To apply a background ink, you can use the Background ink palette on the Text Ruler, or the Fill ink icon in the toolbox.

Text frame stroke A stroke applied to the bounding box of a text object, or a box around a text selection. The text frame ink appears on the text frame stroke. To apply a frame stroke, you can use the Frame stroke palette on the Text Ruler, or the Strokes icon in the toolbox.

Current attributes

By using the icons in the toolbox, you can set the pen ink, fill ink and stroke current attributes for text. You can't, however, set frame inks, background inks, and frame strokes to be "current" attributes; in other words, you can't set a frame ink, background ink, or frame stroke that will be applied when you create new text objects.

In addition, when you convert text to paths, Canvas keeps the pen ink, fill ink and stroke, but any background inks, frame inks, or frame strokes are removed.

Fill ink

To apply a fill ink

1 Select a text object, text characters, or place the insertion point in existing text.

2 Select an ink from the Fill ink palette on the Text Ruler. Or, select an ink from the Fill ink icon in the toolbox. Canvas applies the selected ink.

To apply a pen ink

1 Select a text object, text characters, or place the insertion point in existing text.

2 Select a pen ink from the Pen ink icon in the toolbox. Canvas applies the selected ink.

Frame ink and stroke

To apply a stroke

1 Select a text object or text characters.

2 Select a stroke from the Strokes icon in the toolbox. Canvas applies the selected stroke.

To apply a frame ink

1 Select a text object or text characters.

2 Select an ink from the Frame ink palette on the Text Ruler. Or, press Ctrl (Windows), or Option (Mac), and then select an ink from the Pen Ink icon in the toolbox. Canvas applies the selected ink.

If a text selection spans more than one line of text, the ink appears on boxes around the selected characters on each line of text.

Background ink

To apply a background ink

1 Select a text object or text characters.

2 Select an ink from the Background ink palette on the Text Ruler. Or, press Ctrl (Windows), or Option (Mac), and then select an ink from the Fill Ink icon in the toolbox. Canvas applies the selected ink.

If a text selection spans more than one line of text, the background ink appears separately on each line of text.

To apply a frame stroke

1 Select a text object or text characters.

2 Select a stroke from the Frame stroke palette on the Text Ruler. Or, press Ctrl (Windows), or Option (Mac), and select a stroke from the Strokes icon in the toolbox. Canvas applies the selected stroke.

If a text selection spans more than one line of text, the stroke outlines the selection separately on each line of text.

Applying character formatting

Canvas gives you precise control over the appearance of each character. You can set the font, type size, font style, kerning, capitalization style, scale, and baseline position using menu commands or the Character tab in the Type palette.

Character attributes are applied by selecting the specific characters that you want to modify. You can select any portion of text — from

one character to entire text objects. For selection techniques, see “Selecting text and objects” on page 21.1.

Setting attributes in the Character tab

The Character tab lets you control all character attributes. Some attributes, such as type face, type size, font style, baseline, and kerning, are also available in the Text menu.

Name. Choose a typeface in the pop-up menu.

Size. Choose a type size in the pop-up menu, or type a number in the text box.

Style. Click a button to select a font style.

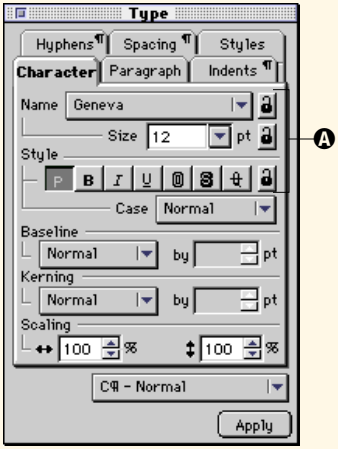
Case. Choose a capitalization style in the pop-up menu.

Baseline. Specify subscript or superscript settings to one hundredth of a point precision.

Kerning. Tighten and loosen kerning by hundredths of a point.

Scaling. Specify percentages by which you want to scale the current type size. You can set individual horizontal and vertical scaling percentages.

Ⓐ **Locks.** To prevent accidental or unwanted changes to the type face, type size, or font style of specific text, you can set these locks. If you want to change locked text, you must first unlock the text.



Specifying fonts

You can use any of the methods described next to specify fonts when you type or format text.

To choose a font from the menu

1 Depending on how you want the font to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the font before typing, place the insertion point where you want the font to change.
- To apply the font to the preset format, deselect all objects.

2 Choose Text > Font to open the Font submenu. A check appears next to the current font.

3 Choose a font in the submenu. The font setting changes.

To choose a font using the Type palette

1 Depending on how you want to apply the font, do either:

- To format existing text, select the text or text objects.
- To set the font before typing, place the insertion point where you want the font to change.
- To apply the font to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front. Choose a font in the Name pop-up menu and click Apply.

Tips for font installation and use

On Mac OS systems, Canvas uses fonts installed in the Fonts folder of the System Folder. Fonts should be installed by dragging the font files to the closed System Folder icon. The system puts the fonts in the correct folder.

On Windows systems, Canvas uses fonts installed in the Fonts folder of the Windows folder. You can access the Fonts folder from the Fonts control panel. Use the Install New Font command in the File menu to add fonts to your system. You can also drag and drop font files or font file shortcuts to the Fonts folder. To specify that you want to see only TrueType fonts in your programs, you can use the Options command in the Views menu.

Canvas can use fonts that are properly installed as described above. If fonts that you use in another application are not available in Canvas, that application probably stores its fonts in a different location and has its own font management capabilities.

Guidelines for choosing fonts

There are three types of fonts widely available: bit-mapped (or screen), PostScript, and TrueType. You cannot distinguish the three types in the Canvas menus. However, you should be aware of the different types of fonts you have, because each font is best suited for particular purposes.

Bit-mapped fonts are used by your computer to display text onscreen. A bit-mapped font is optimized for a particular point size, and appears jagged at other sizes. These fonts are not scalable for printing.

PostScript Type 1 fonts are the standard for imagesetting. PostScript produces high-quality printed text. For onscreen display, however, PostScript needs screen fonts. If the screen font for a particular point size is not installed, the text appears jagged onscreen. To compensate for this, you can use Adobe Type Manager (ATM) software. If a screen font is unavailable, ATM uses the PostScript printer font for both screen display and printing. In addition, ATM lets you print PostScript fonts to non-PostScript printers.

TrueType fonts are suitable for most desktop publishing purposes when you are printing in-house. TrueType fonts produce good quality printed text, and their onscreen appearance closely resembles the printed output, even when the screen font is unavailable.

Using the Fonts palette

You can use a floating palette to view and select fonts. Choose Text > Font > View Fonts to open a palette that displays the available fonts.

When you point to a font name in the palette's scrolling list, a sample of the font appears at the top of the palette.

To select a font, click the font name in the scrolling list. The result depends on whether text is selected or in edit mode.

- If no text object is selected or in edit mode, the selected font becomes the current font.
- If text objects or a section of text is selected, the font is applied to the text objects or selection.
- If a text object is in edit mode and no text is selected, the font is applied to the next text you type.

Specifying type size

You set the type size in either the Size submenu of the Text menu or the Character tab of the Type palette. You can choose from standard type sizes using either method. Using the Size submenu, you can also reduce or increase the size in 1-point increments. Using the Character tab, you can enter any type size with precision to one-hundredth of a point.

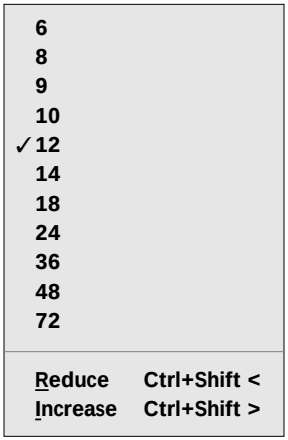
To set type size using menu commands

1 Depending on how you want the type size to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the type size before typing, place the insertion point where you want the size to change.
- To set the type size of the preset format, deselect all objects.

2 Choose Text > Size to open the Size submenu. A checkmark appears next to the current type size.

3 Choose one of the sizes in the submenu, or choose the Reduce or Increase commands to change the type size in 1-point increments. The size setting applies immediately.



Size submenu

To set the type size using the Type palette

1 Depending on how you want the type size to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the type size before typing, place the insertion point where you want the size to change.
- To set the type size of the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

3 Choose one of the sizes in the Size pop-up menu, or enter a number in the box to specify a type size.

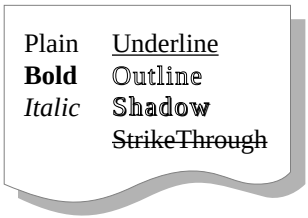
4 Click Apply to implement the type size setting.

Applying font styles

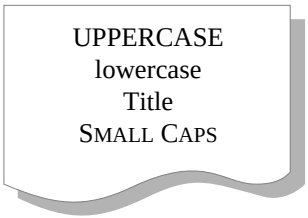
Font styles are different character types, such as bold, italic, or superscript, as well as capitalization modes. You can apply font styles in the Style submenu in the Text menu or the Character tab in the Type palette.

Font styles can be categorized into three groups: appearance, capitalization, and baseline position. To the same text, you can apply multiple appearance styles, but only one each of capitalization and baseline styles.

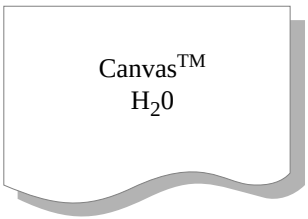
Types of font styles



Appearance styles



Capitalization styles



Baseline shift:
"TM" superscripted
"2" subscripted

Appearance styles

Appearance styles include plain, bold, italic, underline, outline, shadow, small caps, and strikethrough. With the exception of the Plain option, you can use as many of these appearances as you like on the same text. Applying the Plain setting removes other font styles that have been applied to revert text to its standard appearance. Depending on the typeface, using certain styles might not have the

desired effect, and can even make text appear ugly when printed. For example, applying bold to a heavy weight typeface can make characters look too thick. Similarly, applying italic to an already italicized font might exaggerate the slant of the characters.

Capitalization styles

Capitalization styles format text as uppercase, lowercase, or title (first letter of each word capitalized) styles. You can apply one of these capitalization styles to the same text: Normal, Upper, Lower, and Title.

Baseline position

The baseline of text is the imaginary horizontal line on which characters sit. To position characters above (superscript) or below (subscript) the normal baseline, you can shift the baseline position.

Canvas does not change the type size of superscript and subscript text. Unless you reduce the type size of shifted text, the line size increases by the amount of the baseline shift. As a result, the line spacing might change, depending on the leading setting. If you don't want the line spacing to change, you can reduce the type size of shifted text by the same amount (or more) of the baseline shift, or you can specify leading in points (see "Setting line and paragraph spacing," page 21.23).

If you use the Style submenu to change baseline position, you can choose either Superscript or Subscript to shift text the baseline by roughly 27 to 33 percent of point size of the line. For example, superscript text in a line of 12-point text appears 4.0 points above the normal baseline.

If you use the Character tab of the Type palette to change the baseline position, you can specify the exact distance (in points) of the text above or below the normal baseline.

To apply font styles using menu commands

1 Depending on how you want the font style to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the font style before typing, place the insertion point where you want the style to change.
- To apply the font style to the preset format, deselect all objects.

2 Choose Text > Style to open the Style submenu. Canvas places checkmarks next to the active styles in the submenu.

3 Choose the font style you want to apply. Choosing an active style turns off the style. Canvas implements the setting immediately.

To apply font styles using the Type palette

1 Depending on how you want the font style to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the font style before typing, place the insertion point where you want the style to change.
- To apply the font style to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

3 To change appearance styles, click the Style buttons. Clicking the Plain button turns off all active appearance styles. Clicking an active appearance style button turns the style off.

4 To change the capitalization style, choose Upper, Lower, Normal, Title or Small Caps in the Case pop-up menu.

5 To change the baseline elevation, choose Normal, Superscript, or Subscript in the Baseline pop-up menu. If you are applying superscript or subscript, specify the distance from the baseline (in points) in the text box. Normal baseline always has an elevation of zero points.

6 Click Apply to implement the font style settings.

Specifying spacing between characters

You can adjust the amount of space between text characters with Kerning options. Kerning affects the amount of space to the right of one or more characters. You can tighten kerning to place characters closer together, and loosen kerning to space characters farther apart. You can apply kerning settings before typing, or change the kerning for one character, a selection of text, or an entire text object.

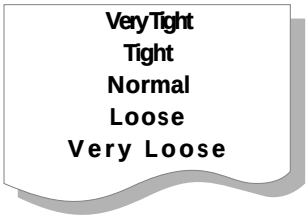
Default kerning

Kerned manually

Headlines often need manual kerning for visual balance

Canvas can also adjust letter and word spacing for paragraphs following minimum, maximum, and desired guidelines that you set. See "Adjusting letter and word spacing" on page 21.32.

Note: Canvas does not apply kerning to text characters based on kerning pairs defined in a particular font. You can kern individual characters by placing the insertion point and using the Type palette or the Kerning submenu to tighten or loosen kerning.



Kerning submenu options

The Kerning submenu lets you choose a standard kerning amount: Very Tight, Tight, Normal, Loose, or Very Loose. You can interactively kern characters in half-point increments using the Tighten and Loosen commands. You can also set a fine kerning amount using the Configure Fine Kern command, then use the Tighten Fine and Loosen Fine commands to kern characters by the specified amount.

On the Character tab of the Type palette, you can use the Kerning option to tighten or loosen kerning by an amount you specify.

To change character spacing using menu commands

1 Based on what you want to change, do one of the following:

- To change existing text, select the text or text objects.
- To set the kerning before typing, place the insertion point where you want the kerning to change.
- To change the preset format, deselect all objects.

2 Choose Text > Kerning to open the Kerning submenu and choose one of the following options:

Option	Result
Tight	8% less space than normal between characters
Very Tight	14% less space than normal between characters

Option	Result
Normal	Default spacing
Loose	8% more space than normal between characters
Very Loose	14% more space than normal between characters
Tighten	Reduce kerning by 0.5 points. You cannot tighten kerning to less than the width of one character
Loosen	Increase kerning by 0.5 points
Tighten Fine	Reduce kerning by amount specified in the Kerning Specifications dialog box
Loosen Fine	Increase kerning by amount specified in the Kerning Specifications dialog box

◆ **To set the fine kerning amount:** Choose Text > Kerning > Configure Fine Kern. In the Kerning Specifications dialog box, specify the amount of kerning (in points) for the Tighten Fine and Loosen Fine commands to apply.

To kern characters using the Type palette

1 Depending on how you want kerning to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the kerning before typing, place the insertion point where you want the kerning to change.
- To apply the kerning setting to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

3 To set the kerning, choose Normal, Tighten, or Loosen in the Kerning pop-up menu and specify the kerning amount (in points) in the text box. Normal always has a setting of zero.

4 Click Apply to implement the kerning setting.

Preventing changes to character attributes

Using the Character tab in the Type palette, you can lock the current font, type size, and font style to prevent accidental changes. This feature is especially useful when several people are using the same Canvas document. In addition, you can also use this feature to selectively exempt sections of text from global formatting changes. Once you lock a setting, no one can change it without first unlocking it.

To lock character attributes

1 Depending on how you want locks to apply, do one of the following:

- To change the lock setting of existing text, select the text or text objects.
- To change the lock setting before typing, place the insertion point where you want the locking to change.
- To apply a lock setting to the preset format, deselect all objects.

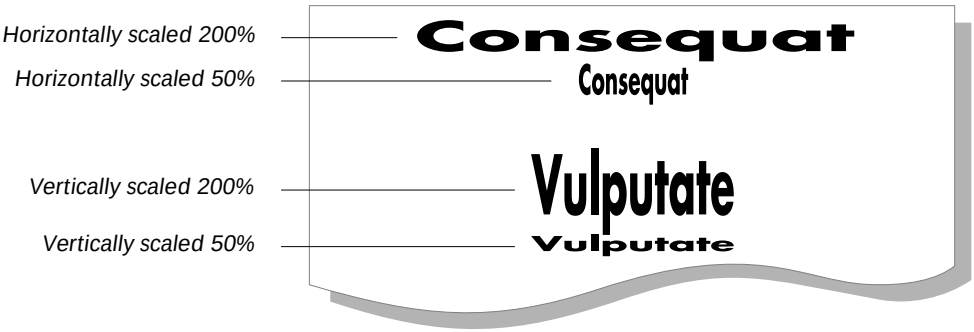
2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

Lock button 

3 To lock an attribute, click the Lock button to the right of it. You can also change font attributes in this step. When you click Apply, Canvas first applies the new font attributes, *then* locks the new attributes.

Horizontal and vertical text scaling

Canvas provides independent control of horizontal and vertical scaling of text. Using this feature, you can stretch characters to create extended and condensed letterforms.



To scale an entire text object, you can also select the text object, press Command (Mac) or Alt (Windows), and drag a selection handle. Depending on the direction of the drag, Canvas scales text horizontally or vertically.

To scale characters using the Type palette

1 Depending on how you want scaling to apply, do one of the following:

- To change existing text, select the text or text objects.
- To set the scale of text before you type it, place the insertion point where you want the scale to change.
- To apply scaling to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Character tab to bring it to the front.

3 To specify the vertical and horizontal scale of characters, enter percentages in the Scale boxes. If you enter the same percentage in both boxes, Canvas scales the text proportionately. Canvas will apply these percentages to the point size displayed in the Size box.

Canvas does not limit the percentage you can scale characters, however, extremely high and low settings can distort some fonts and make them unreadable. In addition, scaling requires significant amounts of memory for text display, which might cause performance problems for some systems.

4 Click Apply to implement the scaling settings.

Applying paragraph formatting

In Canvas, you can control paragraph attributes, such as justification and leading. Paragraph attributes affect entire paragraphs, even if you select a single character, or place the insertion point anywhere in the paragraph. If you select text in multiple paragraphs, all the paragraphs will be affected.

Paragraph-level formatting includes the following:

- leading and paragraph spacing
- indents
- tabs
- alignment (justification)
- automatic letter and word spacing

- hyphenation
- widow and orphan controls

Setting line and paragraph spacing

Using the Text menu, Text Ruler, or Type palette, you can adjust the spacing, or leading, between lines of text. You can also insert extra space before and after paragraphs using the Type palette.

Canvas provides two methods of specifying leading: ratio (or percentage) and point size.

- Ratio and percentage leading are based on the normal leading of the largest type size in the preceding line. The normal leading is usually designed to be slightly larger than the point size of the type. For example, a single line of 12-point text usually occupies about 15 points of vertical space when you specify 100 percent or Single Space leading. Therefore, double spaced, or 200 percent, leading for 12-point text increases the line spacing to about 30 points.
- Leading specified in points is independent of the type size and normal leading of the typeface. The space from baseline to baseline is exactly the number of points specified, regardless of the size of the type. Using point size leading lets you maintain consistent line spacing, and fit text to specific space requirements. For example, you have 10 lines of text, and exactly 120 points of vertical space to place the text. To make the text fit, set the leading to 12 points.

The Leading submenu of the Text menu lets you set Single, $1^1/_2$, or Double Space leading. You can also choose the Tighten or Loosen commands to fine-tune the current leading in 0.5-point increments. You can tighten and loosen the leading repeatedly, but the line spacing cannot be less than zero. The Text Ruler provides the same options as the Leading submenu.

The Paragraph tab of the Type palette lets you adjust the leading by a percentage or point size that you specify.

You can also add space between paragraphs by specifying additional spacing in points on the Paragraph tab of the Type palette.

A page of text with "after paragraph" spacing

A page of text that does not have paragraph spacing, but uses both "before" and "after paragraph" spacing for block quotes

To set leading using menu commands

1 Depending on how you want the leading to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set leading for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the leading before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the leading setting to the preset format, deselect all objects.

2 Choose Text > Leading to open the Leading submenu. Canvas places a checkmark next to the current leading setting.

3 Choose a standard leading in the submenu, or choose Tighten or Loosen. Canvas applies the setting immediately.

To set leading using the Type palette

1 Depending on how you want the leading to apply, do one of the following:

- To change existing text, select the paragraphs or entire text objects. To set leading for only one paragraph, place the insertion point anywhere in the paragraph.

- To set the leading before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the leading settings to the preset format, deselect all objects.

2 Configure the leading settings as described next.

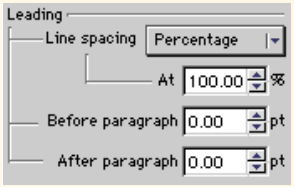
Setting leading in the Type palette

Open the Type palette by choosing Text > Type, if necessary. Click the Paragraph tab to bring it to the front. After configuring the settings, click Apply to implement them.

Percentage leading. To set the leading using a percentage of the line size, choose Percentage in the Line Spacing pop-up menu and enter an amount in the At box. A leading of 100% is the same as the Normal setting in the Leading submenu of the Text menu. Double space is 200%, and 1.5 space is 150%.

Point size leading. To specify leading in points, choose Points in the Line Spacing pop-up menu and enter an amount in the At box. Although each font's standard leading might be different, normal leading is generally between 110% and 125% of the largest type size on the line. Therefore, for 10-point type, normal leading is approximately 12 points.

Before paragraph. To insert space before the first line of a paragraph, specify the number of points in the Before Paragraph box. Before paragraph spacing does not apply to the first paragraph in a column.



After paragraph. To insert space after the last line of a paragraph, specify the number of points in the After Paragraph box. Canvas inserts space after every paragraph, including the last paragraph in a column.

Note: You can force a line break without creating a new paragraph by pressing Shift-Return. See "To control line breaks" on page 19.6.

Setting indents

You can set the amount of space between the left and right borders of a text object and the edges of each paragraph using the Indents tab of the Type palette or the Text Ruler. For text wrapped around an object, you can also use the Indents tab to set the distance between the edge of the object and the text.

Left 1 in.

Left 1 in., Right 1 in.

First line 1.5 in., Left 1 in.

First line 1 in., Left 1.5 in

Note: The Text Ruler shows indent positions for one selected object at a time. Therefore, you cannot use the Text Ruler to set indents for the preset format or for multiple selected objects.

To set indents using the Type palette

1 Depending on how you want the indent settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set indents for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the indents before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the indent settings to the preset format, deselect all objects.

2 Configure the indent settings as described below.

Settings on the Indents tab

If necessary, open the Type palette by choosing Text > Type. Click the Indents tab to bring it to the front.

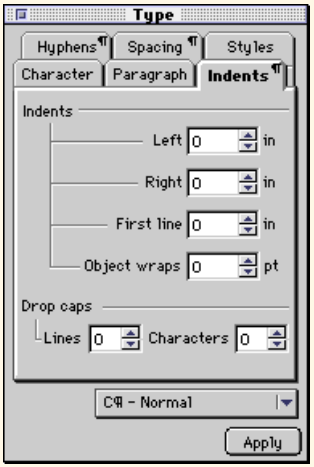
Left. To specify the distance between the left border of a text object and the left indent of a paragraph, enter the distance in the Left box.

Right. To specify the distance between the right border of a text object and the right indent of a paragraph, enter the distance in the Right box.

First Line. To specify a different indent for the first line of a paragraph, enter the distance in the First Line box. Canvas measures the first line indent from the left border of the bounding box.

Object Wraps. To specify the distance between an object and the edge of text wrapped around or inside that object, enter the number of points in the Object Wraps box.

Click Apply to implement the indent settings.

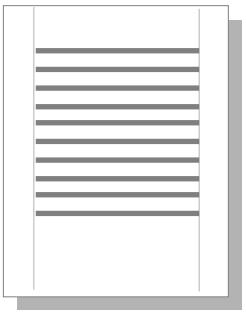


Paragraph alignment

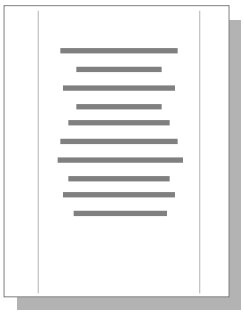
Canvas aligns text to the indents of a text object. Canvas has four alignment, or justification, settings: flush right, flush left, full (flush with both right and left indents), or centered. You can set alignment in either the Justification submenu of the Text menu, the Text Ruler, or the Paragraph tab of the Type palette.

Left-justified

Right-justified



Full-justified



Center-justified

Note: Full justification may create wide letter or word spacing, especially in narrow text columns. Other justification settings (without hyphenation) might appear too ragged on one or both sides. You can set letter- and word-spacing parameters to improve the appearance of text. For more information, see "Adjusting letter and word spacing" on page 21.32

To set justification using menu commands

1 Depending on how you want the justification settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set justification for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the justification before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply justification settings to the preset format, deselect all objects.

2 Choose Text > Justification to open the Justification submenu. Canvas places a checkmark next to the current justification setting.

3 Choose an alignment option in the submenu. Canvas applies the justification setting immediately.

To set justification using the Text Ruler

1 Depending on how you want the justification settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set justification for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the justification before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the justification settings to the preset format, deselect all objects.

2 If necessary, open the Text Ruler by choosing Layout > Display > Show Text Ruler.

3 Click a justification button. Canvas applies the justification setting immediately.

Justification buttons on the Text Ruler

To set justification using the Type palette

1 Depending on how you want the justification settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set justification for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the justification before a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply justification settings to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type, and click the Paragraph tab to bring it to the front.

3 Click a Justification button.

4 Click apply to implement the justification setting.

Using vertical justification

Canvas can align text relative to the top and bottom borders of text objects. Canvas has four vertical justification, or alignment, settings: Top, Bottom, Vertical Full, and Vertical Center.

Vertical justification applies to an entire text object. To change the setting, select one or more text objects. Choose Text > Justification and choose a vertical justification setting in the submenu. A checkmark appears next to the selected setting.

Note: There must be space in the text object to use vertical justification, not including space created by empty paragraphs. The text objects must therefore be created with the Text Object tool, not the Text tool.

Top vertical justification is the default setting for new text objects. Copying or duplicating text objects preserves their vertical justification settings. However, if you copy a text selection and paste it into another object, the text follows the vertical justification of the text object in which you paste it.

Top *Vertical Center* *Bottom* *Vertical Full*

Vertical justification settings

You can choose vertical justification settings in the Justification submenu.

Top Sets all lines of type starting from the top of a text object. This is the traditional vertical alignment for text objects. For example, if a text object contains three lines of type, they appear at the top of the text object. Spacing between lines is controlled by the Line Spacing, Before Paragraph, and After Paragraph settings of the text.

Vertical Center Sets all lines of type so they are spaced evenly above and below the vertical center of a text object. If a text object contains three lines of type, for example, the lines appear at the center of the text object. Spacing between lines is controlled by the Line Spacing, Before Paragraph, and After Paragraph settings of the text.

Bottom Sets all lines of type at the bottom of the text object. If a text object contains three lines of type, for example, the lines appear at the bottom of the text object. Spacing between lines is controlled by the Line Spacing, Before Paragraph, and After Paragraph settings of the text.

Vertical Full Sets all lines of type so they are evenly spaced between the top and bottom borders of the text object. If a text object contains three lines of type, for example, one line appears at the top, one appears at the center, and one appears at the bottom of the text object. Because it distributes type from the top to the bottom of a text object, Vertical Full justification can cause very wide spacing between lines if a large text object contains a little text. You can drag a handle at the top or bottom of a text object to adjust its height and alter the spacing between lines of text.

Paragraph rules

Paragraph rules are horizontal lines that Canvas draws above a paragraph, below a paragraph, or both. You can select pen type, dash, color, length, and offset for paragraph rules.

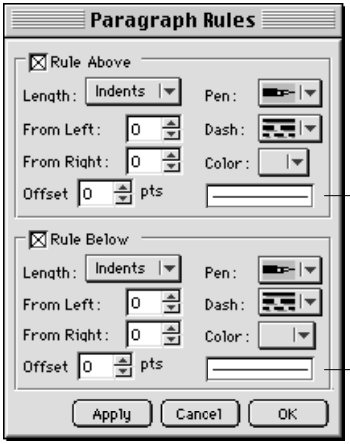
Rules can go above and below paragraphs. Rules can be solid, dashed, or neon strokes.

To apply paragraph rules

1 Place the insertion point or make a selection in the paragraph. You can highlight multiple paragraphs to select them.The Paragraph Rules command is not available unless a text object is in edit mode.

2 Choose Text > Rules. In the Paragraph Rules dialog box, select Rule Above or Rule Below. You can select either or both options. The options for Rule Above and Rule Below can be set independently.

3 Select rule options, then click Apply to preview the rules. Click OK to apply the rules and close the dialog box.



Paragraph Rules options

When you configure a paragraph rule, a preview of the rule appears in the box in the Rule Above or Rule Below section of the Paragraph Rules dialog box.

Rule Above and Rule Below Draws rules above or below selected paragraphs. Both can be selected. The size, placement, and attributes of rules are based on the settings in the dialog box. If a paragraph has rules and you clear the checkboxes, Canvas removes the rules.

Length Use the pop-up menu to choose an option for the length of paragraph rules.

- **Indents** sets the rule length based on the values in the From Left and From Right boxes. These values set the distances from the ends of the rules to the right and left borders of the text object (independent of paragraph indents).
- **Text** makes the rule length equal to the first line (for rules above) or last line (for rules below) of a paragraph. The From Left and From Right options are not available when the Text option is selected.

Offset Enter a value in points to space the rule away from the adjacent line of text. The position for rules above is measured from the descenders of the last line of the previous paragraph. For rules below, the position is measured from the descenders of the last line of the current paragraph. You can enter a minimum value of -10 points to move the rule closer to the text. You can enter a maximum value of 72 points to move the rule away from the text.

Pen Select a stroke for the rule from the Pen pop-up palette. You can select a solid pen, neon, or parallel stroke.

Dash To apply a dash to the rule, select a dash style from the Dash pop-up palette.

Color Select a color for the rule from the Color pop-up palette.

Adjusting letter and word spacing

Depending on the type of justification you choose, you might want to adjust letter and word spacing to reduce raggedness or eliminate unusual spacing. For example, left-justified paragraphs might appear too ragged on the right edge, and full-justified paragraphs might have large spaces between characters and words.

You can specify a minimum line width for a paragraph to reduce raggedness. In addition, Canvas has letter- and word-spacing parameters to let you specify minimum, maximum, and desired spacing guidelines.

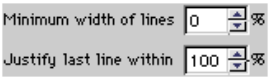
To adjust letter- and word-spacing

1 Depending on how you want the letter- and word-spacing settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set spacing for only one paragraph, place the insertion point anywhere in the paragraph.
- To set the spacing before typing a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply the spacing settings to the preset format, deselect all objects.

2 If necessary, open the Type palette by choosing Text > Type.

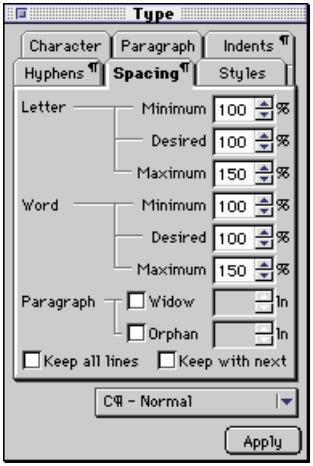
3 To set line-width options, click the Paragraph tab to bring it to the front, if necessary.



Spacing settings on the Paragraph tab

4 Depending on the type of justification applied to the text, use the following options on the Paragraph tab:

- For right-, left-, and center-justified text: To set the “Minimum Width of Lines,” enter a percentage in the text box. The percentage tells Canvas to adjust letter and word spacing so that each line is at least as wide as you specify. For example, if you create a two-inch wide, left-justified paragraph and set the minimum line width to 75%, Canvas adjusts the spacing so that each line is at least 1.5 inches wide. Only the last line in a paragraph is unaffected by the “Minimum Width of Lines” setting.
- For full-justified text: To tell Canvas when the last line of a paragraph is wide enough to be justified (flush with both right and left margins), enter a percentage in the “Justify Last Line Within” box. For example, you create a two-inch wide, full-justified paragraph and tell Canvas to justify the last line within 75%. If the last line is less than 1.5 inches wide, Canvas does not justify the line. However, if the last line is wider than 1.5 inches, Canvas justifies the line.



5 To set letter and word spacing parameters, click the Spacing tab to bring it to the front, if necessary. Set the minimum, desired, and maximum spacing in the Letter and Word areas. Specify each setting as a percentage of the current spacing. The desired spacing must be greater than the minimum and less than the maximum. The maximum spacing cannot be less than the minimum.

Canvas will try to adjust spacing to the desired percentage, but might not be able to depending on minimum line width and justification settings. In these cases, Canvas will then try to adjust the spacing within the minimum and maximum percentages you specify. However, if the minimum and maximum spacing parameters are still in conflict with minimum line width or full justification settings, Canvas will ignore the spacing parameters.

To change the spacing of a paragraph by a set amount, you can set the minimum, desired, and maximum percentages to the same value. This has a similar effect to kerning the entire paragraph.

Note: If you applied kerning to characters within the selection, Canvas adjusts the spacing as a percentage of the kerning.

6 Click Apply to implement the settings.

Automatic hyphenation

Canvas can insert a hyphen in the last word of a line to give text objects a more balanced, even appearance. You can also control the hyphenation properties so that Canvas only hyphenates under specific circumstances.

Note: Hyphenation settings apply to entire paragraphs. To hyphenate a specific word, you can manually insert a hyphen.

To set hyphenation for paragraphs

1 Depending on how you want the hyphenation settings to apply, do one of the following:

- To change existing text, select the paragraphs or text objects. To set hyphenation for only one paragraph, place the insertion point anywhere in the paragraph.
- To allow Canvas to insert hyphens as you type a new paragraph, place the insertion point at the beginning of the paragraph.
- To apply hyphenation settings to the preset format, deselect all objects.

2 Configure the hyphenation settings as described below.

Hyphenation settings

If necessary, open the Type palette by choosing Text > Type. Click the Hyphens tab to bring it to the front. Turn hyphenation on and configure the following settings.

After word beginning. Specify the minimum number of letters that must precede a hyphen.

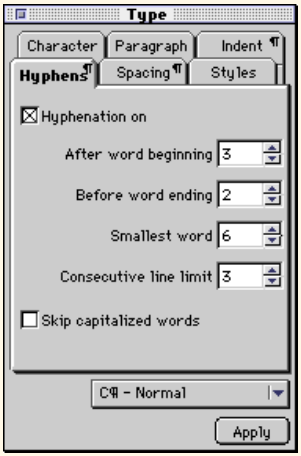
Before word ending. Specify the minimum number of letters that must follow a hyphen.

Smallest word. Specify the minimum number of letters that a word must have to be hyphenated.

Consecutive line limit. Specify the number of consecutive lines that can end in hyphens. For example, if four consecutive lines could end in hyphens but the limit is three, Canvas does not hyphenate the last word of the fourth line.

Skip capitalized words. Turn this option on to prevent proper names and other words beginning with a capital letter from being hyphenated.

Click Apply to implement the hyphenation settings.



Specifying text flow options

You can set text flow options to avoid leaving just a few lines at the top or bottom of a column of flowed text. The term *widow* describes the first line of a paragraph that appears at the bottom of a column, and *orphan* refers to the last line of a paragraph that appears at the top of a column. Canvas can prevent widows and orphans in a text flow by moving the page or column break higher and sending lines to the next page or column. In addition, you can specify that all lines in a paragraph stay together, or that certain pairs of paragraphs always remain together in the same column.

To modify a column break in a particular paragraph, keep all lines in a paragraph together, or keep two paragraphs together, you should change the text flow settings for the specific paragraph only. In most cases, you won't want these settings to apply to every column break.

To prevent widows and orphans

1 Depending on how you want the text flow settings to apply, do one of the following:

- To change existing text, select the text. To change one paragraph, place the insertion point anywhere in the paragraph.
- To change the preset format, deselect all objects.

2 If necessary, open the Type palette and click the Spacing tab. Configure the widows and orphans settings (described next).

Widow and orphan settings

Use the Paragraph area of the Spacing tab to configure widows and orphans protection properties. If an "X" appears in a checkbox, that feature is active.

Widow. Turn on to activate widow protection. You can specify the minimum number of lines that can appear in the last paragraph of a column.

Orphan. Turn on to activate orphan protection.

You can specify the minimum number of lines that can appear at the top of a column in a linked flow.

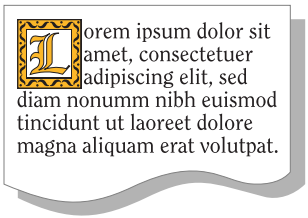
Keep all lines. To prevent Canvas from inserting a column break in a paragraph, turn on this option. This prevents widows and orphans, but might leave a lot of blank space at the bottom of a column.

Keep with next. To prevent two paragraphs from being separated by a column break, turn on this option. This option is useful for keeping a one-line paragraph, such as a heading, together with its section.

Click Apply to implement the text flow settings.

Note: Although you can specify widow and orphan settings for individual paragraphs, you should apply these settings to entire objects. This way, as you edit and move paragraphs, the location of the column break can change without causing widows and orphans.

Setting drop caps



Drop caps are large characters that extend below the normal baseline of the first line of an opening paragraph. Canvas indents the text below the first line to make room for the drop caps. You can format drop caps for any selected paragraphs.

To set up a drop cap

1 Depending on how you want the drop cap to apply, do one of the following:

To apply to	Do this
First paragraph in a text object	Select the object or place the insertion point anywhere in the first paragraph
All other paragraphs	Place the insertion point in a paragraph, or select a paragraph. You can also select multiple consecutive paragraphs
A new paragraph you are about to type	Place the insertion point at the beginning of the paragraph
The preset format	Deselect all objects. Canvas will apply drop caps to the first paragraph of all new text objects you create with the Text tool

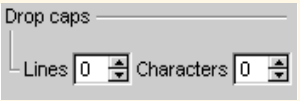
2 Configure the drop cap options described below.

Drop cap settings

If necessary, open the Type palette by choosing Text > Type. Click the Indents tab to bring it to the front.

Lines. Specify the number of lines you want the drop caps to occupy. This determines the vertical height of the drop cap.

Characters. Specify the number of characters to enlarge for drop caps. Canvas always applies this setting beginning with the first character in a paragraph.



Click Apply to implement the drop cap settings.

CHAPTER 22

USING TYPE STYLES

You can save type formatting settings as named character and paragraph type styles using the Styles tab in the Type palette. Canvas stores type styles with documents. When you open a document, Canvas loads the associated styles so you can apply them.

Type styles make it easy to apply formats and maintain consistency throughout a document. You can base styles on each other to form a "family" of styles, so that styles inherit the character and paragraph attributes of a parent style. Organizing styles in this manner makes global style changes a simple matter of changing the parent style.

When you change a style, text using the style also changes. In the case of style families, when a parent style changes, Canvas updates the entire style family and all text using styles in the family.

Creating new type styles

You can create two kinds of styles, character and paragraph, which incorporate different formatting attributes. After establishing character and paragraph styles, you can apply them independently to create new combinations.

Character style attributes	Paragraph style attributes
Font	Leading
Type size	Indents
Font style	Justification
Capitalization style	Drop caps
Baseline position	Hyphens
Kerning	Letter and word spacing
Colors (optional)	Text flow settings
	Character attributes and colors (optional)

To create a type style

To save the attributes of existing text as a style, place the insertion point in the text and choose Text > Type to open the Type palette. You can also save current Type palette, Text menu, and Text Ruler settings as a style, without first applying them to text.

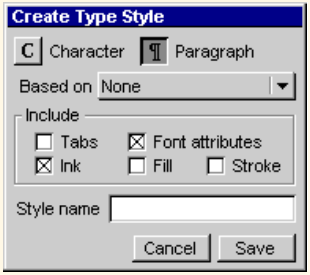
After you choose settings for a type style, click the Styles tab in the Type palette to bring it to the front.

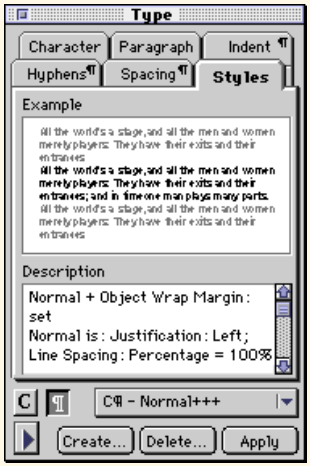
Example. Displays a sample of text with the current formatting settings applied.

Description. Lists the current character or paragraph attributes. The **C** and **¶** buttons toggle between descriptions of character and paragraph attributes.

To save a type style, click Create to open the Create Type Style dialog box. Configure the following settings.

Character or Paragraph. Click one of these buttons to specify what kind of style you want to create.





Based on. Choose a style name in this pop-up menu to base the style you are creating on an existing style. To disable this feature, choose None. See "Using style families," page 22.2, for more information.

Include. Select the attributes you want to save as part of the style. You can include ink settings (fill and stroke attributes that have been applied to existing text) in character and paragraph styles. For paragraph styles, you can also include font attributes and tab settings.

If a text selection has more than one fill ink, pen ink, or stroke, you can't include these attributes in a style. In addition, when text doesn't have a stroke, you can't include strokes in a style.

Style name. Type a name for the style. Click Save to store the style and close the dialog box.

Using style families

When you base a style on another, the style "inherits" the attributes of the parent style. When the parent style changes, Canvas also updates all related styles. In addition to inherited attributes, the style possesses its own attributes, which you specify. A style's own attributes always take precedence over attributes inherited from the parent style.

For example, you create a style, Body2, based on a parent style, Body1. The fonts are the same, but the type sizes are different. Body2 uses 10 point type, while Body1 uses 12 point. If you change the font for the parent style, the font also changes for Body2. However, if the *point size* changes for the parent style, Body2 does not change, because Body2's own attributes take precedence. To make Body2 always use the same point size as Body1, you must set the point sizes equal, base Body2 on Body1, and save the style again.

In addition, if you later change Body2's *font*, this style will no longer inherit fonts from the parent style. Body2's font will override Body1's font setting.

Careful planning will save you from time-consuming corrections when basing styles on each other. In some cases, changing a parent style's attributes may cause unwanted changes throughout the style family. For example, if you base ten styles on Body1, and later decide that you want Body1 (but not the whole family of styles) to be double spaced, you must first change the leading for Body1, then *remove* the leading setting from each of the other ten styles.

Saving and loading type styles

You can save type styles to files on disk and then load them into other documents. This feature helps maintain consistency between documents, and lets you share type styles with other Canvas users.

◆ **To save a type style to disk:** Press the triangle at the bottom-left of the Styles tab and choose Save Style in the pop-up menu. In the directory dialog box, type a file name and specify a location to save the file, then click Save.

◆ **To load a type style:** Press the triangle at the bottom-left of the Styles tab and choose Load Style in the pop-up menu. In the directory dialog box, locate and select the style, then click Open.

Copying type styles between documents

You can copy named type styles from one Canvas document to another by copying text that uses the style and pasting it into a different document. Canvas transfers the style with the text. When you save the document, Canvas also stores the transferred style.

A type style based on another style cannot inherit attributes across documents. For example, Body2 is based on a parent style, Body1, and you copy only Body2 to a new document. Body2 in the new doc-

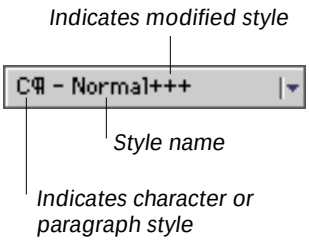
ument no longer inherits attributes from Body1, which is still in the original document.

However, if you copy both Body1 and Body2 to a new document, the relationship is preserved, and Body2 will inherit attributes from its parent style.

Note: When you do this, Canvas changes style names in the new document. For example, a style named “Body 2” will become “Body 2 - 2.”

Applying type styles

Applying type styles is similar to applying individual character or paragraph formats using the Type palette. However, instead of configuring settings on each of the tabs in the palette, you can simply choose style names in the pop-up menu at the bottom-right corner of the Type palette.



The pop-up menu displays the current type style name. The **C** and **¶** indicate if the style is a character or paragraph style, or both. If “+++” appears to the right of a style name, the style has been modified but not saved. If you choose a style in the pop-up menu when “+++” appears next to the current style, you will lose the modifications to the style. Therefore, if you want to use the settings again, you should save the modified style with a new name before applying other styles.

◆ **To apply a style to selected text or text objects:** Select the text or text object(s) to which you want to apply a style. Choose a style in the pop-up menu at the bottom-right of the Type palette. Click Apply to implement the style.

If the text you selected already had a style applied, Canvas replaces the style with the style you choose. In addition, if you apply a paragraph style with font attributes to highlighted text, the font attributes affect the selection only, and the paragraph attributes affect the entire paragraph.

◆ **To use a type style as the current format setting:** If necessary, deselect all text objects by pressing Enter (Mac) or Esc (Windows). Choose a style in the pop-up menu on the bottom-right corner of the Type palette and click Apply. Canvas formats new text objects with the specified style.

✔ Tip

To set current inks (other than black) for new text, save the inks as a type style attribute and use the type style as the current text format. These inks don’t affect the current inks for vector objects.

Modifying type styles

You can change the attributes of a type style and save the style with the same name. When you change a style's attributes, all styles in the family automatically inherit the new attributes and Canvas updates any existing text that uses the family of styles.

To modify a type style

1 In the Type palette, choose the style you want to edit in the pop-up menu at the bottom of the palette.

2 Use the Type palette to change the style's attributes. Canvas displays "+++" after the style name at the bottom of the palette to indicate that changes were made to the style.

3 Click the Styles tab to bring it to the front, and click Create.

4 In the Create Type Styles dialog box, Canvas displays the current style name in the Based On pop-up menu and Style Name box. To replace the style, do not change these settings.

5 If you want, you can include ink settings. For paragraph styles, you can also include font attributes.

6 Click Save. Canvas asks you to confirm that you want to replace the existing style with the new style. Click OK.

Deleting type styles

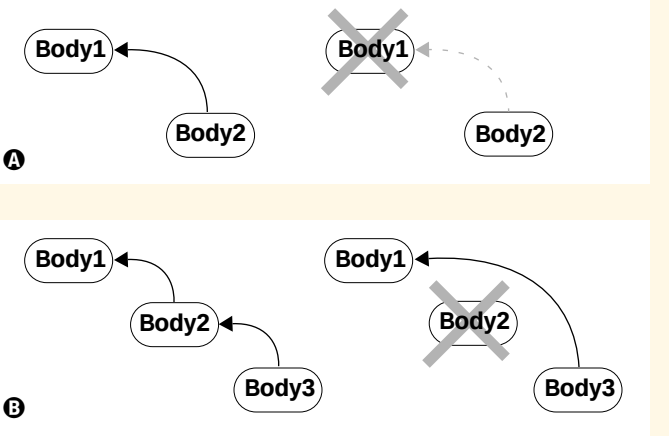
To minimize confusion when choosing styles to apply, you can delete type styles you don't use. Text using a deleted type style retains its formatting, but no longer has a named style. In addition, any text using a style based on a deleted style also loses its named style. See the illustration below for other effects of deleting a type style that is part of a style family.

Deleting parent styles

The diagram shows the results of deleting type styles on which other styles are based. Arrows indicate how these type styles are based on each other.

Ⓐ Body2 is based on Body1. Deleting Body1 makes Body2 an independent style.

Ⓑ Body3 is based on Body2, which in turn is based on Body1. Deleting Body2 makes Body3 based on Body1.



◆ **To delete a style:** Click Delete on the Styles tab in the Type palette. Choose the style you want to delete in the pop-up menu and click OK.

Tips on using type styles

By putting some forethought into the purpose and design of type styles, you can ensure that you are using this feature effectively. This planning will be especially useful when editing styles and documents, allowing you to make a few modifications that update entire documents.

Design a template. If several people need to use the styles, you might want to save the styles in a template document. This way, everyone uses a common source for the styles.

Create a "normal" type style. This will make it easy to revert formatted text to a basic style. When you apply the normal style, it will have the effect of removing or overriding other styles.

Name styles by their function. For example, a heading style might consist of boldface type. Rather than name this style "Bold," name it "Heading," or something that similarly describes its usage. This will make it easier to remember when to use which style.

Always apply a style. If you choose to use styles in documents, be sure to use them throughout. If you apply styles only sometimes, you might encounter difficulties maintaining consistency and performing global style changes.

Create style families when possible. You might want to use the Based On feature (see "Creating new type styles" on page 22.1) to create style families for styles that share some attributes. This will make global changes easier. See "Using style families" on page 22.2, for more information.

CHAPTER 23

TYPE EFFECTS

This chapter explains how to apply various effects to type. In Canvas, you can wrap text inside objects, repel text from objects, bind text to the path of an object, and slant the margins of a text object.

Wrapping and repelling text

You can make text flow around or inside objects by using the Wrap submenu commands.

Wrapping text inside an object

When you wrap text inside a paint or vector object, Canvas adjusts the text object's margins so that text fits within the boundaries of the object. A text object can be wrapped inside only one object at a time.

Canvas has two methods of wrapping text inside an object. You can select an existing text object and a vector or paint object and choose the Text > Wrap > Inside Shape. You can also select an existing paint or vector object and simply begin typing; the text will stay inside the boundaries of the object.

Center-justified text wrapped inside an oval

If you wrap text inside an open vector object, such as an arc, the text wraps between the bounding box and the concave side of the arc. If

you try to wrap text to a line or a narrow arc, the text will not be visible. If this occurs, choose Text > Wrap > Remove Wrap or choose Edit > Undo to make the text visible again.

◆ **To wrap existing text inside an object:** Select an object and a text object. Choose Text > Wrap > Inside Shape. Canvas places the text inside the object.

If there is more text than can fit inside the shape, Canvas inserts a column break in the text object and displays an overset symbol. You can resize the object to fit the text, or flow the excess text to another column; see "Flowing overset text into new text columns" on page 19.19.

◆ **To type new text inside an object:** Select a vector or paint object and begin typing. Canvas adjusts margins so that text you type remains within the left and right borders of the object.

If the object is too small to contain all the text you type, the text object extends below the object. You can resize the object to fit the text. You can also resize the text object to fit the shape, and then flow any excess text to another column.

Repelling text from objects

To make text flow around an object, you can apply a repel setting to the object. You also can set the amount of space between the object and text it repels.

An object with a repel setting repels all text. You can move the object and it will repel text wherever you place it.

You can apply repel settings to objects before any text has been created or placed in a document. You can also apply a repel setting to a text object to make it repel the text in other text objects. To make a text object repel text in other text objects, the repel text object must be at the front of the stacking order. Select a text object and choose Object > Arrange > Bring to Front to put the object in front of all other objects on the same layer.

An object can repel text that is contained in text objects. A repel setting does not repel text that has been bound to a path with the Path Text tool or the Bind Text command.

Repelling text from paint objects

When you repel text from paint objects, the text wraps to dark areas of the image. Off-screen, Canvas converts the image to black and

white; text wraps around areas that are black and overlaps areas that are white.

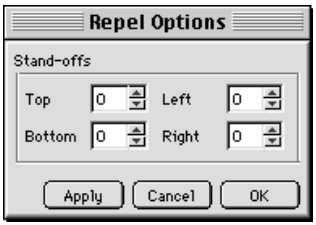
Examples of repelled text

One object repelling text *Two objects repelling text* *Two objects repelling two columns of text*

To make objects repel text

1 Select one or more objects that you want to repel text.

2 Choose Text > Wrap > Repel. Canvas applies the repel setting. The initial repel amount is zero points.



To set repel space

Use this procedure to set the amount of space between an object and text that it repels.

1 Select the object that has a repel setting and choose Text > Wrap > Repel Options.

2 Enter a value from -30 to 30 points in the four boxes. These values specify the amount of space between the top, bottom, left, and right sides of the object and text that the object repels.

3 Click Apply to view the effect of the current settings. Click OK to apply the settings and close the dialog box.

To remove a repel setting

Select an object that you do not want to repel text. Choose Text > Wrap > Remove Wrap. Canvas removes the repel setting from the selected object.

Slanting text columns

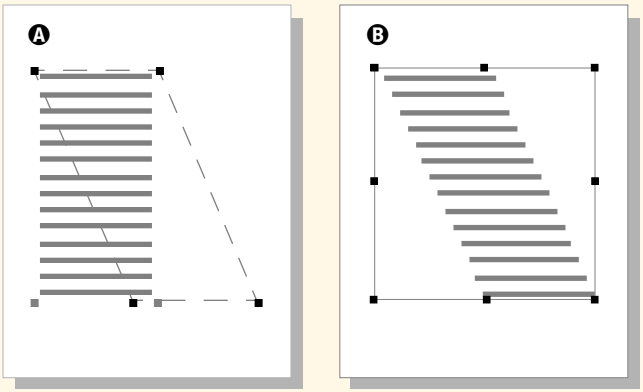
The Text > Wrap > Slant Margin command lets you change a text column's margins to form a parallelogram.

Setting the column angle

When you choose Text > Wrap > Slant Margin, you can drag selection handles to specify the angle of margins.

Ⓐ The bottom right handle of the text column is dragged to specify the angle of the margins (shown by the dashed lines).

Ⓑ Canvas adjusts the margins to slant the text column within the bounding rectangle. (The bounding rectangle is represented by the eight selection handles.)



To slant right and left margins

1 Select a text object.

2 Choose Text > Wrap > Slant Margin. The text object's selection handles change to four corner handles.

3 To slant margins away from the bottom line of text, drag either of the text object's top two selection handles horizontally.

4 To slant margins away from the top line of text, drag either of the text object's bottom two selection handles horizontally.

5 Press Enter (Mac) or Esc (Windows) when you are finished.

Removing wrap effects

You can restore text margins to the standard rectangular shape by choosing Text > Wrap > Remove Wrap.

◆ **To remove a wrap effect:** Select a wrapped text object. Choose Text > Wrap > Remove Wrap.

Binding text to vector objects

You can bind the baseline of text to the path of most types of vector objects. Canvas adjusts the vertical orientation of each character to match the path. You cannot bind text to objects drawn with the Concentric Circles, Spiral, or Grid tools.

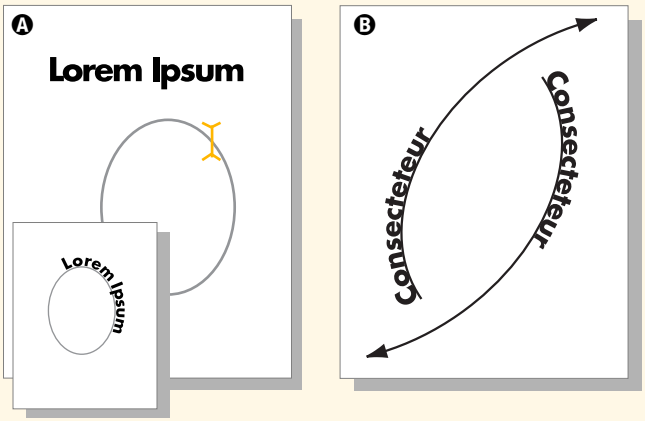
Path Text tool 

Depending on how you want to bind text, you can use the Bind Text command in the Effects menu or the Path Text tool in the toolbox. The Bind Text command lets you bind existing text to an object, and the Path Text tool lets you type new text directly on the path of a selected object.

Canvas lets you bind multiple text objects to one vector object, but a text object can bind to only one vector object at a time. Also, you can bind only one text object to a vector object using the Path Text tool. To bind additional text objects to the same vector object after using the Path Text tool, you must create a separate text object with the Text tool and use the Bind Text command.

Position and direction of bound text

Whether you use the Bind Text command or Path Text tool, the location where you click the pointer determines the alignment position.



Ⓐ This text is center-justified. The I-beam pointer (which appears after choosing the Bind Text command or the Path Text tool) determines where text will bind. In the example, the pointer is clicked in the upper-right quadrant of the oval. The inset shows the bound text, centered around the point where the pointer was clicked.

Ⓑ For open-ended objects, such as arcs, bound text initially flows in the direction the object was drawn. In this example, the arrows indicate the direction the arcs were drawn. Text objects bound to these arcs follow the direction of the arcs.

To bind existing text using a menu command

1 Select a text object and a vector object.

2 Choose Effects > Bind Text. When the pointer is on the edge of the selected object, the pointer becomes an I-beam.

3 With the pointer, click to place the selected text on the path. Text aligns to the point where you click. For example, if the text is center-justified, Canvas binds the text so that it is centered around the point you click.

4 To change the alignment and position of bound text, see "Working with bound text," next.

To type on a path using the Path Text tool

1 Select the Path Text tool in the Text tools toolbar. When the pointer is on the edge of an object, the pointer becomes a crosshair.

2 With the crosshair pointer, click where you want to start typing on the path. An insertion point appears.

3 Begin typing. Text you type aligns to the location where you placed the insertion point and follows the path of the object.

4 To change the alignment and position of bound text, see the procedure below.

Working with bound text

Once you bind text, you can change its starting position, alignment, baseline position, and flow direction. In addition, you can edit the shape and location of the vector object to which text is bound, and Canvas will fit the text to the new path.

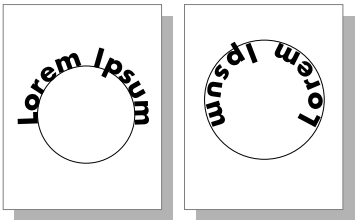
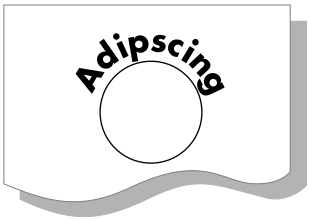
You can also edit bound text by selecting the Path Text tool and clicking the text object, or by double-clicking a bound text object with a Selection tool. However, text editing might be difficult and slow while the text is bound to an object; you might want to remove the text bind, make changes, and re-bind the text.

Bound text and its binding object move together, just like grouped objects. However, unlike grouped objects, you can select and change attributes (such as stroke and ink) individually for the text and the object.

To position and align bound text

Canvas has three Bind Position handles (shown in color below) that you can drag to place text anywhere on, above, or below an object. The handles appear when you select a bound text object.

Bind Position handles

Handle		Description	Example
	Reverse Flow handle	Click to switch the vertical orientation of type relative to the object path and reverse the flow direction.	
	Alignment handle	Drag to specify the point where you want type to align. For example, center-justified text will center around the location of this handle. Canvas spreads full-justified text along the entire path or object starting at the location of the handle.	 *Text is centered around the alignment handle*
	Baseline Shift handle	Drag to change the elevation of the baseline relative to the vector object. Baseline Shift lets you insert space between bound type and the object.	

Changing the appearance of bound text

Once you bind text to a path using the Path Text tool or the Bind Text command, you can use the context menu to change the orientation of the text characters relative to the path, and to make the path visible or not visible. The bound text commands appear in the context menu when a bound text object is selected. To use the context menu, press

Ctrl and the mouse button (Mac), or press the right mouse button (Windows).

Bound text commands

The following commands appear in the context menu:

Show Path / Hide Path Choose Show Path to make the path visible. Choose Hide Path to make the path not visible.

Vertical Text Choose Vertical Text to keep the baseline of the text characters horizontal, rather than perpendicular to the path. This also keeps the vertical axis of each character vertical, rather than angled to follow a curved path. The Vertical Text command is available when the text is bound with the Tangent Text option.

Tangent Text Choose Tangent Text to keep the baseline of the text characters tangent to the path, rather than horizontal. This angles the vertical axis of each character away from vertical as needed to follow the path. By default, Canvas uses the Tangent Text option when it first binds text to a path. The Tangent Text command is available in the context menu when the text is bound with the Vertical Text option.

Removing a text bind

You can remove a bind effect by selecting a bound text object and choosing Remove Effects in the Effects menu. Canvas straightens the text baseline and separates it from the vector object.

Binding text to a circle

You can create circular logos with text on top flowing clockwise and text on the bottom flowing counterclockwise. You can create this effect by binding two text objects to a circle and using the Bind Position handles to arrange the text.

To create a circular logo

1 Create a circular object using the Oval tool in the toolbox.

2 Create two text objects and bind them to the circle. You can use the Path Text tool to create and bind the first text object, but you must then bind the second text object using the Bind Text command.

3 Center the text objects on the top and bottom of the circle by selecting each one and dragging its Align handle. Centering text objects is easier if the text is center-justified.

4 Click the Reverse Flow handle of the bottom text object so the text reads from left to right inside the circle.

5 Now shift the bottom text object outside the circle by dragging its Baseline Shift handle outward from the center of the circle. As you drag, Canvas displays a circle to show the baseline location.

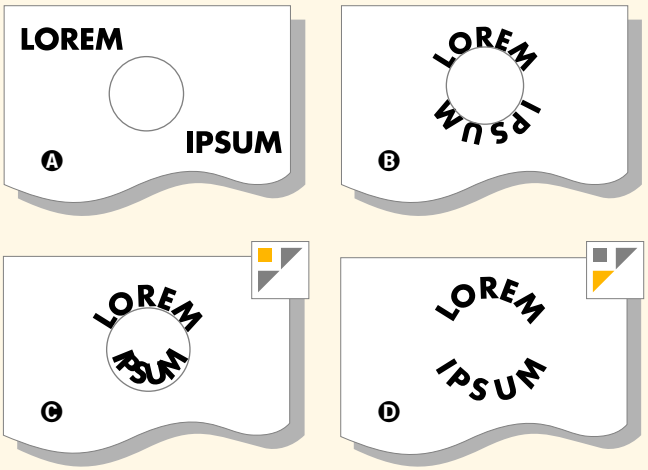
Binding text to a circle

Ⓐ The design consists of a circle and two text objects.

Ⓑ One text object is bound to the top of the circle, the other to the bottom of the circle. Text initially flows clockwise.

Ⓒ Clicking the Reverse Flow handle (highlighted in inset) makes "Ipsum" flow counterclockwise inside the circle.

Ⓓ Dragging the Baseline Shift handle (highlighted in inset) positions "Ipsum" outside the circle. Removing the circle completes the design.



Using text as clipping paths

You can make a pattern, gradient, or image appear to span an entire selection, rather than begin and end within each character. For example, instead of a gradient completing a blend pattern within each character of a word, you can make a gradient begin a blend in the first character and finish the blend in the last character.

In Canvas, you create these kinds of "continuous" fills using background objects and foreground text object clipping paths. The intersection of the background and foreground objects provides the appearance of a continuous fill. This method lets you use elaborate background designs, including paint objects, to fill characters. For more information, see "Using clipping paths" on page 18.4.

To use text as a clipping path

1 Position the text object in front of the object to be clipped, and then select both objects.

2 Choose Object > Clipping Path > Make.

Text object in front of gradient

Clipping path appears filled with gradient

Applying vector effects to type

You can apply the following vector effects to text objects:

- Envelope
- Extrude
- Rotate
- Freeform rotate and skew
- Flip
- Shadow
- Path editing

You can use effects to add dimension to type and create striking designs. This section describes briefly how to apply each of these effects. For more information, see “Vector effects” on page 18.1.

Before applying vector effects to type

Depending on the number and kind of effects you apply to type, you might not be able to edit the text afterwards. For example, you can edit text after rotating and skewing, but if you also extrude the type, Canvas converts the text to vector objects. In addition, depending on the speed of your system, editing rotated and skewed text might be slow. Therefore, you might want to finish all text editing, formatting, and layout before applying effects.

Freeform and rotate effects

In Canvas, you can place a text object in freeform mode and then drag any of the hollow selection handles of the bounding box to rotate and skew text. You can also perform exact rotations using the Rotate command in the Effects menu.

◆ **To freeform edit a text object:** Select a text object using a Selection tool. Choose Effects > Freeform. You can drag a circular selection handle to rotate the text object, or a square handle to skew the text.

◆ **To rotate a text object an exact amount:** Choose Effects > Rotate to open the Rotate dialog box. You can specify the degrees of rotation and the center of rotation. Click Apply to see the effect of the settings, or click OK to accept the settings.

This design consists of rotated (black) and skewed (color) type. Each word was divided into two text objects, which were arranged to create the effect.

Flipping text

You can use the Flip options in the Effects menu to create mirror-image copies of text. In Canvas, you can flip text horizontally, vertically, or both.

◆ **To flip text:** Select the text object(s) you want to flip. Depending on the direction you want to flip text, choose Horizontal, Vertical, or Both Axes in the Flip submenu in the Effects menu. Canvas implements the setting immediately.

Original

Vertical flip

Horizontal flip

Both axes

Shadow effects

In Canvas, when you apply a shadow to text, the shadow is a separate text object that you can color, edit, and apply effects to independently of the original text object. By applying the right combination of effects, you can create oblique shadows and other lighting effects.

Because Canvas creates a separate text object for the shadow, changes to the original text object do not change the shadow. You should finalize text before applying shadows to ensure that the text is the same for both objects.

◆ **To create a shadow:** Select the text object(s) you want to apply shadows to. Choose Effects > Shadow to open the Shadow dialog box. Specify vertical and horizontal offset amounts and a color for shadows. Canvas creates the shadows and arranges them behind the original text object(s).

Text shadow effects

By combining Canvas effects, you can create different types of shadows.

Ⓐ A standard shadow, slightly offset and shaded black.

Ⓑ The shadow text object was skewed to create an oblique shadow.

This example consists of three objects: the original text, a slightly offset shadow, and an oblique shadow. To blur the shadow, convert the text to a paint object with the Area > Render option in the Image menu. Then, choose Filter > Blur > Gaussian Blur in the Image menu and set the radius to 3.0.

Envelope text effects

You can use the Envelope effect to warp and distort type to create new character forms and stretch text like rubber. When you apply this effect to a text object, Canvas lets you drag selection handles to reshape text. Depending on the type of envelope you apply, text stretches in different ways. Using this effect, you can add perspective to text or simulate stretching type around a three-dimensional object.

Note: You cannot edit text after applying an envelope effect. In addition, you cannot extrude an object after changing its envelope. However, you can change the envelope of an extruded object.

◆ **To edit the envelope of a text object:** Select a text object and choose Effects > Envelope. Choose a type of envelope effect in the pop-up menu and click Apply. Then, drag the envelope handles to reshape the text.

Extruding text

You can extrude text and add lighting effects to make text appear three-dimensional. As with vector objects, you can rotate and scale extruded text to change the apparent depth, size, and orientation. For text, you can use only the Parallel option in the Extrude palette. You can also choose a color and position for the light source.

Note: You cannot edit text after extruding it. Also, Canvas removes stroke and fill attributes before extruding text because they can interfere with the three-dimensional effect. You can add color to extruded objects by choosing a fill color in the Inks palette and a color for the light source in the Extrude palette.

Extruded text with lighting effects

◆ **To extrude text:** Select a text object and choose Effects > Extrude to open the Extrude palette. Choose Parallel in the pop-up menu, configure the settings and click Apply. Use the extrusion handles to shape and rotate the text.

Converting text to paths

Canvas can create path outlines of characters so you can edit the shape of each character. Once you convert text to paths, Canvas treats the paths as objects. You cannot edit the objects as text (apply fonts to, change the type size of, or spell check, for example).

To edit character paths

1 Select a text object and choose Object > Path > Convert to Paths. If the text object contains multiple characters, Canvas groups the converted text together.

2 To edit individual character outlines, choose Object > Ungroup, or use the Direct Selection tool to select shapes.

3 Double-click a character outline to place it in path edit mode. To put several shapes in path edit mode at the same time, you can select multiple character outlines and choose Object > Path > Edit Path.

4 Use path-editing techniques to change the outline, and then press Esc to exit edit mode.

V

PAINTING & IMAGE EDITING

CHAPTER 24

PAINTING AND IMAGE-EDITING

Canvas provides a full palette of painting tools, including the digital equivalents of markers, airbrushes, and paintbrushes, plus tools for creating effects like neon and blends. The toolbar of painting tools also provides tools to select, retouch, color-correct, and clone images. This chapter explains how to use these painting tools, choose image modes, and convert objects into images.

Paint objects and images

A paint object is a special type of Canvas object that contains an image. Paint objects are always rectangular and are the same size as the images they contain.

An image is a picture made up of many tiny squares, called pixels. A scanned photo, a TIFF or Photoshop file, and a picture you paint in Canvas are examples of images.

Each pixel in an image is a solid color. Pixels can also be semi-transparent or completely clear. You can adjust the color, opacity, and transparency of pixels by using painting tools and commands.

At the object level, you can use tools and commands such as the Selection tool and Align command to affect entire paint objects. Almost anything you can do to objects, you can do to paint objects.

About paint objects and images in Canvas

"Images" are pictures defined by tiny dots, called pixels. A scanned photo, a TIFF or Photoshop file, and pictures you paint in Canvas are all images composed of pixels.

In a Canvas document, an image is contained in a *paint object* the same size as the image. Painting tools operate on the pixels within images, while object tools and commands, such as the Selection tool or Align command, apply to entire paint objects.

You can perform common object operations, including move, copy, and duplicate, on paint objects. For details, see the chapter titled "Working with objects" on page 10.1.

You can create images entirely in Canvas by making a new paint object that you can paint in, or creating an image from vector or text objects, as described in this chapter.

You can also import images into Canvas documents using the following methods:

- Place an existing image in a document using the Place, Paste, or Acquire commands.
- Scan a photo using the Acquire command. See "Using scanners to acquire images" on page 25.1.

This includes selecting, moving, copying, duplicating, deleting, rotating, skewing, and flipping. You can assign URLs to them and make proxies from them.

Creating paint objects

You can make new paint objects containing blank images. You can convert objects into images by rendering them.

To insert existing images into a document, you can use the Place, Paste, and Acquire commands. You can also scan images directly into a Canvas document. See “To open or place a file” on page 7.1; “Acquiring images” on page 7.4; and “Using scanners to acquire images” on page 25.1.

Creating paint objects with painting tools

Paint Object Creator tool 

The Paint Object Creator tool creates new, blank paint objects. This tool lets you set the image mode, resolution, and background transparency for new paint objects. The Paint Object Creator tool is located in the Painting Tools toolbar.

You can use other tools to create new paint objects. You can select any painting tool (except Crop) and drag in the document to create a paint object. The Paint Object Creator tool settings for image mode, resolution, and background are applied to new paint objects you create with any painting tool.

To create a paint object

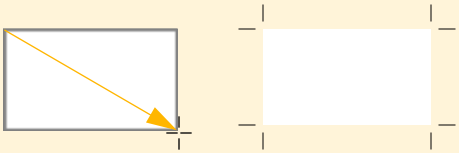
1 Select the Paint Object Creator tool or another painting tool.

2 Drag diagonally in the document to create a rectangular paint object.

- To constrain the height and width proportionally, press Shift as you drag.
- To constrain the height and width symmetrically from the center, press Option (Mac) or Ctrl (Windows) as you drag.
- To constrain the height and width proportionally and symmetrically, press Option+Shift (Mac) or Ctrl+Shift (Windows) as you drag.

3 A blank paint object appears in edit mode. You can begin painting in the image. When you finish, press Esc to end edit mode.

Drag any painting tool (except Crop) to create a new paint object



A paint object in edit mode, indicated by crop marks at each corner.

Settings for new paint objects

You can specify the image mode, resolution, and background type before you create paint objects with painting tools.

◆ **To change settings for new paint objects:** Press the Paint Object Creator tool icon and a menu appears. Choose a mode, resolution, or background type in the pop-up menu. To change another setting, repeat the procedure. Check marks in the menu indicate the current mode, resolution, and background type.

Black & White
Grayscale
✓ RGB Color
CMYK Color
Lab Color

✓ 72 PPI
150 PPI
300 PPI
Custom...

Opaque Background
✓ Transparent Background

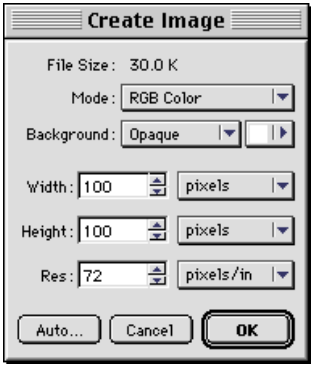
Current settings are checked in the Paint Object Creator tool menu

Background You can choose Opaque Background or Transparent Background in the Paint Object Creator tool's pop-up menu. Opaque Background creates an image made of white pixels. Transparent Background creates an image made of clear pixels. This type of image is transparent, so you can see other objects through it.

You can use a transparent image like a clear overlay. For example, you can place a transparent paint object in front of a vector graphic, and then paint in the image to give the appearance of paint strokes on the graphic.

Image mode You can choose an image mode in the Paint Object Creator tool's pop-up menu. The image mode controls the number of colors that can be stored in an image. See "Image modes for Canvas paint objects" on page 24.31.

Resolution You can choose several common resolution settings in the Paint Object Creator tool's menu. To set any other resolution, choose Custom. In the dialog box, type a resolution from 1 to 2,540 pixels per inch, and then click OK.



Using the Create command

The Create command creates new paint objects using the mode, size, resolution, and transparency settings that you specify.

You can use the Create command to create paint objects that are opaque or clear. Opaque paint objects are the same as paint objects in previous versions of Canvas. Clear paint objects let you see through unpainted areas. They are similar to transparent layers in image-editing programs such as Photoshop.

To create a paint object

1 With no objects selected, choose Image > Area > Create.

2 In the Create Image dialog box, set the image mode, type of background, background color (for an opaque image), size, and resolution of the image.

3 Click OK. The new paint object appears in the center of the view and is selected.

Setting paint object dimensions

When you use the Create command, you can set the dimensions of a paint object using relative or absolute values, depending on what you choose in the pop-up menus next to the Width and Height text boxes.

If you choose pixels to set the dimensions of the paint object, the size of the object is relative to its resolution; higher resolution makes pixels smaller, so the resulting object is smaller at the same width and height values.

If you choose inches, centimeters, picas, or points, you can enter absolute values for the paint object's dimensions.

Create options

The Create Image dialog box has options for new images.

File Size. The amount of memory required by the paint object, based on resolution, size, and image mode. Black & White mode requires the least memory; CMYK Color requires the most.

Mode. Choose an image mode. See “Image modes for Canvas paint objects” on page 24.31.

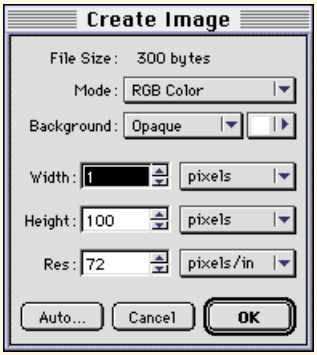
Background. Choose Transparent or Opaque.

Opaque creates an image filled with opaque pixels. You can select a color from the adjacent palette. To specify a custom color, see “Creating custom colors in pop-up palettes” on page 12.15.

Transparent creates a clear image with a visibility mask. When you choose this option, the color palette is not available.

Width and Height. Type the paint object’s width and height. In the adjacent menus, choose pixels and enter relative dimensions, or choose a unit of measurement and enter absolute dimensions.

Res. Enter the image resolution. Choose pixels per inch or pixels per centimeter in the adjacent menu.



Auto. Click Auto to calculate the resolution based on halftone screen frequency.

Adding visibility masks to images

If a paint object has a visibility mask, you can erase to a clear background. Also, Canvas can protect transparent areas when you paint or edit in the image.

You can add a visibility mask to a paint object that was created with an opaque background in Canvas or imported from another application.

Paint objects can look the same whether they have visibility masks or not. However, a visibility mask changes the way that the Eraser tool works and the effect of deleting or moving a selection.

White areas of the fish image erased to a clear background

In a paint object that has a visibility mask, you can erase or delete pixels to reveal a clear background. For example, you can erase at the edge of an image to create faded or torn edges. You can delete or move selections to create transparent areas.

If a paint object does not have a visibility mask, areas where you drag the Eraser tool, and selections you delete or move, become filled with the current background color and are opaque, not clear.

When you create paint objects with painting tools or the Render or Create commands, you can select an option to include visibility masks.

To add a visibility mask

1 Select a paint object that does not have a visibility mask.

2 Choose Image > Add Visibility Mask. This command is not available if a Duotone, Indexed, or Multichannel image is selected.

Adding a visibility mask does not change the appearance of a paint object. White pixels do not become transparent, for example. When a paint object has a visibility mask, you can select Preserve Visibility in the Channels palette. When this option is selected, Canvas protects clear areas from the effects of painting and image editing.

Paint object backgrounds

You can create a paint object in which the image "background" is transparent or opaque.

An opaque paint object contains opaque pixels. If the pixels are white and the paint object is on a white background, you won't notice that the image is opaque. Still, the rectangular paint object will block objects behind it (Ⓐ).

A transparent paint object can have a clear background that does not block other objects (Ⓑ).

Painting in an opaque image is like painting on a wall. Painting in a transparent image is like painting on a window.

Ⓐ

A rectangle and text are blocked by an opaque paint object in front

Ⓑ

A transparent background lets objects show through it

Rendering objects and images

Rendering converts objects into paint objects. For example, you can use the Render command to create a paint object from text, and then use the Airbrush tool to paint highlights on the image of the text.

Rendering is also referred to as “rasterizing” because the process produces a raster image -- an image composed of pixels arranged in a grid. All paint objects in Canvas contain raster, or pixel-based, images.

You can create paint objects by rendering selected vector objects, text objects, and group objects. You can render a paint object to create a new paint object that has different characteristics than the original.

When you use the Render command, you can create a transparency mask or visibility mask for the resulting paint object.

When you render a vector object, it’s a good idea to select a visibility mask if you want to isolate an object against a clear background.

To render objects

1 Select one or more objects and choose Image > Area > Render. If you select multiple objects, they will be rendered as one paint object.

2 The Render Image dialog box lets you specify resolution and other settings for the resulting paint object. Click OK to render the selection.

Canvas creates a paint object containing an image of the original objects. The paint object appears in front. The Render command does not change the original selected objects.

To see the original objects, you can drag the paint object away.

Pasting into images

You can render objects by copying them to the Clipboard and then pasting them into paint objects in edit mode. When an image is in edit mode and you paste into it, the Clipboard content is rendered and appears as a selection in the image.

If you select the “Anti-aliased Clipboard” option in the Preferences dialog box, Canvas anti-aliases vector and text objects that you paste into paint objects.

Rendering exported files

If necessary, Canvas renders selected objects or an entire document when you use the Save As command to export to a raster file format. For example, if you select vector objects, and then save in GIF format, Canvas renders the selected objects because GIF files store raster images.

When Canvas is saving a file, some options might not be available in the Render Image dialog box because the file format doesn't support them.

Render Image settings

When you use the Render command, you can specify image mode, resolution, and other settings in the Render Image dialog box.

Dimensions. Displays the width and height of the paint object Canvas will create.

Ⓐ Choose the measurement for the Width and Height values in the Dimension area; inches, centimeters (cm), points, or picas.

Mode. Choose the color mode for the resulting image: Black & White, Grayscale, Indexed Color, RGB Color, CMYK Color, or LAB Color.

Width and Height. Enter the pixel dimensions for the paint object. When you change a value, Canvas adjusts the others to maintain the size and proportions of the original objects.

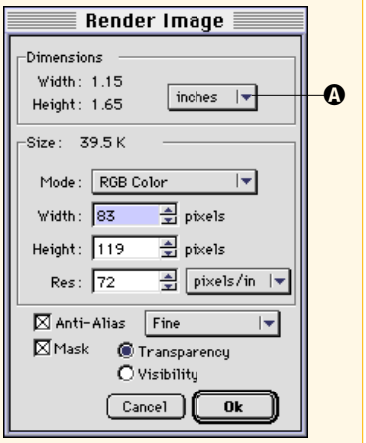
Res. Choose pixels per inch or pixels per centimeter in the pop-up menu. The value shown after "Size" is the amount of data in the image, based on the mode, resolution, and dimensions.

Anti-Alias. Blurs edges while rendering to make the edges of text characters and vector objects appear smoother in the resulting image. Choose Fine, Medium, or Coarse in the pop-up menu.

Coarse uses 16 shades for anti-aliasing and is the fastest option. Medium uses 64 shades for anti-aliasing. Fine uses 256 shades for anti-aliasing. Fine produces the softest edges and is the slowest option.

Mask. Select this option if you want the resulting paint object to have a visibility mask or a channel mask. Then choose the type of mask.

Transparency creates a channel mask. The channel mask is based on the silhouette of the rendered objects. In other words, if there are spaces between the objects, the channel mask will create transparent spaces.



Visibility creates a visibility mask in the paint object. The result is a clear background in areas not covered by objects.

If you do not select Mask, areas not filled by rendered objects within the paint object's bounding rectangle will be white and opaque. If you select Mask and either Transparency or Visibility, areas that are not filled by rendered objects will be transparent.

Rendering with the Camera tool

You can use the Camera tool to create a paint object from any area in a document. The Camera tool renders the area you select. You can set the resolution, color mode, and other options for the rendered image. The Camera tool is located in the Effects toolbar in the toolbox.

Using the Camera tool is like taking a snapshot of the screen. You simply use the Camera tool to select a rectangular area for rendering. You can include all types of objects and parts of objects in the rendering, without selecting the objects first.

The Camera tool is useful whenever you need to convert objects to an image, such as for creating web graphics. What the Camera tool does is similar to the Image > Area > Render command. The Camera tool lets you control the exact area to be rendered, while the Render command renders a rectangular area that includes all selected objects.

To render with the Camera tool

1 Select the Camera tool.

2 Drag to draw a rectangle around the area you want to render. You can view the dimensions and coordinates of the rectangle in the Status bar.

3 A bounding box with handles appears around the area you selected. You can adjust the box to select exactly the area you want to render.

- Drag a handle to change the size and shape of the area to be rendered.
- Drag the border of the box to reposition the box.

4 When the box encloses the area you want to render, click inside it.

5 The Render Image dialog box appears. Select the options you want to use, and then click OK to render the selected area.

After you click OK in the Render Image dialog box, a paint object containing the rendered image will appear in front of the area you selected.

Using painting tools

Painting tools let you apply color, make selections, edit, retouch, color-correct, and clone images. These tools are located in the Painting toolbar.

For some painting tools, you can adjust opacity, pressure, exposure, or other settings. See the specific tool entries in this chapter for details.

To use a painting tool

This general procedure applies to all painting tools.

1 To place a paint object in edit mode, either:

- Double-click the object with the Selection tool.
- Click the paint object with a painting tool. When you point to a paint object with a painting tool, the pointer displays a hand. If another paint object is in edit mode, press Tab and click to place a paint object in edit mode.

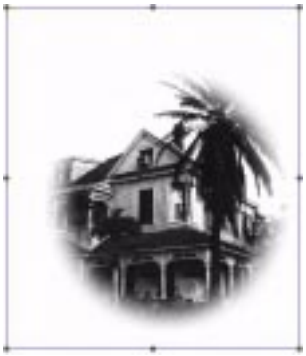
2 Select a foreground or background color to paint with. See the topics in this chapter for more information.

- To swap the foreground and background colors, press the letter “X” while using a painting tool. To set the foreground color to black and the background color to white, press ‘ (open single quote).

3 Select a brush shape in the Brushes palette. You can also choose a mode or other option for most tools.

4 Click in the image to apply a spot of color, or drag to paint a brush stroke, depending on the tool.

- To constrain a brush stroke to horizontal or vertical, press Shift as you drag.
- You can start dragging outside an image; a tool’s effect begins when the pointer is inside the image.



Selected paint object

Paint object in edit mode

Painting options

When you use a painting tool, you can use the context menu to gain quick access to common commands. The commands that are available vary, depending on the selected painting tool and whether there is a selection in the image.

To use the context menu

With a Painting tool selected, press the right mouse button (Windows), or press Control and the mouse button (Mac). When the menu pops up at the pointer, choose a command. Canvas applies the command and hides the menu.

The context menu contains some common commands that are available from the regular menus. The following commands are available in the context menu only.

Selecting brushes

You can select a brush in the context menu based on the location of the brush in the Brushes palette.

Next Brush Selects the brush shape in the Brushes palette to the right of the current brush.

Previous Brush Selects the brush shape in the Brushes palette to the left of the current brush.

First Brush Selects the brush at the upper-left of the palette.

Last Brush Selects the brush at the lower-right of the palette.

Brush shape display

The default pointer for painting is a symbol of the selected painting tool. You can change the pointer to a cross hair or the current brush shape. All tools use the pointer you select, not just the current tool. To change the pointer, choose an option in the context menu.

Note: Changing the pointer using the context menu is the same as changing the pointer using the brush options in the Painting tab of the Preferences dialog box.

Standard Pointer Displays the icon of the selected painting tool. This is the default pointer.

Precise Pointer Changes the pointer to a cross hair. The intersection of the cross hair is the center of the current brush.

Brush Size Pointer Changes the pointer to an outline of the current brush.

Fat Bits

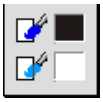
The Fat Bits feature displays pixels as individual tiles in a grid at high magnifications. This display was standard in Canvas 3.5 and earlier.

- **To show Fat Bits:** Press the Plus key or choose Show Fat Bits in the context menu to display pixels as individual tiles in a grid.

- **To hide Fat Bits:** Press the Plus key or choose Hide Fat Bits in the context menu to display pixels without the grid of individual tiles.

When you choose Show Fat Bits, the resolution and magnification affect the display. Fat Bits are visible when the ratio of magnification to resolution is about eight to one. For example, if the image resolution is 72 ppi, fat bits appear at 600 percent magnification and higher. If the image resolution is 144 ppi, fat bits appear at 1,200 percent magnification.

Selecting colors for painting



The palette icons when a painting tool is selected

Painting tools use the foreground or the background color, or both. Instead of pen and fill ink icons, two brush color icons appear in the toolbox when you select a painting tool. The top icon shows the foreground color and the bottom icon shows the background color.

You can use any solid color for painting. However, you can't paint with multi-colored inks, such as gradients, symbols, textures, or hatch inks. For example, if the current pen and fill inks (for drawing

objects) are gradients, when you edit an image, the foreground color is black and the background color is white.

Also, if you choose a spot color and edit pixels with a painting tool, Canvas converts the spot color to the image color mode (RGB, CMYK, and so on); see "Image modes for Canvas paint objects" on page 24.31. You can arrange paint objects in a document with vector and text objects that use spot colors, but only the vector and text objects will produce spot color separations.

◆ **To select a color for painting:** Press the foreground or background color icon in the toolbox to open the Inks palette; choose a color on the Color tab. If you tear the Inks palette away from the toolbox, it becomes a floating palette you can keep open as you work. When the palette is floating, you can select colors by clicking color tiles in the Color tab. You can also create new colors in the Color manager. See "Creating color inks" on page 12.10.

You can quickly switch the foreground and background painting colors by pressing "x" when a paint object is in edit mode. To restore the foreground color to black and the background color to white, press the single open quote key (‘) on the keyboard.

Picking colors from images and objects

Color Dropper tool

You can use the Color Dropper tool to pick up color from an image or object. The color you select becomes the current background or foreground color that you can use for painting.

◆ **To select the background color:** Select the Color Dropper tool in the Effects Tools toolbar in the toolbox and click a color in an object or image.

◆ **To select the foreground color:** Select the Color Dropper tool in the Effects Tools toolbar and Option-click (Mac) or right-button click (Windows) a color in an object or image.

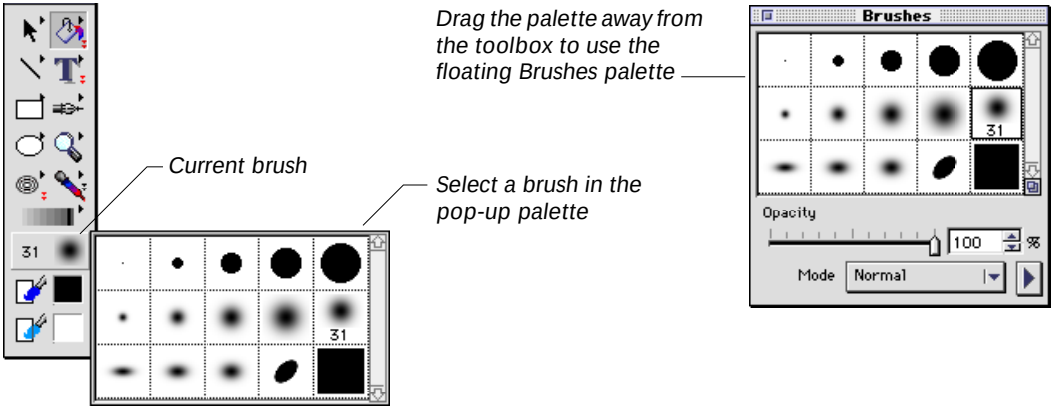
Note: When a paint object is in edit mode and you change the foreground or background color, the color you select stays in effect, becoming the current color for subsequent drawing and painting.

✔ **Tip**
You can select the Color Dropper in image edit mode by pressing Option (Mac) or Alt (Windows).

Selecting brushes and painting options

The Brushes palette provides brushes and options for painting and image-editing. You can select preset brushes and create new brushes. The Opacity slider lets you adjust opacity for painting. The Mode

menu lets you choose painting modes to control color application and target tonal ranges.



To select a brush

Mac: Select a painting tool and then press the Brushes icon in the toolbox. A palette of preset brushes appears. Drag to a brush to select it and the palette closes.

Windows: Select a painting tool and then click the Brushes icon in the toolbox. A palette of preset brushes appears. Click a brush to select it and the palette closes.

Note: The Brushes icon appears in the toolbox in place of the Strokes palette when one of the following painting tools is selected: Eraser, Paintbrush, Marker, Airbrush, Neon, Rubber Stamp, Smudge, Blur, Sharpen, Dodge, Burn, Sponge.

The Brushes icon is not available in the toolbox when one of the following tools is selected: Crop, Wand, Lasso, Marquee, Oval Marquee, Row Selection, Column Selection, Pencil, Remote Move.

While painting, you can use the context menu to change brushes and select painting options.

✔ Tip

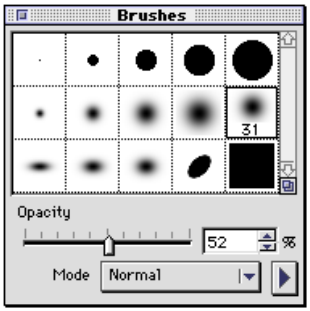
To quickly change the slider setting in the Brushes palette, you can press a number key; “1” sets the slider to 10%, “2” to 20%, and so on. “0” equals a setting of 100%.

Floating Brushes palette

When the Brushes palette is floating you can click brushes to select them. You can also use the Opacity slider, select painting modes, and create or delete brushes.

To use the floating Brushes palette, press the Brushes icon in the toolbox and drag the palette away from the toolbox. You can dock the Brushes palette on the Docking bar.

Painting opacity



Painting opacity affects the intensity of painting. You can adjust this setting in the floating Brushes palette for the following painting tools: Eraser, Marker, Paintbrush, Bucket, Blend, and Rubber Stamp.

Painting opacity can be set from 1 to 100%. Higher opacity makes the color you apply more opaque. Lower opacity makes color appear more transparent.

Painting opacity works together with painting modes (described next). In general, reducing opacity reduces the strength of the painted color and the effect of a tool.

For example, if you use the Paintbrush tool to apply black at 100% opacity in Normal mode, black replaces the original color wherever you paint. At 50% opacity, the strength of the black is reduced, so it mixes with the underlying color. If you also use a different painting mode, the strength of the mode’s effect is reduced.

◆ **To set painting opacity:** Select a painting tool that uses the painting opacity setting. In the floating Brushes palette, drag the Opacity slider or enter a percentage in the text box.

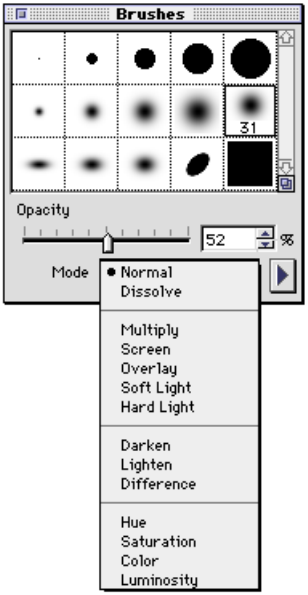
Canvas remembers each tool’s painting opacity setting. For example, if you use the Blend tool at 30% opacity and then use the Paintbrush tool at 100% opacity, the setting changes back to 30% when you select the Blend tool again.

Note: The Opacity slider in the floating Brushes palette affects subsequent brush strokes by the current painting tool only. It is not the same as the Opacity sliders in the toolbox and the Transparency palette, which are linked and control overall opacity of selected objects.

Painting modes

You can use various painting modes when you paint and edit images. Painting modes can create special effects and let you control color mixing and the tonal range affected by painting.

Choosing painting modes



Painting modes

When you use a painting tool, choose a mode in the Mode pop-up menu in the floating Brushes palette, or in the Mode submenu in the context menu. Not all modes are available for all painting tools.

Mode options are available when you use the following tools: Marker, Paintbrush, Airbrush, Bucket, Blend, Blur, Sharpen, and Rubber Stamp.

Some unique options for painting tools are described with the individual tools in this chapter. Painting modes that are available for most painting tools are listed here.

Normal The default painting mode applies color to all pixels uniformly. When the painting opacity is 100%, the applied color replaces the original color. If you paint in a Black & White or Indexed image, Normal mode is labeled Threshold.

Dissolve This mode applies color with a random diffused pattern within the brush shape. The effect is similar to drawing with chalk. The diffused effect is stronger when the painting opacity is less than 100%.

Multiply Darkens all pixels by multiplying the value of the applied color and the underlying color. Painting with darker colors intensifies the effect. Painting with black results in black; painting with white does not affect the original color. When you apply a color with multiple strokes in the same area, the strokes become darker, similar to the effect of making multiple strokes on paper with an ink marker.

Screen The Screen mode is the opposite of Multiply mode. Screen mode lightens all pixels by multiplying the inverse values of the applied color and the underlying color. Painting with lighter colors intensifies the effect. Painting with black does not affect the original image; painting with white results in white.

Overlay Applies color without destroying the underlying shadows and highlights. Overlay mode blends the applied color with the underlying color; the amount of blending depends on the lightness of the underlying color.

Soft Light Lightens or darkens underlying colors depending on the lightness value of the applied color. If the lightness of the applied color is less than 50% gray, painting lightens the image. If the lightness of the applied color is greater than 50% gray, painting darkens the image. Painting with white or black has the most intense effect, but does not completely replace the underlying color.

Hard Light Paints in Multiply or Screen mode, depending on the applied color's lightness value. This mode is similar to Soft Light. However, painting with black produces black; painting with white produces white.

Darken Compares the underlying color and the applied color, and the result is whichever color is darker. In other words, pixels in the image will be painted if the paint color is darker, while pixels that are darker than the paint color will remain unpainted.

Lighten The Lighten mode is the opposite of Darken mode. Lighten compares the underlying color and the applied color, and the result is whichever color is lighter. In other words, pixels in the image will be painted if the paint color is lighter; pixels that are lighter than the paint color will remain unpainted.

Difference Compares the brightness of the original and applied colors, subtracts the brightness value of the darker pixel from the lighter one, and applies that value to the original image.

Hue Applies the hue of the paint color without changing the brightness and saturation of the underlying image.

Saturation Changes the saturation of the area painted to match the saturation of the applied color, without changing the hue or luminance values. Applying gray does not affect the original image.

Color Changes the hue and saturation of the painted area to the hue and saturation of the applied color, without affecting the shadow, highlights, or midtones of the original image.

Luminosity Changes the lightness of the underlying color to the lightness of the applied color, without affecting the hue or saturation of the image.

Painting individual pixels with the Pencil

Pencil tool 

You can use the Pencil tool to apply the foreground color to a single pixel or create a one-pixel, freehand line. If the pixel already uses the foreground color, the Pencil applies the background color instead.

You can use the Pencil tool for precise image editing at high magnifications.

◆ **To paint a straight line:** Shift-drag the Pencil to confine the line to 90 degree angles.

Painting in the background color with the Eraser

Eraser tool 

You can paint with the background color using the Eraser tool. If a paint object has a visibility mask, the Eraser clears the pixels it touches, revealing a clear background. If the paint object does not have a visibility mask, the Eraser applies the background color.

Note: Opacity and painting mode options are not available with the Eraser.

Painting with the Marker

Marker tool 

The Marker tool paints with the foreground color, applying a hard-edged stroke.

1 To configure the Marker tool, double-click the tool to open its dialog box.

2 Select the options you want to use in the Fade area. In the "Fade within" text box, enter the distance in which Canvas will complete the fade.

- To fade the brush size, choose Size.
- To fade the color to transparent, choose Opacity.

3 To make a pressure-sensitive stylus affect the marker size or opacity, turn on these options under "Pressure Varies."

4 Click OK and use the procedure "Using painting tools" on page 24.10.

Painting with the Paintbrush

Paintbrush tool 

The Paintbrush tool applies the foreground color. You can apply a soft (anti-aliased) brush stroke by choosing a soft-edged brush in the Brushes palette.

1 To configure the Paintbrush tool, double-click the tool to open its dialog box.

2 Select the options you want to use in the Fade area. In the "Fade within" text box, enter the distance in which Canvas will complete the fade.

- To fade the brush size, choose Size.
- To fade the color to transparent, choose Opacity.

3 To make a pressure-sensitive stylus affect the paintbrush size or opacity, turn on these options under "Pressure Varies."

4 Click OK and use the procedure "Using painting tools" on page 24.10.

Spraying soft strokes with the Airbrush

Airbrush tool 

Using the Airbrush tool, you can apply the foreground color with a very soft (anti-aliased) stroke. The Airbrush tool paints as long as you press the mouse button. The Pressure setting in the Brushes palette controls how fast the Airbrush applies color.

1 To configure the Airbrush tool, double-click the tool to open its dialog box.

2 Select the options you want to use in the Fade area. In the "Fade within" text box, enter the distance in which Canvas will complete the fade.

- To fade the airbrush size, choose Size.
- To fade the amount of color applied, choose Pressure.

3 To make a pressure-sensitive stylus affect the airbrush size or pressure, turn on these options under "Pressure Varies."

4 Click OK and use the procedure "Using painting tools" on page 24.10.

Filling areas with color

Bucket tool 

You can use the Bucket tool to pour color on an image. The Bucket applies the foreground color where you click. You can adjust its tolerance so the color covers adjacent pixels of the same color only, or adjacent pixels of similar colors.

1 To configure the Bucket tool, double-click the tool. In the Bucket dialog box, adjust the settings as needed.

- To affect only identically-colored pixels, type 0 in the Tolerance text box. Type a larger number to affect more pixels.
- To soften the edge of the filled area, turn on Anti-Aliased.

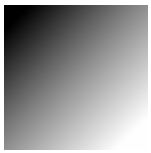
2 Click OK and use the procedure “Using painting tools” on page 24.10.

Painting color gradients

Blend tool 

You can paint a blend of colors with the Blend tool. By default, dragging the Blend tool in an image paints a blend from the foreground color to the background color.

The Blend tool is very useful for creating blends from black to white in channels, to make selection masks that fade gradually from full selection to no selection.



Linear blend

Radial blend

1 To configure the Blend tool, double-click the tool to open its dialog box. For more information, see “Blend options,” next.

2 Set the Mode and opacity in the Brushes palette; see “Creating paint objects with painting tools” on page 24.2.

3 Put the image in edit mode, if necessary. Then, select the Blend tool and drag to apply the blend, depending on the style selected:

- For linear blends, drag in the direction of the blend. Shift-drag to confine the blend’s direction to a 90- or 45-degree angle. Canvas fills the remaining area (if any) with the foreground color and background color.
- For radial blends, drag from the center of the blend.

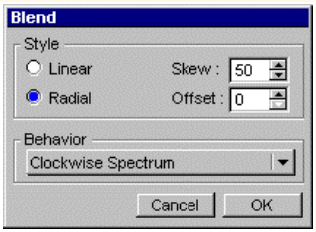
Blend options

Style. Choose Radial or Linear.

Offset. For Radial style, enter a value to set the percentage of starting color in the blend. To use more of the starting color in the blend, enter a number from 50 to 100.

Skew. To set the midpoint between blend colors, enter a number from 13 to 87. The default is 50.

Behavior. Choose a blending method. Foreground and Background refer to the current colors in the toolbox.



Transparent options fade from the foreground color to transparency. Spectrum blends create rainbow blends in a clockwise or counter-clockwise direction around the color wheel.

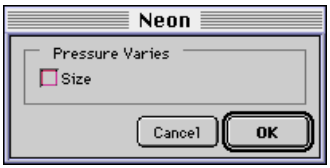
A Example of a blend used to vignette a photograph. The following Blend options were used:

Radial-style blend
Behavior = Transparent to Foreground
(Foreground color white)
Offset = 10
Skew = 70

Painting two-toned “neon” strokes

Neon tool 

You can paint a neon-tube stroke, with the foreground color inside and the background color outside, with the Neon tool. Use the Glow setting in the Brushes palette to adjust the color ratio. Painting modes aren’t available with the Neon tool.



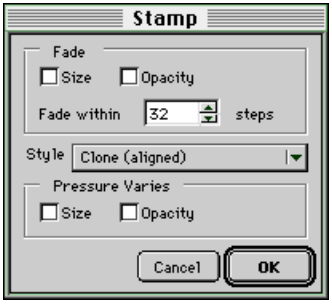
If you are using a pressure-sensitive tablet, double-click the Neon tool to open its dialog box. You can make the stylus pressure affect brush size by turning on the Size in the “Pressure Varies” area and clicking OK.

To paint with the Neon tool, follow the basic procedure in “Using painting tools” on page 24.10.

Copying areas with the Rubber Stamp tool

Rubber Stamp tool 

You can make a copy (“clone”) of an image area with the Rubber Stamp tool. This tool is very useful for retouching scanned photographs, removing lines and scratches, and hiding seams when compositing images.



1 To configure options for the Rubber Stamp tool, double-click the tool to open its dialog box. Adjust the settings and click OK.

- To fade the brush size or opacity of the cloned image, turn on the appropriate option in the Fade area and enter a number of pixels in the "Fade within" text box to tell Canvas the distance in which to complete the effect.
- Select an option in the Style pop-up menu; see "Choosing a cloning style" on page 24.22.
- With a pressure-sensitive tablet, you can make the stylus pressure affect size and opacity by turning on the appropriate option in the "Pressure Varies" area.

2 Select the Rubber Stamp tool and click an image with the hand pointer ( ) to put it in edit mode, if necessary.

Rubber Stamp pointer with Option (Mac) or Alt (Windows) pressed

3 Choose a brush shape, mode, and opacity setting in the Brushes palette; see "Creating paint objects with painting tools" on page 24.2.

Rubber Stamp pointer without modifier key

4 Option-click (Mac) or Alt-click (Windows) in the image to set the reference point for sampling an image area.

5 Drag in the image to paint a copy of the sampled area around the reference point.

Choosing a cloning style

The effect of dragging the Rubber Stamp tool in an image depends on the option you choose in the Style pop-up menu of the dialog box.

Clone (aligned) The first time you drag the Rubber Stamp tool in the image after setting the reference point, Canvas establishes a fixed direction and distance from the reference point to the pointer. The Rubber Stamp tool copies any area of the image that is this distance and direction from the pointer.

Clone (non-aligned) Dragging the Rubber Stamp tool always begins copying the image from the same reference point.

Impressionist This option smears pixels to create an impressionistic effect. You don't need to set a reference point to use this effect.

Option-click (Mac) or Alt-click (Windows) to set the reference point for the area you want to clone with the Rubber Stamp tool

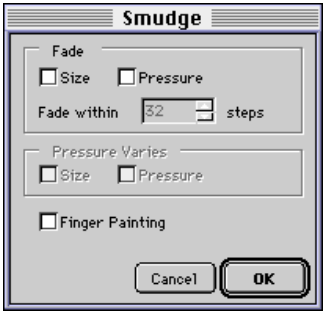
Clone (aligned) option

Clone (Non-aligned) option

Smudging colors

Smudge tool 

With the Smudge tool, you can pull color from one area of an image and drag it into adjacent areas. You can adjust the Pressure setting in the Brushes palette to control the distance that the tool smudges a color.



1 Select the Smudge tool and click a paint object to put it in edit mode, if necessary.

2 To configure the Smudge tool, double-click the tool. In the dialog box, adjust the following settings and click OK.

- To gradually diminish the brush size as you drag, turn on Size; to reduce the smudge effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the “Fade within” text box to set how quickly the effect fades.
- To smudge the foreground color into the image, turn on the Finger Painting option.
- If you use a pressure-sensitive tablet and want stylus pressure to affect size and pressure, turn on Size and Pressure in the Pressure Varies area.

3 Select a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 24.2.

4 Adjust the Pressure setting in the Brushes palette. A setting of 1 affects the image slightly; 85 drags the color through many pixels.

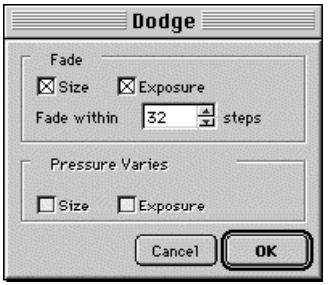
5 Drag the Smudge tool in the image area you want to edit.

To lighten ('dodge') areas

Dodge tool 

You can lighten specific areas of an image with the Dodge tool.

1 Select the Dodge tool and click a paint object to put it in edit mode, if necessary.

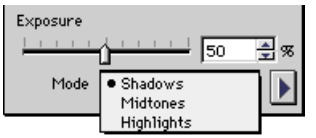


2 To configure the Dodge tool, double-click its icon. In the Dodge dialog box, select the options in the Fade area, if desired, and type a number in the Fade Within box to set the length of the fade effect.

3 If you use a pressure-sensitive tablet, you can make stylus pressure affect brush size and exposure by selecting the Size and Exposure checkboxes in the Pressure Varies area.

4 After configuring the Dodge tool the way you want, click OK.

5 Choose a brush shape in the Brushes palette. For more information, see "Creating paint objects with painting tools" on page 24.2.



6 Adjust the Exposure setting in the Brushes palette. Increasing the Exposure increases the lightening effect of the tool. Decreasing the setting decreases the effect.

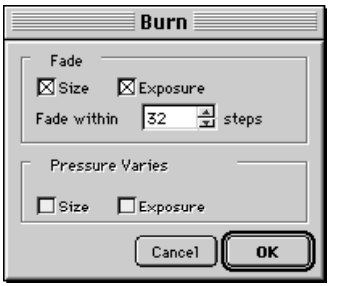
7 Choose Shadows, Midtones, or Highlights in the Mode pop-up menu. The Dodge tool lightens pixels that fall within the selected range only.

8 Drag the Dodge tool in the image area you want to edit.

To darken ('burn') areas

Burn tool 

You can darken specific areas of an image by dragging the Burn tool over the pixels you want to darken. The tool's effect can be controlled by your selection of brush and adjustment of the tool's Fade setting.

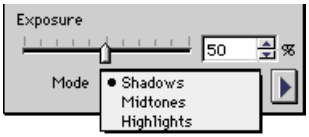


1 Select the Burn tool and click a paint object to put the image in edit mode, if necessary. To configure the Burn tool, double-click its icon.

- Select Fade options, if desired, and type a number in the Fade Within box to set the length of the fade effect.
- If you use a pressure-sensitive tablet, select the Size and Exposure checkboxes in the "Pressure Varies" area to vary size and exposure based on stylus pressure.

2 After configuring the Burn tool the way you want, click OK.

3 Choose a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 24.2.



4 Choose an Exposure setting in the Brushes palette. Increasing the Exposure setting increases the darkening effect of the tool. Decreasing the setting decreases the effect.

5 Choose Shadows, Midtones, or Highlights in the Mode pop-up menu. The Burn tool darkens pixels that fall within the selected range only.

6 Drag the Burn tool in the image area you want to edit.

To blur areas

Blur tool 

You can soften specific areas in an image with the Blur tool. The Blur tool decreases the contrast between pixels the tool drags over.

1 Select the Blur tool and click a paint object to put the image in edit mode, if necessary.

2 To configure the Blur tool, double-click the tool. In the dialog box, adjust the following settings and click OK.

- To diminish the brush size gradually as you drag, turn on Size; to reduce the blur effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the “Fade within” text box to set how quickly the effect fades.
- If you use a pressure-sensitive tablet and want stylus pressure to change size and pressure, turn on Size and Pressure in the Pressure Varies area.

3 Select a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 24.2.

4 Adjust the Pressure setting in the Brushes palette. A setting of 1 affects the image slightly; 85 softens the image greatly.

5 Drag the Blur tool in the image area you want to edit. Canvas applies the effect to pixels touched by the tool.

To sharpen areas

Sharpen tool 

You can increase the contrast between specific pixels in an image with the Sharpen tool.

1 Select the Sharpen tool and click a paint object to put the image in edit mode, if necessary.

2 To configure the Sharpen tool, double-click the tool. In the dialog box, adjust the following settings and click OK.

- To gradually diminish the brush size as you drag, turn on Size; to reduce the sharpening effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the "Fade within" text box to set how quickly the effect fades.
- If you use a pressure-sensitive tablet and want stylus pressure to affect size and pressure, turn on Size and Pressure in the Pressure Varies area.

3 Select a brush shape in the Brushes palette. For more information, see "Creating paint objects with painting tools" on page 24.2.

4 Adjust the Pressure setting in the Brushes palette. A setting of 1 affects the image slightly; 85 dramatically sharpens the image.

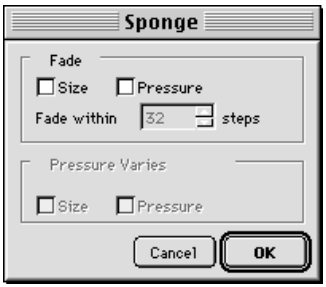
5 Drag the Sharpen tool in the image area you want to edit. Canvas applies the sharpening effect to pixels touched by the tool.

Saturating and desaturating colors

Sponge tool 

With the Sponge tool, you can add or remove gray content from specific areas of an image.

1 Select the Sponge tool and click a paint object to put the image in edit mode, if necessary.



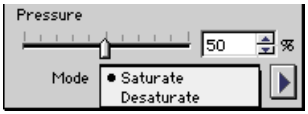
2 To configure the Sponge tool, double-click the tool to open its dialog box.

- To gradually diminish the brush size as you drag, turn on Size; to reduce the Sponge effect as you drag, turn on Pressure in the Fade area. For both options, you can also type a number in the "Fade within" text box to set how quickly the effect fades.

- If you are using a pressure-sensitive tablet, you can make the stylus pressure affect size and exposure by turning on the appropriate option in the “Pressure Varies” area.

3 After configuring the Sponge tool the way you want, click OK.

4 Choose a brush shape in the Brushes palette. For more information, see “Creating paint objects with painting tools” on page 24.2.



5 Adjust the Pressure setting in the Brushes palette. Increase the pressure to increase the effect.

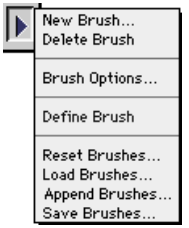
6 Choose Saturate or Desaturate in the Mode pop-up menu. Saturate removes gray; desaturate increases the amount of gray.

7 Drag the Sponge tool over the image area you want to edit.

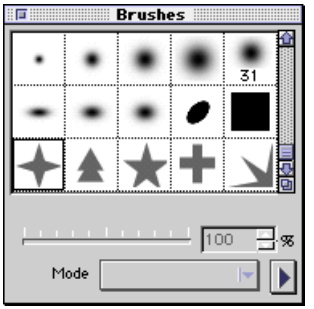
Customizing brushes for painting tools

You can use the Brushes palette to create brushes, save brushes in files on disk, modify existing brushes, and delete unwanted brushes.

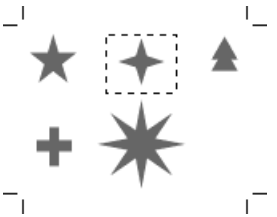
You can add custom brushes to the list of preset brushes in the palette. When you exit Canvas, it stores the brush presets. The same set of brushes are available whether you work with new documents, documents you created, or documents created by another Canvas user.



Brushes palette pop-up menu



New brushes appear in the Brushes palette



You can select image areas to make brushes. This image contains rendered vector objects.

To create a new brush

1 Press the right-arrow button in the Brushes palette and choose New Brush in the pop-up menu.

2 In the New Brush dialog box, adjust the settings for the brush. For more information, see "New brush options," page 24.29.

3 After entering the settings you want, click OK. The new brush shape appears in the Brushes palette.

To delete brushes from the palette

You can permanently remove brush shapes from the Brushes palette. If you think you might want to use the brush shape again, you should first store it in a brushes file so you can later load it back into the palette. See "Saving and loading brushes," page 24.29.

◆ **To delete a brush:** Select the brush you want to delete. Choose Delete Brush in the Brushes palette pop-up menu, or Command-click (Mac) or Alt-click (Windows) a brush in the palette to delete it.

Using a selection to define a brush shape

You can make a new brush shape from a selection in an image. This lets you create non-elliptical brush shapes.

1 Select all or part of an image; see "Selecting pixels in images," page 26.1.

2 Choose Define Brush in the Brushes palette pop-up menu. The selection becomes a brush in the Brushes palette. Canvas uses the shape and lightness values of the selection to define the brush. Brush shapes do not contain color.

Modifying brush shapes

You can edit any brush shape. For brush shapes created from selections, you can change only the spacing.

1 In the Brushes palette, double-click the brush shape you want to modify.

2 In the Brush Options dialog box, adjust the settings you want and click OK; see "New brush options," next.

New brush options

You create brush shapes by specifying diameter, hardness, spacing, roundness and angle. These same options are available in the Brush Options dialog box.

Diameter. Enter the diameter in pixels of the new brush.

Hardness. Enter a percentage to tell Canvas how much of the brush shape is solid.

Spacing. This percentage sets the amount of brush overlap when you drag a painting tool. Turn off Spacing to make the brush velocity-sensitive, so it skips pixels when dragged fast.

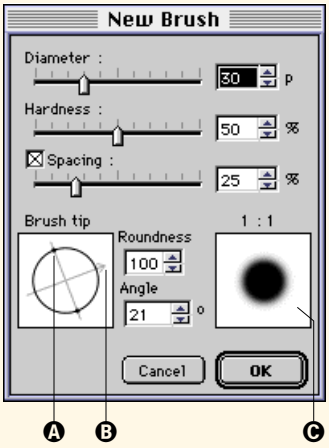
Roundness. Enter 1 to 100. To create a circle, enter 100.

Angle. Enter a number to rotate the brush shape.

Ⓐ Drag to change Roundness.

Ⓑ Drag to change the Angle.

Ⓒ Preview of the brush shape.



Saving and loading brushes

You can save brushes in a file, and load brushes from a saved file into the Brushes palette. Saving brushes to disk lets you customize the Brushes palette for particular projects or exchange brushes with other Canvas users. The file format that Canvas uses to save brushes on disk is also compatible with the file format used by the Photoshop image-editing program for saving brushes.

To save brushes in a file

1 In the Brushes palette, add or remove brushes until you have the collection you want to save.

2 Choose Save Brushes in the Brushes palette pop-up menu.

3 In the directory dialog box, type a name for the brushes file, select a location, and click Save (Mac) or OK (Windows).

To load brushes from a file

When you load brushes, you can replace the current set of brushes with the contents of the file, or add the brushes to those in the palette.

1 In the Brushes palette, choose one of the following commands in the pop-up menu:

- To replace the current brushes with those in the brushes file, choose Load Brushes.

- To add the presets in the brushes file to those currently in the palette, choose Append Brushes.

2 In the directory dialog box, locate the brushes file you want to open and click Open (Mac) or OK (Windows).

Using vector and text tools in paint objects

After placing a paint object in edit mode, you can use vector tools and the Text tool to add shapes and type to an image.

When you draw or type text within a paint object in edit mode, Canvas rasterizes the objects according to the image mode and resolution of the paint object, and makes a floating selection in the image.

When you type within a paint object in edit mode, you can modify the font, size, and style of the type before Canvas rasterizes it. For more information, see "To set type within images" on page 24.31.

To set anti-aliasing for objects placed in images

You can set a preference so Canvas softens the edges of objects you draw in an image or paste into an image from the Clipboard.

1 Choose File > Preferences and click the Painting tab in the Preferences dialog box.

2 Set the preferences you want to apply to objects placed in images and click OK.

- To soften selections pasted from the Clipboard, select "Anti-Aliased Clipboard."
- To soften objects or type created in paint objects in edit mode, select "Anti-Aliased Canvas Objects."

For more information, see "Painting preferences" on page 9.4.

To draw objects within images

You can use any of the drawing tools in a paint object in edit mode to "paint" shapes. When you finish drawing the shape, Canvas rasterizes it, based on its shape and colors.

1 Double-click the paint object with the Selection tool to put it in edit mode, if necessary, and select a drawing tool.

2 Select ink and stroke settings. For more information, see "Inks: colors and patterns" on page 12.1 and "Strokes: outline effects" on page 13.1.

3 Drag the selected tool to draw within the paint object. For more information, see “Drawing basics” on page 15.1. The object you draw becomes a floating selection and you can change its opacity, set the mode, or apply filters; see “Changing the opacity of floating selections” on page 26.12 and “Image filters and effects” on page 28.1.

4 When you finish editing the selection, press Enter (Mac) or Esc (Mac or Windows) to make the selection part of the image. Press Enter (Mac) or Esc (Mac or Windows) again to deselect the area.

To set type within images

You can type text within a paint object in edit mode and then modify the attributes before Canvas converts the type to a floating selection.

1 Double-click the paint object with the Selection tool to put it in edit mode, if necessary, and select the Text tool in the toolbox.

2 Click the I-beam pointer in the image and type the text, which appears in a white box.

- You can use the Text menu, Type palette, or Text Ruler to set typographic attributes.

3 Press Enter (Mac) or Esc (Windows) to make the type a floating selection.

- You can change the opacity, set the mode, and apply filters to the selection; see “Changing the opacity of floating selections” on page 26.12 and “Image filters and effects” on page 28.1.

4 When you finish, press Enter (Mac) or Esc (Windows) to make the type selection part of the image. Press Enter (Mac) or Esc (Mac or Windows) again to deselect the area.

Image modes for Canvas paint objects

In Canvas, image modes define the color model and the number of colors that can be used in images. When you create a new paint object in Canvas, you select an image mode: Black & White, Grayscale, RGB Color, CMYK Color, or LAB Color. When you select a paint object, Canvas displays the image mode in the information area at the right end of the Status bar.

How image modes affect image filters

Filters produce different results depending on the image mode. When you paint, the opacity setting of a brush acts differently on images in different modes. For the most predictable results with filters and paint tools, use RGB Color mode.

Posterizing a LAB image introduces color to light areas.

Original | *RGB image posterized 4 levels* | *LAB image posterized 4 levels*

How Canvas assigns image modes

When you import an image from another source either by opening, placing or pasting an image file, Canvas assigns an image mode based on the number of colors and the color model used in the image.

The following table shows the image modes that Canvas assigns when you import images in some common image formats.

Imported format	Assigned image mode
TIFF	RGB Color, CMYK Color, or Grayscale
BMP	256-color image: Indexed 24-bit image: RGB Color
MacPaint	Black & White
Photoshop	Same as original image mode

Changing image modes

The Mode submenu lets you change the mode of selected paint objects.

You might want to change modes so you can use certain features, or to reduce memory requirements. For example, you might want to convert an Indexed image to RGB Color mode to apply image filters.

You might want to convert an RGB Color image to Grayscale mode to save memory when a document is printed without color.

◆ **To change image modes:** Select one or more paint objects. Or, with a paint object in edit mode, choose the mode you want in the Image > Mode submenu.

Some modes are available only if the object's current mode is compatible. For example, Black & White mode and Duotone mode are available only when Grayscale paint objects are selected.

If the mode you choose does not support an image's full color range, a message asks you to confirm the change. Click OK to proceed.

If you choose Duotone mode or Indexed mode, you can select options in a dialog box and then click OK to complete the conversion. See "Duotone image mode" on page 24.40 and "Indexed image mode" on page 24.34.

Black & White image mode

Black & White image mode is used for scanned line art and black-and-white ("bitmap") images, which contain only black and white pixels. Black & White mode images require the least amount of memory and disk space.

To convert to Black & White mode

Grayscale mode images and Multichannel mode images are the only images you can convert to Black & White mode. If an image is not Grayscale, convert it to Grayscale mode first if you want to convert it to Black & White mode.

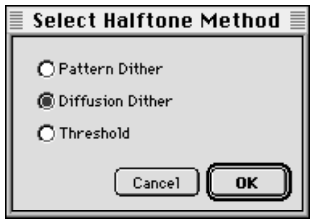
1 Select the paint objects to convert and choose Image > Mode > Black & White. The Select Halftone Method dialog box lets you choose a conversion option.

2 Select Pattern Dither, Diffusion Dither, or Threshold, and then click OK.

- If you choose Pattern Dither or Diffusion Dither, Canvas "screens" the image, rendering its tones as patterns of tiny dots. Pattern Dither screens an image using a fixed pattern similar to a traditional halftone screen. Diffusion Dither screens an image using a process that creates a random pattern effect.

- If you choose Threshold, Canvas converts the image to a high-contrast black-and-white image. Pixels of lightness values from 0 to 128 become black, and pixels of lightness values from 129 to 255 become white.

When you paste a selection into a Black & White image, Canvas uses diffusion dither on the selection.

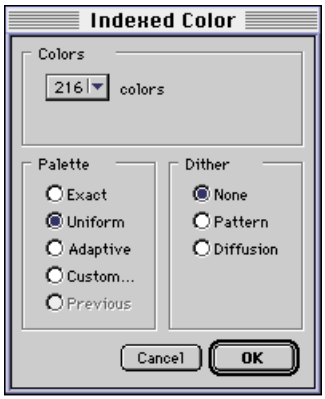


Grayscale image mode

Grayscale mode is appropriate for images scanned from black and white photographs, or when the image will never be printed in color. In Grayscale mode, pixels use 256 brightness levels to represent a range of shades from pure black to pure white. Grayscale uses 8 bits per pixel and requires less memory than most color modes.

If you convert a color image to Grayscale mode, Canvas discards all color information.

Indexed image mode



Indexed color mode uses a palette of 256 colors for images. Because it stores fewer colors, it requires significantly less memory than RGB Color and CMYK Color modes, both of which support millions of colors. Smaller memory requirements make Indexed mode especially useful for images used on Internet web pages.

An Indexed image includes a color table, or palette, of colors used in the image. When you convert an existing image to Indexed mode, you can specify the number of colors from the image to include in the color table.

Most image filters, effects, and opacity controls aren't available to be applied to Indexed images, except the Offset and De-Interlace filters, as well as some third-party plug-in filters.

To convert an existing image to Indexed mode

1 Select paint objects with the Selection tool and choose Image > Mode > Indexed. A dialog box appears.

2 In the Indexed Color dialog box, choose an option for the color table:

Exact	Creates a color table from the colors in the image, if the image contains 256 colors or less; otherwise, this option isn't available
Uniform/ System	Creates a color table based on the operating system's palette of 256 colors (System), or a subset of these colors (Uniform)
Adaptive	Creates a color table from the most frequently used colors in the image
Custom	Lets you create a color table, load, and save color table files.
Previous	Applies the last color table used in the Indexed Color dialog box during the current Canvas session

3 Depending on which method you select, the Colors area in the dialog box displays information about how the color table is computed. Choose the option you want, if necessary:

Exact	If you choose Exact, the Colors area displays the number of colors in the selected image
Uniform/ System	If you choose System, the Colors area displays the number of colors in the operating system's palette; if you choose Uniform, a pop-up menu that lets you select 8, 27, 64, 125, 216, or 256 colors appears
Adaptive	If you choose Adaptive, the Colors area displays a text box that lets you enter a number of colors from 2 to 256
Custom	If you choose Custom, the Colors area displays "Custom colors"
Previous	If you choose Previous, the Colors area displays the number of colors in the last color table created by the Indexed Color dialog box during the current Canvas session

4 Choose a color-distribution option in the Dither area:

None	Changes colors to their closest equivalent in the selected color table without dithering
Pattern	Approximates colors not in the palette by arranging palette color in geometric patterns (available for Uniform/System method only)
Diffusion	Approximates non-palette colors by randomly dithering available colors; creates the most natural effect

5 After choosing the settings you want, click OK. If you select the Custom option, the Color Table dialog box appears. To use this dialog box, refer to “Creating custom color tables for Indexed images,” next.

Creating custom color tables for Indexed images

You can create a custom color table for an Indexed image in two ways. You can select “Custom” in the Indexed Color dialog box. Or, with an Indexed image selected, you can choose Image > Mode > Color Table in the Image menu. If you select “Custom” in the Indexed color dialog box, Canvas opens the Color Table dialog box after you click OK in the Indexed Color dialog box.

In the Color Table dialog box, you can edit individual colors in the palette, create a blend of colors, and select from several preset color palettes, including System and Grayscale palettes. You can also save a palette file, or load a palette file.

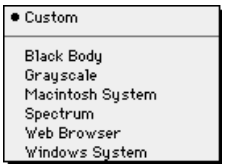
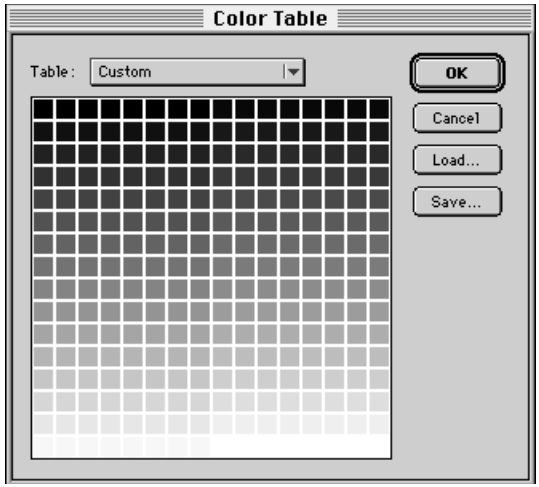


Table pop-up menu



In the Color Table dialog box, a grid of 256 color swatches appears; each swatch represents one color in the palette. By default, the Custom option appears in the Table pop-up menu, and the color swatches show the last palette used in the dialog box.

The Table pop-up menu lets you choose among preset color tables:

- Black Body is a range of sunset-like colors.
- Grayscale is a ramp from pure black to pure white.
- Macintosh System is the palette of colors supported by the Mac OS.
- Spectrum is a set of rainbow colors.
- Web Browser is a set of 216 colors that can be displayed without dithering by nearly all Internet web browsers, running Mac OS or Windows. This option is also referred to as a “browser safe” palette.
- Windows System is the palette of colors supported by Windows.

You can also create a custom color table. To do this, refer to the sections “To customize individual colors” on page 24.38, and “To customize a color table by blending colors” on page 24.38.

Saving and loading color tables

By using the Load and Save options in the Color Table dialog box, you can save color tables to your hard disk, or load a saved color table file into the Color Table dialog box.

To load a custom color table

1 Click Load in the Color Table dialog box. A directory dialog box appears (Mac), or a Load Settings dialog box appears (Windows).

2 In the directory dialog box, locate the color table file you want to load, and then click Open. Canvas replaces the current palette in the Color Table dialog box with the new palette, and its name appears in the Table pop-up menu.

To save a custom color table

1 Click Save in the Color Table dialog box. A directory dialog box appears (Mac), or a Save Settings dialog box appears (Windows).

2 Type a name for the table in the “Save color table in” box (Mac), or the “File name” box (Windows). Before you type the file name, Canvas adds the extension “.ACT” in the text box. It’s recommended that you keep this extension when naming the file.

3 Specify a location on your hard disk to save the color table, and then click Save. Canvas saves the color table.

To customize individual colors

After choosing a color table, you can customize individual colors in it using a color picker dialog box

1 Click a color swatch to open a color picker dialog box.

Color Picker (Mac OS)

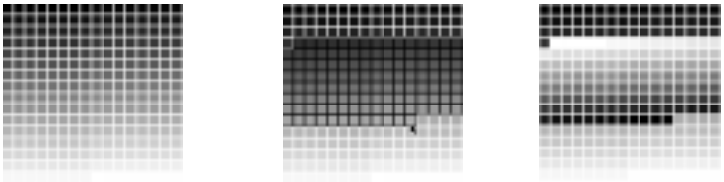
2 In the color picker, select a color to replace the selected swatch in the palette, and then click OK.

To customize a color table by blending colors

Canvas lets you create blends of selected swatches in the color table. When you do this, the first and last swatches you select don’t affect the final blend in the color table. How the blend appears in the color table is determined by the two colors you choose in the Color Picker in step 2 of this procedure.

1 Drag across multiple color swatches to select them (the more you select, the more gradual the blend will be). Selected color swatches appear highlighted with a black border, and then the color picker dialog box opens.

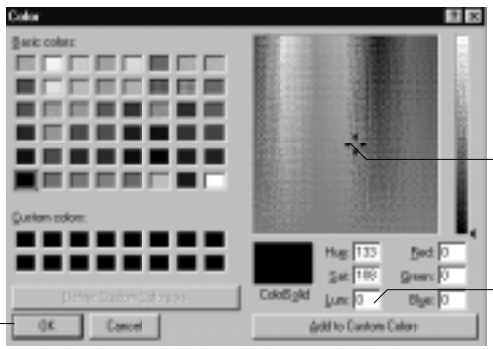
Original Grayscale palette



Drag to select color swatches to replace with a blend

2 In the color picker, choose the first color, and then click OK. The color picker remains open; choose the second color, and then click OK. Canvas fills the selected color swatches in the Color Table dialog box with a ramp of the two colors.

Color picker (Windows)



Color selector

Luminosity control

Click to select the current color

RGB Color image mode

RGB Color mode is used most often when working with high-quality full-color images, such as those from color scanners and digitized photographs stored on CD-ROM.

RGB Color mode is the most reliable mode to use for images you want to modify with painting tools and filters. However, the full range of RGB colors exceeds the range that commercial printing can reproduce, so you should be aware of the limitations of the printing method that will be used. Also, an RGB Color image is device dependent, which means that the same RGB values can look different when displayed on different monitors.

In RGB Color mode, each pixel has a red, green, and blue component. Each component, referred to as a color channel, has 256 inten-

sity levels. The combination of the intensity value in each channel creates each pixel's color.

CMYK Color image mode

CMYK Color mode is based on the four color inks used in commercial printing (and by some desktop printers): cyan, magenta, yellow, and black. Some color scanners can produce CMYK images.

In a CMYK Color image, each pixel has a cyan, magenta, yellow, and black component. Each of these color channels has 256 intensity levels. The combination of the intensity value in each channel creates each pixel's color. Because monitors are RGB devices, they can't display CMYK colors directly. However, Canvas attempts to display CMYK images as they will appear when printed.

LAB Color image mode

The Commission Internationale d'Eclairage (CIE) developed the LAB Color mode as an international color standard to overcome the device dependency of the RGB and CMYK modes. In a LAB Color mode image in Canvas, each pixel has one lightness and two color components. The Lightness (L) channel has 256 levels of intensity. The two color channels, labeled A and B, provide a color range from red to green and yellow to blue, respectively.

Some companies sell collections of images in LAB Color mode. Editing LAB Color mode images with some filters or painting tools can have interesting and unpredictable effects.

Duotone image mode

In traditional graphics arts reproduction, a "duotone" is a grayscale image printed with black and an additional color. Canvas lets you create duotone images, as well as "monotone," "tritone," and "quadtone" images (printed with one, three, or four colors, respectively).

Printing images as duotones can add interest and increase the tonal range reproduced from grayscale photographs, without the additional expense of printing full-color images. The duotone effect can be subtle or striking, depending on the color used and the amount added to the image. In any case, the additional colors are used to reproduce the gray values in the image, rather than to reproduce specific colors.

To create a monotone, duotone, tritone, or quadtone in Canvas, you must convert a Grayscale image to Duotone mode. Unlike other

image modes, once an image is converted to Duotone mode, you cannot work with individual image channels. Instead, you can adjust curves for each color “channel” in the Duotone Options dialog box.

Note: In this section, the term “Duotone” refers to the Duotone image mode, not just to images printed with two inks. In Duotone mode, an image can be printed as a monotone, duotone, tritone, or quadtone.

To create a Duotone image

1 Select paint object and choose Image > Mode > Grayscale to convert to Grayscale mode. Click OK when Canvas asks to discard color information. Then choose Image > Mode > Duotone.

2 In the Duotone Options dialog box, choose Monotone, Duotone, Tritone, or Quadtone in the Type pop-up menu. Depending on the Type setting, the Ink 1, Ink 2, Ink 3, and Ink 4 Curve boxes, color pop-up menus, and text boxes become available.

3 Choose ink colors by pressing the color palette icons and selecting colors in the pop-up palettes. *Note:* You must have already added the desired colors to the preset colors on the Color tab in the Inks palette for them to be available in the pop-up palette.

- For a monotone image, choose a single color in the Ink 1 area. For a traditional duotone, leave “Process Black” as Ink 1, and choose a second color in the Ink 2 area. For tritones and quadtones, choose additional colors for Ink 3 and Ink 4.
- Canvas puts the name of the selected ink in the text box.
- To use process colors, type the appropriate name (“Process Cyan,” “Process Black,” “Process Magenta,” or “Process Yellow,”) so colors appear on the correct plates. If you leave the text box blank, Canvas prompts you to enter a name for the ink.
- You should specify ink colors in descending order of lightness value. In other words, darker color inks should appear at the top, and lighter color inks should appear at the bottom of the dialog box.
- You should assign only solid spot colors (PANTONE inks) or individual process colors for duotones. If you assign a color ink made from CMYK components (including a TruMatch color), Canvas treats it like a spot color and prints only one plate for the color when you output color separations.

✔ Tip

If you plan to export a duotone image to another graphics or page layout program, be sure the color names exactly match the color names in the other application. Otherwise, you might produce more color separations than necessary.

4 If necessary, click the curve boxes to adjust curves for each ink color. In the Duotone Curves dialog box, drag the curve to adjust it, or enter values in the text boxes to map input values to the desired output values, and then click OK.

5 Click OK to apply the Duotone Options dialog box settings.

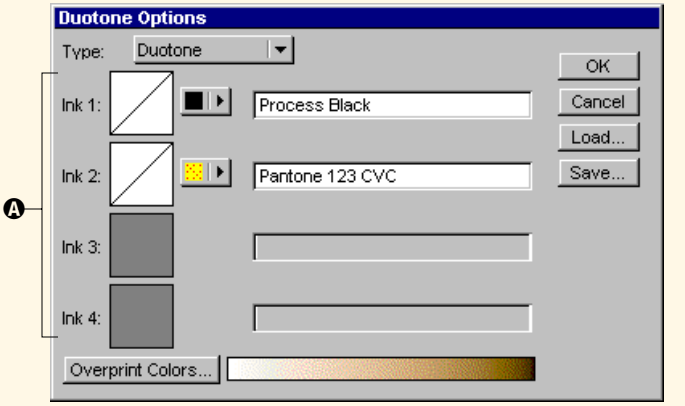
Duotone Options

You can select and change the following ink settings for images in Duotone mode.

Type. Choose Monotone, Duotone, Tritone, or Quadtone.

Ⓐ **Inks.** Click the palette icons and select colors in the pop-up palettes for each ink. Type process and spot color names in the text boxes.

Overprint Colors. Click to adjust the screen display of the Duotone inks. Because the appearance of spot-color combinations can't be predicted within Canvas, you can do this if you have an accurate printed reference for the colors you select. Overprint Colors settings do not affect color separations, but will change the appearance of color composites printed on desktop color printers. In the Overprint Colors dialog box, click the color squares to open a color selector dialog box. Choose the color you want to represent the ink combination on screen and then click OK.



Adjusting duotone images

After you convert an image to Duotone mode, you can reopen the Duotone Options dialog box to adjust the color curves, change ink colors, and use the Load and Save options.

◆ **To change duotone options:** Select the paint object you want to adjust and choose Image > Mode > Duotone Inks. Adjust the settings in the Duotone Options dialog box and click OK to implement the new settings.

Loading and saving duotone information

Use the Load and Save buttons in the Duotone Options dialog box to work with files of duotone options information. Canvas uses a file

format compatible with the duotone options files used by the Photoshop image-editing program, so you can load files saved from Photoshop, and files saved by Canvas can be loaded into Photoshop.

- Click Save to save the duotone options settings. In the directory dialog box, type a file name and click OK or Save.
- Click Load to use settings from a saved duotone options file. In the directory dialog box, select a duotone options file and click Open. Canvas will apply the ink and curve settings saved in the file to the Duotone Options dialog box.

Multichannel image mode

Multichannel image mode lets you work with multiple channels of grayscale information for a grayscale image. In multichannel mode, each channel contains lightness values as in other image modes, but the values do not relate to color components.

When you convert an image to Multichannel mode, the image data does not change. For example, if you convert an RGB Color mode image to Multichannel mode, the Red, Green, and Blue channels retain the same pixel information, but the channels no longer represent color pixels. The channels in Multichannel mode are labeled numerically (#1, #2, and so on) in the Channels palette.

The Multichannel mode is not available if you select a paint object containing an image in Black & White image mode.

CHAPTER 25

SCANNING, SIZING, AND TRACING IMAGES

This chapter focuses on acquiring and sizing images. It explains how to scan images into Canvas documents, change the size and resolution of images, and auto-trace images to create vector objects from them. It also describes some basics techniques you can use to improve scanned images and photographs imported from Photo CDs.

Using scanners to acquire images

You can scan images directly into Canvas documents using most types of desktop scanners. Canvas supports scanners that work with Photoshop-compatible plug-in acquire modules. It also lets you use scanning devices that are compatible with the TWAIN standard.

Using TWAIN-compatible scanners

Scanner manufacturers created the TWAIN interface to standardize interaction between scanners and computer software. Scanners that comply with the TWAIN standard provide a “source manager” file, which translates scanner information into data that Canvas can use. You must install the TWAIN scanner software on your system before you can select the scanner and scan images in Canvas.

If you aren’t sure whether a scanner is TWAIN-compatible, consult the scanner documentation or contact the manufacturer.

To select a TWAIN scanner

1 Choose Image > Acquire > TWAIN Select Source. In the Select Source dialog box, a scrolling list contains the names of all TWAIN scanners for which Canvas can locate a data source.

2 Select the scanner you want to use and click OK. The Select Source dialog box closes and the scanner you selected becomes the active scanner.

To acquire images using a TWAIN scanner

1 When you scan an image, it appears in the active Canvas document. Open an existing document or choose the New command in the File menu to create a new document.

2 Choose Image > Acquire > TWAIN Acquire. A dialog box for the scanner you are using appears. Refer to the scanner's user manual for information on scanner options.

3 Select the options you want in the scanner dialog box.

- Click Prescan to view a preview of the image. You can verify that the image is aligned and completely visible and reposition it if necessary.
- Depending on the available options, you can adjust scaling and brightness of the image.

4 Click Scan to begin scanning. When the scanner finishes, the scanned image appears in the active Canvas document.

Using scanners with plug-in acquire modules

Canvas is a plug-in host program, which means that you can use scanners that work with acquire modules that are Photoshop plug-in compatible. You first should install the acquire module for your scanner so it is available to Canvas. Once Canvas recognizes an acquire module, its name appears in the Image > Acquire submenu.

To locate the plug-ins folder for Canvas

Canvas looks for plug-ins, including acquire modules, in the Canvas Tools folder. To tell Canvas to look for plug-ins in another location, use the Plug-ins button on the Painting tab in the Preferences dialog box.

1 Choose File > Preferences.

2 In the Preferences dialog box, click the Painting tab and then click the Plug-ins button.

3 In the directory dialog box, navigate to the folder where plug-ins are stored on your hard disk. Click the button labeled Select "*folder name*" (Mac), or select a plug-in module and click Open (Windows).

4 Click OK to close the Preferences dialog box.

5 Exit and then re-start Canvas to activate the plug-in modules.

Acquiring multi-frame GIF files

When you acquire a GIF file with multiple frames, Canvas displays a dialog box so you can choose which frames to acquire. Enter a range

in the text boxes, and then click OK. Canvas places the specified frames in the document.

To acquire images using plug-ins

1 When you scan an image in Canvas, the image appears in the active Canvas document. Either open the document you want to use, or use the New command to create a new document.

2 Choose Image > Acquire and select a plug-in acquire module in the Acquire submenu.

Note: If you do not see your scanning device in the menu, make sure that its acquire module is in the correct folder; see “To locate the plug-ins folder for Canvas,” above.

3 After selecting a device, a dialog box with options for your scanner appears. Refer to the scanner’s user manual for information on these options and information on using the scanner; some common settings are described below.

4 Adjust the settings in the scanner dialog box and click Scan.

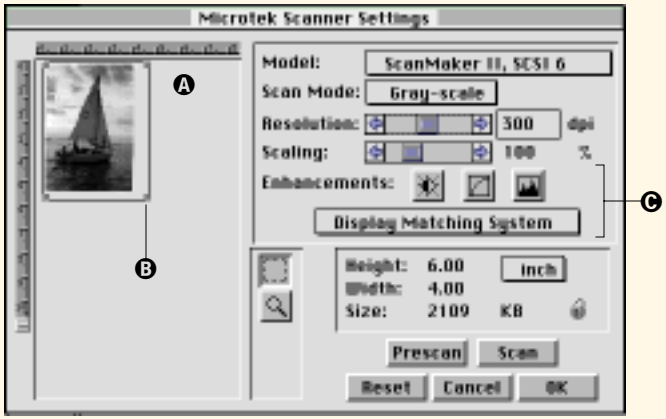
Scanning options

Plug-in acquire modules for scanners offer various options. Some standard scanning options are described here.

Scan Mode or Color Mode. Choose color, black and white, or grayscale. These options correspond to the RGB Color, Grayscale, and Black & White image modes in Canvas.

Resolution. Specify the scan resolution in pixels (or dots) per inch. Scanning at higher resolution captures more image information and results in higher memory and disk storage requirements.

Scaling. Enter a scaling percentage to reduce or enlarge the image.



A Use the preview area to check the image and make sure the area you want to scan is positioned correctly.

B Many scanners let you drag the corner of a scan rectangle to select the area that will be scanned. The selected area determines the size of the image object in Canvas.

C Most scanners offer brightness or exposure controls. Refer to the scanner documentation for more information on adjusting exposure settings.

Deciding on a scanning resolution

Digital images are composed of square pixels, and pixel size is a major factor affecting image quality. The resolution of an image is expressed as the number of pixels per (linear) inch, abbreviated ppi, or pixels per centimeter. Smaller pixels result in higher image resolution, which generally indicates better image quality. With scanned images, the resolution is also a measure of how much information has been captured from the original artwork.

At relatively low resolution, such as 75 ppi, lines, edges, and character shapes in an image can appear jagged (see “About digital images and resolution” on page 25.5). Scanning at higher resolution produces smoother images, which also require more memory and disk space.

Use the following questions to help you decide what resolution is appropriate when you scan images.

Are you scanning line art or text? Line art, such as pen and ink drawings, and high-contrast images with sharp edges or type, should be scanned at the highest resolution possible. Text scans that will be processed with character-recognition software should also be scanned at high resolution for accurate translation.

What halftone screen frequency will be used for printing? For continuous-tone images (photographs), a common rule of thumb is to scan at a resolution of 1.5 or at most 2 times the screen frequency. For example, for offset printing on newsprint at a screen frequency of 85 lines per inch (lpi), an image should be scanned at 128 to 170 ppi. For images printed at 133 lpi, scanning resolution should be 200 to 266 ppi.

Talk with service bureaus and commercial printers about the screen frequency used for your projects. With this information, you can let Canvas calculate the optimal resolution for an image. See "Resampling and sharpening images" on page 25.13.

Will the final image be smaller or larger than the original? If you need to enlarge the image, you should scan it at a higher resolution to retain the most information when you resize it. If you will reduce the size of the image, you can scan it at a lower resolution.

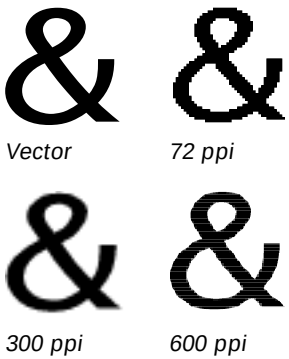
Note: Because resizing tends to blur an image, you can use the Unsharp Mask filter to sharpen it. For more information, see "Sharpen filters" on page 27.20.

About digital images and resolution

Digital images, also known as raster and paint images, are composed of tiny square pixels.

The number of pixels that fit in a linear inch or centimeter is the image resolution. The resolution indicates how much information is in the image, independent of the resolution used to display the image on screen or to print it.

Low-resolution images have larger pixels and look more jagged than high-resolution images. However, while high-resolution images look smoother, they also require more memory and disk space.



Changing image size

You can use several methods to resize or scale paint objects and the images they contain.

Keep in mind that altering the size or resolution of a paint object can degrade the quality of an image. Canvas uses interpolation to estimate pixel values when necessary, but this can result in loss of sharpness or detail when large scaling factors are applied.

The best way to avoid image degradation is to avoid changing image size or resolution.

- If an image is too big for a particular layout, consider cropping the image, rather than resizing or scaling it to fit.
- If a photographic image requires higher resolution, try rescanning the original at a higher resolution, rather than increasing the resolution in Canvas.

If you resize, skew, or rotate a paint object, you can restore the original shape and resolution by choosing the Remove Effects command in the Effects menu.

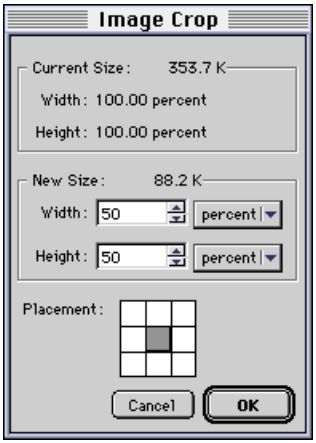
Stretching images with the mouse

You can change the size of a paint object by clicking it with the Selection tool and dragging a selection handle. Stretching an image non-proportionately also stretches the pixels, which can cause unwanted distortion to the image.

Scaling images using the Scale command

You can change the size of a paint object by selecting it and choosing Scale in the Object menu. The Scale command lets you maintain the object's proportions, or distort an image by scaling it in one direction. Using the Scale command does not add or remove pixels from an image. For information on using Scale, see "Scaling objects" on page 10.31.

Using the Crop command to change image size



You can specify relative or absolute measurements in the Image Crop dialog box

You can adjust the overall size of an image using the Crop command.

- When you enlarge an image, Canvas adds white pixels.
- When you reduce an image, Canvas crops out pixels and discards the image data.

1 Select a paint object (not in edit mode) and choose Image > Area > Crop. A dialog box displays the current size, width, and height.

2 Under New Size, enter the size you want the image to be. You can use percent, pixel, inch, centimeter, point, or pica values.

3 To set the position of the resulting image, click a square in the Placement grid. For example, to crop the image from the right side and bottom, click the upper-left square in the Placement grid. To expand the image on all sides, click the center square.

4 Click OK to resize the image. If you are reducing the image area, Canvas warns you it will delete pixels; click OK to proceed.

Using the Trim command to remove borders

The Trim command lets you remove same-color pixels that are near the edge of the image area. This feature is useful for removing unwanted white space or other borders that are not part of the main image. For example, you scan a photo that doesn't fill the entire scanner area, and there is a white border around the photo. The Trim command identifies the edges of the image, determines which pixels around the border match, and deletes the unwanted border.

Note: Canvas alerts you if the image can't be trimmed because a border can't be found.

◆ **To trim an image:** Select one or more paint objects to trim, and then choose Image > Area > Trim. Canvas removes the border.

Using the Crop tool to change image size

Crop tool 

You can use the Crop tool to select a rectangular part of an image and hide the rest. This is called a "soft crop." When you edit a soft-cropped image, the cropped area reappears while the image is in edit mode. When you finish editing, Canvas re-crops the image.

You can also use the Crop tool to "hard-crop" an image, which adds or removes pixels, as an alternative to using the Area > Crop com-

mand. See “To remove pixels when cropping an image” on page 25.9, and “To add pixels with the Crop tool” on page 25.9.

The soft crop pointer indicates cropping will be temporary

The hard crop pointer indicates cropping will be permanent

A gavel appears in crop mode when the pointer is in the image. Click to complete the crop.

A hand appears in crop mode when you point to a side of the cropping rectangle. Drag to move the rectangle.

This symbol appears if the pointer is outside the image in crop mode

To crop without deleting pixels

1 Select the Crop tool in the Painting Tools toolbar and point to the image you want to crop.

2 With the crop pointer, click the image. Canvas displays a rectangle with hollow handles. This cropping rectangle defines the outside edges of the image after cropping.

3 Position the cropping rectangle to frame the part of the image that you want to keep.

- Drag a corner handle to resize the cropping rectangle.
- Drag a side to move the cropping rectangle. The pointer changes to a hand when you point to a side.

4 Press Esc to crop the image, or click in the image. Canvas hides the part of the image outside the cropping rectangle.

To restore a cropped image

You can select a paint object and choose Remove Effects in the Effects menu to remove a soft crop. Or, use the following procedure:

1 Click the image with the Crop tool. Canvas displays the full image area and the cropping rectangle.

2 Drag the corner handles outward so the entire image is inside the cropping rectangle, and then Press Enter (Mac) or Esc (Windows), or click in the image.

Cropping an image

Adjust the cropping rectangle with the Crop tool by dragging a handle. Enclose the area you want to keep, and then press Esc to hide the cropped part of the image.

✔ **Tip**

You can quickly crop or expand a paint object using the Selection tool. Select the paint object (don't put it in edit mode), then Ctrl-drag a handle to crop or add pixels to the image. When you drag, the cropping rectangle and handles appear. When you release the mouse, Canvas applies a hard crop.

To remove pixels when cropping an image

In hard-crop mode, the Crop tool discards pixels that are outside the cropping rectangle.

1 Select the Crop tool in the Painting Tools toolbar and Command-click (Mac) or Ctrl-click (Windows) the image you want to crop. Canvas displays a cropping rectangle around the boundary of the image.

2 Position the cropping rectangle so it frames the part of the image you want to keep.

- Drag a handle to resize the cropping rectangle.
- To move the cropping rectangle, point to any side, and the pointer changes to a hand. Drag the cropping rectangle to reposition it.

3 Press Esc or click in the image to complete the crop.

To add pixels with the Crop tool

1 Select the Crop tool in the Painting Tools toolbar and point to the image you want to crop.

2 Command-click (Mac) or Alt-click (Windows) the image you want to enlarge. Canvas displays a cropping rectangle with hollow square handles at the corners.

3 Drag the handles of the cropping rectangle to enlarge it

4 Press Esc or click in the image to complete the crop.

Note: If the paint object you crop is an Indexed mode object, the color of the added pixels is the last color in the color table associated with the image, which often is black.

Adding a white border

When you press a modifier key and click with the Crop tool, you can expand a paint object. This adds a white border to an RGB Color or CMYK Color image.

To quickly crop an image with the Selection tool

You can quickly crop or expand a paint object with the Selection tool.

1 When a paint object is selected (not in edit mode), point to a handle, and then press Ctrl and drag the handle. When you drag, a cropping rectangle appears.

2 Drag inward to crop (cut away) part of the object. Drag outward to add pixels and expand the object. Release the mouse button to complete the operation.

You can constrain the cropping rectangle as you drag.

- To constrain the height and width of the cropping rectangle proportionally, release the Ctrl key, and then press Shift while dragging.
- To constrain the height and width of the cropping rectangle symmetrically from the center, release the Ctrl key, and then press it again while dragging.
- To constrain the height and width of the cropping rectangle both proportionally and symmetrically, release the Ctrl key, and then press Ctrl+Shift while dragging.

Changing resolution

You can change the resolution of paint objects in two ways:

- If you do not want to change an object's size, you can resample the image. Resampling merges or divides pixels.

- If you want to preserve all the data in an image, you can change the object's resolution and allow its size to change.

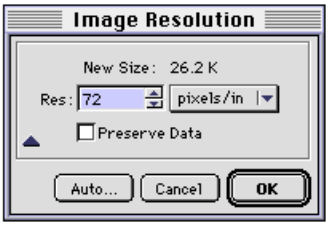
Decreasing resolution ("down sampling") decreases file size by discarding data. This can result in lost detail. However, it's common to reduce resolution in some situations. For web pages and other applications where images are displayed on a monitor, 72 ppi is the standard resolution.

Rarely, an image is resampled to increase resolution. This should be avoided because additional pixels are created by estimating their color values, which does not improve an image.

The Resolution dialog box has compact and expanded states. In its compact state, you can easily change the resolution of multiple paint objects without needing to specify additional options.

Note: When more than one paint object is selected (unless the objects are the same size and resolution), the button that displays additional options in the Resolution dialog box is not available.

To change resolution by resampling



Compact dialog box

This procedure reduces resolution of paint objects for use on a web page or in a presentation.

1 Select one or more paint objects. These objects can vary in size and resolution.

2 Choose Image > Area > Resolution. The Image Resolution dialog box appears in its compact state.

3 To specify resolution, select pixels per inch or pixels per centimeter and enter the resolution value in the text box.

4 Click OK. Canvas changes the resolution of the selected objects, which remain the same size.

To change resolution without resampling

Use this procedure to change the resolution of paint objects without resampling. This changes the size of objects while preserving the image data.

1 Select one or more paint objects and choose Image > Area > Resolution.

2 In the Image Resolution dialog box, select Preserve Data. Enter the desired resolution in the text box and click OK. Canvas changes the resolution of the selected paint objects.

If you reduce resolution, paint objects become larger because the individual pixels are larger. If you increase resolution, paint objects becomes smaller because the individual pixels are smaller.

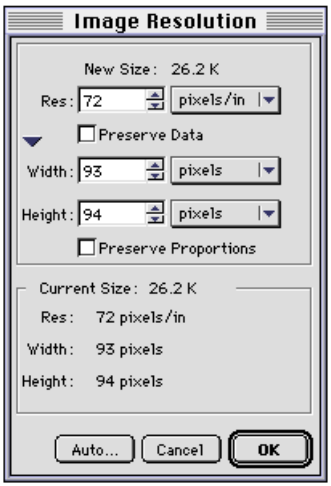
To calculate resolution

If only one object is selected, you can calculate an appropriate resolution based on a halftone screen frequency by clicking Auto in the Image Resolution dialog box. Enter the screen frequency and choose Draft, Good, or Best. Canvas calculates the resolution by multiplying the screen frequency by 1 (draft), 1.5 (good), or 2 (best). Click OK to enter the calculated resolution in the Image Resolution dialog box.

Image resolution settings

You can specify the resolution, width, and height for a selected paint object when the Image Resolution dialog box is expanded. You can expand the dialog box when a single paint object is selected; if multiple objects are selected, they must match in size and resolution.

Depending on the options you select, certain settings in the dialog box can't be changed. A bracket and chain icon indicate settings that are linked and fixed.



Expanded dialog box

Preserve Data Prevents resampling, or interpolation, when resolution or size changes. Selecting Preserve Data also selects Preserve Proportions, so width and height can change only in proportion to each other.

Preserve Data means image resolution and size are relative; changing the resolution will change the object size, and changing the size will change the image resolution.

If you select Pixels in the Width and Height menus, you cannot change these values, because the number of pixels cannot change when Preserve Data is selected.

Width and Height You can specify a size for the paint object by entering values in these text boxes. Select measurement units in the adjacent menus.

The width and height boxes show the size a paint object will become if you change the resolution when Preserve Data is selected.

Preserve Proportions This option links the Width and Height values so that changing one value changes the other and maintains the original proportions of the paint object. Selecting Preserve Data also

selects this option. If you want to stretch a paint object in only one direction, you must deselect Preserve Proportions.

Resampling and sharpening images

Resizing and resampling causes images to appear softer. However, you can apply the Unsharp Mask filter to bring soft images back into focus. For more information, see "To apply the Unsharp Mask filter" on page 27.20.

Original 300 ppi

Resampled down to 150 ppi

150 ppi image resampled up to 300 ppi

150 ppi image with Unsharp Mask filter applied
Amount = 80
Radius = 1.6
Threshold = 0

300 ppi image with Unsharp Mask filter applied
Amount = 67
Radius = 1.6
Threshold = 0

To specify how Canvas approximates new pixels

When increasing image resolution, Canvas uses one of two methods to calculate color values for the pixels it adds to an image. To change the method, use the Preferences command.

1 Choose File > Preferences. Select the Painting tab in the Preferences dialog box.

2 Select an option under Interpolation and click OK. For more information, see "Painting preferences" on page 9.4.

Auto-tracing images

You can use the Auto Trace command to create vector objects from an image.

The Auto Trace command traces any channel of an image. The command is available when a paint object is selected (not in edit mode).

Auto-tracing is much faster than tracing an image by hand with the Polygon or Curve tool, although you might need to edit the resulting vector paths.

When Canvas auto-traces a channel, it leaves the original image unchanged. Canvas applies the current stroke to the resulting vector objects. When the tracing is complete, you can move the vector objects away from the image.

Canvas auto-traces high-resolution images better than low-resolution images. Auto-tracing an image with a resolution lower than 300 ppi can produce jagged paths.

To auto-trace an image

1 Select a paint object to trace and choose Image > Auto Trace.

2 In the Auto Trace dialog box, choose the channel to trace from the Channel menu. The menu lists the channels contained in the image, including alpha channels.

3 Select other settings to use for tracing, and then click OK to trace the selected channel.

To save custom auto-trace configurations

Canvas provides preset configurations that you can choose from a pop-up menu in the Auto Trace dialog box. You can also save your own tracing configurations so you can use the same settings again.

1 Select a paint object and choose Image > Auto Trace.

2 In the Auto Trace dialog box, configure the options you want to save. Choose Save Settings in the pop-up menu.

3 Type a name for the configuration in the dialog box and click Save. The configuration appears in configuration pop-up menu.

To delete custom auto-trace configurations

1 Select a paint object and choose Image > Auto Trace.

2 In the Auto Trace dialog box, select the configuration you want to delete from the configuration pop-up menu.

3 Press the arrow pop-up menu and choose Delete Settings. In the dialog box, click OK to confirm you want to delete the settings.

Auto Trace settings

You can choose options and preset configurations in the Auto Trace dialog box.

Ⓐ To use a preset configuration, select its name in the pop-up menu. Preset configurations and those you save appear in the menu.

Channel. Choose a channel of the image to trace.

Curves or Polygons. Click an option to set the trace method. Curves creates paths with smooth anchor points as needed. Polygon creates paths without curved segments. Polygon can be better for tracing straight lines, but can make jagged shapes. Curves makes segments with fewer anchor points.

Fixed End. Aligns the trace with the end points of the image. Available when you select the Curves option.

Corners. Creates corner points that let you modify one curve segment without affecting the other. Use the Round-Sharp slider to control the corner sensitivity. Available when you select the Curves option.

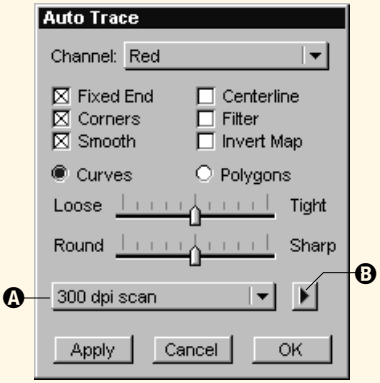
Smooth. Traces without corner points when the Corners option is off. If Smooth and Corners are on, angles within the specified sharpness are traced as corner points. Available when you select the Curves option.

Centerline. Traces one line through the middle of large solid areas instead of tracing along edges. Available when you select the Curves and Polygons options.

Filter. Prevents the tracing of small, random elements, such as tiny lines and dots. Available when you select the Curves and Polygons options.

Invert Map. Inverts lightness values (as in a negative image) of the channel for tracing. Available when you select the Curves and Polygons options

Loose-Tight. Drag the slider toward Tight for more exact tracing with more anchor points. Drag the slider toward Loose for a looser tracing with fewer anchor points.



Round-Sharp. Drag the slider toward Round to get rounder corners. Drag the slider toward Sharp to get sharper corners.

Ⓑ Choose Save Settings to save the current settings as a configuration you can select later. Choose Delete Settings to delete the current configuration. You can delete configurations that you save.

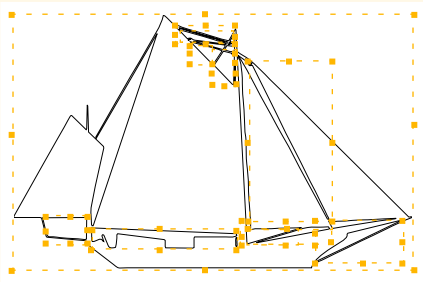
Apply. Click to preview the trace.

OK. Click to trace the image.

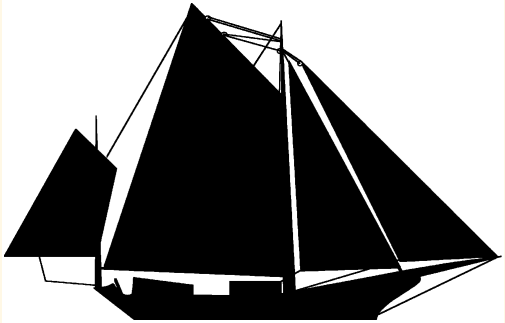
Auto-tracing images

Canvas traces an image with curves or straight path segments. Auto-tracing usually produces several paths that follow various sections of the image.

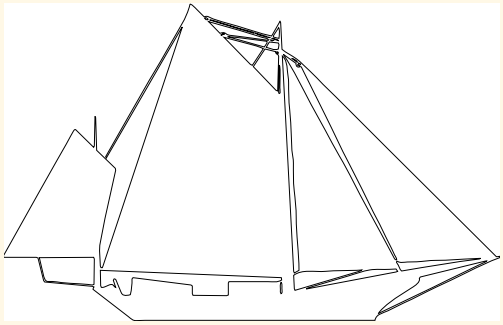
After tracing, you can group and edit the resulting paths.



Selection handles (highlighted) surround the objects produced by auto-tracing the sailboat image



Original scan at 600 ppi resolution



Paths created with the Auto Trace command

Using Photo CD images in Canvas

Scanned images are available from many sources in Photo CD format because it's widely supported, relatively inexpensive, and versatile.

When you place or acquire Photo CD images, you can select from a choice of standard dimensions. You can choose 192 by 128 pixels (Base/16 format), 384 by 256 pixels (Base/4), 768 by 512 pixels (Base), or 1,536 by 1,024 pixels (Base * 4).

Canvas imports Photo CD images as 72 ppi paint objects in RGB Color mode. You can use the Resolution command to change a paint object's resolution and dimensions.

To acquire a Photo CD image

1 Choose Image > Acquire > Kodak Photo CD. In the dialog box, select the file you want to acquire and click OK. The Kodak Digital Science Acquire Module dialog box opens.

2 Use the dialog box to select color correction, resolution, and rotation options for importing the Photo CD image.

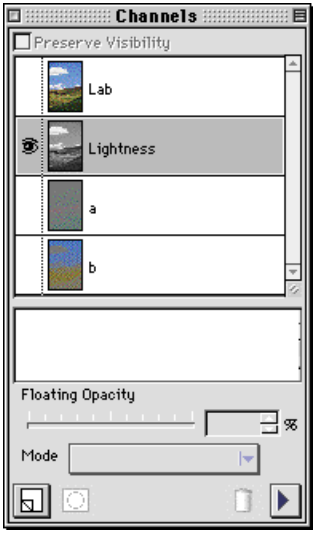
- You can select source and destination image profiles by clicking the Source and Dest buttons.
- To see details about scanning method and color correction, click Info.
- To see a larger preview, click Preview.

3 To place the image in the current Canvas document, click OK.

Kodak Digital Science Photo CD Acquire Module dialog box

Improving Photo CD images

Photo CD scans are specifically designed to reproduce photographic images accurately. However, this means that a Photo CD image will exhibit the same problems, such as soft focus and color casts, that can be seen in the original photograph.



Lightness (L) channel selected in the Channels palette

Some Photo CD collections provide better-quality images than others, but you can improve almost all images with a few simple steps. The following procedure describes how to apply the Unsharp mask filter to the Lightness ("L") channel in LAB Color mode to sharpen a Photo CD image.

1 Use the previous procedure to acquire a Kodak Photo CD image into a Canvas document.

2 Select the image you just acquired and choose Image > Mode > LAB Color.

3 Double-click the image with the Selection tool to put it in edit mode.

4 Choose Image > Show Channels to open the Channels palette.

5 In the Channels palette, click the Lightness channel to activate it. For more information, see "Activating channels" on page 26.23.

6 Choose Image > Filter > Sharpen > Unsharp Mask. Select the preview option and adjust the Amount and Radius until the channel appears significantly sharper. Click OK.

7 If you plan to use special effect filters, choose Image > Mode > RGB Color to convert the image to RGB Color mode.

CHAPTER 26

SELECTIONS AND CHANNELS

Canvas gives you several ways to select pixels in an image. When you select groups of pixels by area or color, you can use painting tools, filters, and special effects to modify the selected pixels without affecting the parts of the image that are not selected.

This chapter describes how to make selections in images, save selections in alpha channels, work with color and alpha channels, and create channel masks, which can make parts of images transparent.

Selecting pixels in images

A dashed border outlines the selected area in a photograph

When a paint object is in edit mode, any filters, commands, and painting tools that you apply can affect the entire image. When you have selected pixels in the image, the effect of a tool, filter, or other adjustment is confined to the selected pixels.

You can select areas in an image using painting tools or menu commands. For example, you can make rectangular selections by dragging the Marquee tool in an image, and you can use the Color Range command to select groups of pixels based on color similarity.

Selection borders

The selected pixels in an image are referred to collectively as a *selection*. When you make a selection, Canvas surrounds the selected pixels with a moving dashed border. You can hide and display the border without affecting the selection. To hide the border, choose Image > Select > Hide Edges. To display the selection border, choose Image > Select > Show Edges.

Deselecting an image selection

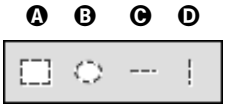
When you use a selection tool in normal mode, making a new selection replaces any existing selection in an image. To deselect pixels without making a new selection, choose Image > Select > None. You can also press Enter or Esc (Mac), or Esc (Windows) to deselect a selection. If a selection is floating, pressing Esc once defloats the selection; pressing Esc again deselects all pixels.

Selecting all pixels in an image

You can apply painting tools and filters to an entire image without first making a selection. But you can also select all the pixels in an image when you want to work with them as a selection. To select all pixels, with a paint object in edit mode, choose Image > Select > All. A selection border appears around the entire image.

Using selection tools

You can use the Marquee, Oval Marquee, Row Selection, Column Selection, and Lasso tools to select areas in images.



A *Marquee*
B *Oval Marquee*
C *Row Selection*
D *Column Selection*

The Marquee tool selects rectangular areas. The Oval Marquee tool selects oval areas. The Column Selection tool selects a single vertical column of pixels. The Row Selection tool selects a single horizontal row of pixels. The Lasso tool selects areas that you outline.

The Marquee, Oval Marquee, Row Selection, and Column Selection tools are located in a toolbar that pops out from the Painting toolbar. The Lasso tool is a separate icon in the Painting toolbar.

These selection tools let you select any part of an image, from one pixel to all the pixels in the image. By using modifier keys with these tools, you can add to and subtract from selections, and select the overlapping area of two selections.

By subtracting a circle from a larger circle, for example, you can make a ring-shaped selection with an unselected area inside. See “Modifying selections” at the end of this section.

To select rectangular or oval areas

1 Select the Marquee tool or the Oval Marquee tool. If the paint object isn’t in edit mode, click it.

2 Drag diagonally in the image; a selection rectangle or oval expands as you drag away from the starting point. When you release the mouse button, a dashed border outlines the selected area.

◆ **To make a square selection:** If no selection exists, press Shift and drag the Marquee tool in an image. If a selection exists in the image, pressing Shift adds to the selection.

◆ **To make a circular selection:** If no selection exists, press Shift and drag the Oval Marquee tool in an image. If a selection exists in the image, pressing Shift adds to the selection.

◆ **To expand a selection marquee from the center:** If no selection exists, press Ctrl and drag the Marquee or Oval Marquee tool (on Mac, press Ctrl after you begin dragging). You can press Ctrl+Shift to constrain the selection marquee and expand it from the center.

To select single rows or columns

1 Select the Row Selection tool or the Column Selection tool. If the paint object isn't in edit mode, click it.

2 Click a single pixel to select all pixels in the same row or column in the image. A dashed border outlines the selected row or column. Or, press and hold the mouse button to see a selection outline, and move the pointer to position the selection outline. Release the mouse button to set the selection, and a dashed border outlines the selected row or column.

When working in high-resolution images, you can zoom to 400% magnification or higher to see the pixels you want to select.

To select areas with the Lasso

Lasso tool 

1 Select the Lasso tool. If the paint object isn't in edit mode, click it.

2 Drag in the image to outline a selection. Canvas connects the starting and ending points with a straight line. A dashed border outlines the selected areas.

◆ **To define a polygon selection:** Press Option (Mac) or Alt (Windows) as you click several points around the area you want to select. Canvas connects the points you click with straight segments.

Lasso options

To set options before using the Lasso tool, double-click the Lasso tool icon. In the dialog box, choose from the following options and click OK.

Feather Radius To soften the edge of selections made with the Lasso tool, enter the feather range in pixels in the Feather Radius box.

Anti-Aliased To slightly soften the edge of selection made with the Lasso tool, select the Anti-Aliased checkbox.

Omit Background Color To keep pixels that match the current background color from being selected by the Lasso tool, select the Omit Background Color checkbox. This option can help you isolate

an image that is surrounded by a solid color background. Use the Color Dropper tool to pick up the background color before you use the Lasso tool to make the selection.

Modifying selections

After you make a selection using any selection technique, you can use modifier keys to alter the selection with the Marquee, Oval Marquee, Row Selection, Column Selection, and Lasso tools.

- **To add to a selection:** Press Shift when you use a selection tool. A "+" symbol indicates that the tool will add the new selection to the existing selection.

- **To subtract from a selection:** Press Command (Mac) or Ctrl (Windows) when you use a selection tool. A "-" symbol indicates that the tool will subtract the new selection from the existing selection.

- **To select part of a selection:** Press Shift+Command (Mac) or Shift+Ctrl (Windows) when you use a selection tool. An "x" symbol indicates that the area you select in the existing selection will remain selected. If none of the new selection is part of the existing selection, Canvas deselects all pixels.

You can also use Shift or Ctrl to constrain a selection when you add, subtract, or intersect a selection. To do this, press the keys to add, subtract, or intersect and begin dragging. While still pressing the mouse button, release the keys and then press the constraint keys and continue dragging.

Selecting areas based on color

You can use the Wand tool and the Color Range command to select pixels in an image according to color. To select a contiguous area of similarly colored pixels, use the Wand tool. To select all pixels of a particular color, use the Color Range command.

Wand tool 

To use the Wand tool

1 Select the Wand tool in the Paint Tools toolbar and point to the object you want to edit. If the paint object is not in edit mode, the pointer becomes a hand ( ). Click the object to put the image in edit mode. The pointer becomes a wand.

2 Click the color area you want to select.

◆ **To add to a selection:** Shift-click the Wand in the image. The pointer displays a '+' to show that it adds to the current selection.

◆ **To subtract from a selection:** Command-click (Mac) or Ctrl-click (Windows) the Wand in the image. The pointer displays a wand with a '-' to show that it subtracts from the current selection.

To adjust the tolerance of the Wand tool

You can broaden or narrow the range of colors the Wand tool selects by adjusting its tolerance. A tolerance of zero, for example, selects pixels that exactly match the color of the pixel you click.

◆ **To configure the Wand tool:** Double-click the Wand tool icon. In the Wand dialog box, type a tolerance value from zero to 255. To smooth the edges of the selection, turn on the Anti-Aliased option.

Selecting a color range

You can use the Color Range command to select all areas of similar color in an image. The command creates a grayscale selection mask similar to an alpha channel.

You can use the Load and Save buttons in the dialog box to work with color range selection files. The file format that Canvas uses for these files is compatible with Photoshop Color Range files. On Windows, these files use the extension AXT.

To select a color range interactively

1 With a paint object in edit mode, choose Image > Select > Color Range.

2 In the Color Range dialog box, choose Sampled Colors in the Select pop-up menu.

3 Adjust the Fuzziness setting. To select pixels of exactly the same color, set the Fuzziness to zero. Increase the Fuzziness to widen the range of colors to be selected.

4 Click a color in the preview image in the dialog box. Canvas selects a range of similarly colored pixels, depending on the Fuzziness setting.

- To add colors to the selection, click the '+' dropper icon, then click a color in the image in the dialog box.
- To subtract colors from the selection, click the '-' dropper icon, then click in the image in the dialog box.

5 To view the selected pixels, click the Selection option. Gray areas indicate pixels that the Color Range command selects at a reduced opacity. Filters and painting tools affect these areas to a lesser degree than areas that are 100 percent selected. Click OK to apply the selection to the image.

Color Range options

Use this dialog box to select image areas based on color.

A Select. In the pop-up menu, choose the color (red, green, blue, cyan, magenta, yellow), or tonal range (shadows, midtones, highlights) you want to select.

To select a color interactively by clicking in the preview window, choose Sampled Colors.

B Fuzziness. When using the Sampled Colors option, enter a low value to select a narrow color range; enter a higher value to select a wider range.

C Choose Selection to preview the selection, with white representing selected pixels, in the preview window. Choose Image to see the actual image so you can sample colors with the dropper.

D With Sampled Colors chosen (**A**), click the dropper in the preview window to select colors. Use the '+' dropper to add to the selection; use the '-' dropper to subtract from it.

E Selection Preview. Choose an option to preview the selection in the image itself (or choose None for no preview). Grayscale shows the selection as it would appear in a channel, with white for selected pixels and black showing non-selected areas.

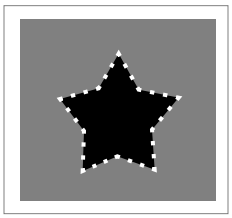
The Matte and Mask options show the original colors in selected areas. In non-selected areas, Black Matte shows black, White matte shows white, and Mask shows transparent red.

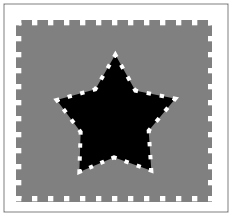
Selecting unselected areas

You can use the Inverse command to simultaneously select all pixels not in the current selection while deselecting the current selection.

◆ **To select areas not included in the current selection:** Choose Image > Select > Inverse.

A moving dashed edge surrounds the black star, a selected area/





When the selection is inversed, the gray background becomes selected

Expanding selections with Grow and Similar

The Grow and Similar commands let you expand selections to include similar colors in an image. These commands compare the colors outside a selection to the colors in the selection. Colors that are in a specified range of similar colors are added to the selection.

The Grow and Similar commands are available for all image modes except Black & White.

The Grow command selects similar colors that are contiguous to the current selection. The Similar command selects similar colors anywhere in the image.

The range of colors selected by Grow and Similar is based on the Tolerance setting in the Wand dialog box.

◆ **To select colors contiguous to the current selection:** Choose Image > Select > Grow.

◆ **To select colors throughout an image:** Choose Image > Select > Similar.

You can repeat the Grow and Similar commands to continue expanding a selection. As more colors are added to the selection, more colors are in the range of colors similar to the selection. Therefore, even though the Tolerance doesn't change, repeating Grow or Similar can expand a selection incrementally.

Grow and Similar can help you isolate elements in an image, such as dark objects against a light background. Select part of one dark object with the Marquee tool. Choose Grow to expand the selection to the entire object. Choose Similar to expand the selection to all similar colors in the image.

Converting paths to selections

You can use vector objects and text to make selections in images. The Path to Selection command makes a selection in an image from the shape of a vector, text, or group object.

With this command, you can outline irregular areas in images with drawing tools to make selections. You can make selections shaped like starbursts and other complex shapes that are easy to create with drawing tools. You can make selections from text characters without first converting the text to paths.

The area selected by a vector or text object depends on whether the object has a visible fill ink and stroke.

- A filled object will select the area covered by the fill. If the object also has a visible stroke, the selection will include the area covered by the stroke.
- An unfilled object will select the area covered by just the stroke of the object.
- An object without a visible fill or stroke will not select anything.

The type of fill ink or pen ink applied to an object is not significant for the selection it will make. However, the shape of the stroke is significant. A visible pen, dash, parallel, or neon stroke will affect the shape of the resulting selection. Also, the end caps, line joins, and arrows applied to a stroke will affect the selection.

To convert a path to a selection

1 Draw or position a vector or text object on a paint object where you want to make a selection.

Note: If you want to preserve the vector or text object, make a copy of it; the object will be deleted when it is converted to a selection.

2 Select both the vector object and the paint object.

3 Choose Image > Path to Selection.

4 The vector or text object is replaced by a selection. The paint object is in edit mode and the selection is outlined by a dashed border.

Converting objects to paths

Most objects drawn with vector tools are paths that can be used to create selections in images. However, some objects must be converted to paths first.

If an object does not create a selection when you choose Path to Selection, you might need to convert the object to a path by selecting the object and choosing Object > Path > Convert to Paths.

Working with image selections

After you make a selection, you can clear it, soften its edges, make it floating, move it, and change its opacity.

✔ Tip
If you want Canvas to recall a selection, be sure to save it before leaving edit mode. See "Saving and loading selections in channels" on page 26.16.

Clearing and copying a selection

You can replace the pixels in a selection with the current background color by pressing the Delete key, or by choosing Cut in the Edit menu. (The Cut command also transfers the selection to the Clipboard.) Canvas replaces the selected pixels with the color currently displayed in the background color icon. Keep in mind that "deleting" a selection doesn't leave a hole or transparent area in the paint object, unless the paint object has a visibility mask, as described later in this chapter.

To place a copy of a selection on the Clipboard without clearing the area in the original image, choose Edit > Copy. When a selection has been placed on the Clipboard, you can paste it into another paint object in edit mode, where it will become a floating selection, or paste it into the document to create a new paint object.

Feathering the edges of a selection

You can feather (soften) the edges of a selection so that it blends more naturally into the original image. You can use the Feather command to soften the hard edge of a selection and spread the selection over a larger area.

1 With a paint object in edit mode, make a selection and choose Image > Select > Feather.

2 In the Feather dialog box, enter the number of pixels to feather the selection in the Radius text box. The larger the Radius value, the more Canvas softens the selection edge.

3 Click OK to feather the selection.

Pasting into selections

The Paste Into command pastes the Clipboard contents into a selection in an image. This includes a selection in an image channel or a channel mask attached to an object.

The Paste Into command pastes anything that you copy to the Clipboard, including a vector, text, or paint object, an image selection, or a segment of a vector object.

You can use Paste Into to composite images and create effects that would otherwise be difficult to produce. For example, to simulate a picture on a television screen in a photograph, you can select the screen area and paste an image into the selection. You can move the pasted image within the selection to adjust the area that you see.

You can paste transparent objects into opaque images, or opaque objects into transparent images. The background of the image determines the opacity of the pasted selection.

To paste into a selection

1 Place an object or selection on the Clipboard by choosing Edit > Copy or Edit > Cut.

2 Make a selection in an image (or a channel mask), and choose Edit > Paste Into. The Clipboard contents appear in the selection.

3 You can drag the pasted item or press the arrow keys on the keyboard to move it, to display the areas you want to see. When you finish adjusting the selection, deselect it to merge it into the image.

Object with a symbol fill ink

Feathered selection

Object pasted into selection

Floating and moving selections

✔Tip
To float a selection and fill behind it with the background color, hold down Option (Mac) or Alt (Windows) and choose Image > Select > Float.

You can move and manipulate a selection without affecting the original image by making it a floating selection.

When a selection is floating, it sits on an invisible plane above the original image. When you type text in an image, or paste an object from the Clipboard, Canvas makes the text or pasted item a floating selection.

Moving a selection that is part of the original image creates a floating selection, but also leaves behind an area filled with the background color.

◆ **To float a copy of a selection:** Make a selection in an image and choose Image > Select > Float.

Deselecting and defloating selections

Deselecting a floating selection makes it part of the original image. To deselect a floating selection, press Esc or Enter twice (Mac) or Esc twice (Windows), or choose Image > Select > None.

To make the floating selection part of the image but still retain the selection, you can press Esc or Enter (Mac) or Esc (Windows), or choose Image > Select > Defloat.

Dragging a selection floats it and leaves an area filled with the current background color (A).

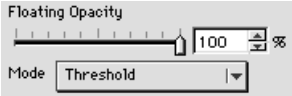
Moving selections

To move a selection, you can press the keyboard arrow keys or drag the selection with the Marquee, Lasso, or Wand tools. If a selection is not floating, it becomes floating when you move it.

Remote Move tool 

To keep the pointer from interfering with your view of a small selection, select the Remote Move tool in the Painting toolbar and drag it anywhere in the drawing area. Canvas moves the selection in the direction you move the pointer.

Changing the opacity of floating selections



Floating Opacity slider in the Channels palette

✔ Tip
To use the Floating Opacity slider in the Channels palette to lighten a floating selection, fill behind the selection with white or a light color.

You can change the opacity of a floating selection and make the pixels behind it partially visible. You can also change the mode to produce different effects. *Note:* You cannot make selections partially transparent in Indexed or Black & White image modes.

1 With a paint object in edit mode, select part of the image.

2 From the background color palette icon in the toolbox, select a color to use behind the floating selection. This color will start to appear when you make the selection transparent.

3 Hold down the Option key (Mac) or Ctrl key (Windows) and choose Image > Select > Float. Canvas floats the selection and fills behind it with the background color.

4 Choose Image > Show Channels to open the Channels palette. Set the Floating Opacity value to less than 100 percent to make the selection become transparent and reveal the background color behind the selection.

5 To change the mode, choose a new mode from the Mode pop-up menu.

Modifying selections

You can use the Expand, Contract, Smooth, and Border commands to modify selections in images.

These commands make it easy to fine-tune a selection by expanding or contracting the selection border by a specified number of pixels, or by adding or subtracting pixels based on color.

Expanding a selection

You can expand a selection by adding a specified number of pixels to the selection border.

To modify an active selection, choose Image > Select > Modify > Expand. Type a value in the Radius text box and click OK. Canvas adds the specified area to the selection.

Contracting a selection

You can shrink a selection by subtracting a specified number of pixels from the selection border.

To modify an active selection, choose Image > Select > Modify > Contract. Type a value in the text box and then click OK. Canvas

subtracts the specified area from the selection and the dashed border contracts.

Smoothing a selection

The Smooth command is useful after you have made a color-based selection that has left stray pixels inside or outside of the selected area. The Smooth command includes or eliminates the stray pixels to even out the selection. The value you type in the text box determines which pixels will be included or excluded in the selection at the border.

To modify an active selection, choose Image > Select > Modify > Smooth. Type a value in the text box and then click OK. Canvas adds or subtracts pixels to the perimeter of the selection based on the radius number of pixels you specified.

Bordering a selection

After you define a selection, you can select the area at the border of the selection by specifying an offset in pixels from the selection edge.

To modify an active selection, choose Image > Select > Modify > Border. Type a value in the text box and click OK. Two dashed borders indicate the selected border.

Once you make a selection, you can use the Grow command or the Similar command to expand the selection to include similar colors.

Creating objects from selections

You can make new paint objects from image selections with the New Image from Selection command. This command converts a selection in an image into a new paint object in the same position on the image you are editing. This can be useful for “layering” image compositions.

The result of New Image from Selection is similar to moving a selection to a transparent “layer,” a procedure used in some image editing programs. In Canvas you can use separate transparent paint objects to create “layered” image compositions.

Note: This operation doesn’t affect the Clipboard contents.

◆ **To create a paint object from a selection:** With a selection in an image, choose New Image from Selection in the context menu. To display the context menu, right-click (Windows) or Ctrl-click (Mac) in the document.

New images from selections and floating selections

When you choose New Image from Selection, Canvas removes the selection from the image or deselects the selection in the image. The selection appears as a new paint object in the same location.

Whether a selection is removed from an image depends on whether the selection is floating. The opacity of the resulting object also differs for floating and non-floating selections.

If a selection is not floating, Canvas deselects it but otherwise doesn't change the original image when you create an object from the selection. The selected pixels keep their original opacity in the new object.

If a selection is floating, Canvas removes the selection. The effect is the same as deleting a selection: the background color replaces the selected pixels, or, if the object has a visibility mask, a clear background replaces the selected pixels. In the new object, the pixels are opaque, regardless of their original opacity.

Clear backgrounds in new paint objects

A paint object created from a selection always has a clear, rather than opaque background, and a visibility mask.

Paint objects are rectangular. If a selection is not rectangular, Canvas places the selection on a clear background. This is why creating a paint object from a selection is like transferring the selection to a clear overlay on the original image.

If you select Preserve Visibility in the Channels palette, a visibility mask preserves the transparency of all pixels in the image. You can paint or use filters without affecting clear areas.

If Preserve Visibility is not selected, you can erase to a clear background and affect all pixels by painting and editing.

Converting selections to paths

Canvas can trace a selection in an image to create a path (vector object) from the selection border. The Selection to Path command traces the active image selection border using the settings you specify. This is useful if you want to convert a selection border to a vector object that can be used as a clipping path, for example.

The accuracy of a path made from a selection depends on the settings you specify and the complexity of the selection border. A very com-

plex selection border can result in a path with hundreds of anchor points, which can cause problems in printing and other operations.

Paths created from selections have no fill ink, black pen ink, and the current stroke setting.

To convert a selection to a path

1 Make a selection in an image.

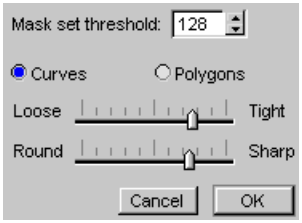
2 Choose Image > Selection to Path.

3 In the dialog box, choose the settings you want and click OK. The dialog box options are described below.

4 The selection in the image is deselected and a new vector object (or group of vector objects) appears in front of the paint object.

Selection to Path options

A dialog box presents the following options when you use the Selection to Path command.



Mask Set Threshold If a selection edge is feathered, this value defines the edge of the selection for tracing based on selection mask opacity. Enter a value from 1 (nearly transparent) to 255 (opaque). These values correspond to the lightness of pixels for a selection saved as a mask in a channel.

Pixels in the selection mask that are more opaque (lighter) than the threshold value are treated as opaque and part of the selection. Pixels that are less opaque (darker) than the threshold value are treated as transparent and outside the selection. At a threshold of 1, the entire feathered edge will be part of the selection. At 255, only the completely opaque part of the selection will be included.

If a selection is not feathered, this value has no effect.

Curves / Polygons Choose Curves to create paths with smooth anchor points and curve segments as appropriate. Choose Polygons to create paths with straight segments only. The Curves option can result in smoother paths with fewer anchor points when the selection border has curves.

Loose /Tight Drag the slider to set the tolerance for tracing irregularities in the selection border. Loose follows the selection border less precisely (more smoothly) and creates fewer anchor points. Tight fol-

lows the selection border more precisely (less smoothly) and creates more anchor points.

Round /Sharp Drag the slider to set the tolerance for tracing corners in the selection border. Round creates rounder corners, Sharp creates sharper corners.

Saving and loading selections in channels

When you have made a selection in an image, you can create an alpha channel from the selection. An alpha channel preserves the shape and opacity of a selection, so you can use it to make the same selection in the image again.

You can think of an alpha channel as a mask that selects some areas and protects other areas from painting and image editing. Because alpha channels make precise selections of varying intensities, alpha channels let you control which areas in an image will be affected by painting tools and filters, and the intensity of the effects.

When you view an alpha channel, you see a grayscale image. When the channel is made from a selection, it contains white areas representing fully selected pixels, black areas representing unselected pixels, and gray areas representing pixels that are partially selected, with the gray lightness values corresponding to the selection opacity.

This section describes how to save a selection in a channel, and how to load a channel to make a selection in an image, using dialog boxes. You can also use shortcuts in the Channels palette, as described under “Channels palette options” on page 26.21.

To save a selection in a channel

1 With an active selection in an image, choose Image > Select > Save.

2 In the Operation area of the Save Selection dialog box, select New Channel and click OK.

You can also click the Selection button ( ) in the Channels palette to save the current selection in a new channel.

To load a selection from a channel

1 With a paint object in edit mode, choose Image > Select > Load.

2 In the Load Selection dialog box, choose a channel name in the Channel pop-up menu. To invert the selection, click Invert.

3 Choose an option in the Operation area and click OK.

Option	Result
New Selection	Removes any current selections and creates a new selection
Add to Selection	Preserves the current selection and selects additional pixels based on the channel
Subtract from Selection	Removes pixels from the current selection based on the channel
Intersect with Selection	Creates a new selection composed of pixels that appear in both the current selection and the channel you are loading

Preserving channels in exported images

Canvas image channels are compatible with the alpha channels used in other image-editing programs, including Adobe Photoshop. However, you must use the correct procedure to preserve alpha channels when you export an image into Photoshop format.

If you want to export an image into Photoshop format and preserve the image's alpha channels, be sure to use the Export command in the Image menu, rather than the Save As command.

If you use the Save As command and choose Photoshop format, the resulting file will not contain the alpha channels associated with the image.

To export an image with alpha channels

1 Select the paint object in the Canvas document.

2 Choose Image > Export > Photoshop. A directory dialog box appears.

3 Specify a location to save the file, type a file name, and click Save to export the selected image as a Photoshop file.

Understanding image channels

Canvas uses up to 24 channels to store the digital information that makes up the image in a paint object.

There are three types of channels: color or image channels, alpha channels, and channel masks. All images have at least one channel. An image can also contain one or more alpha channels and a single channel mask, if you create them.

The Channels palette displays the channels of an image. Whenever an image is in edit mode, you can use the Channels palette to select and edit channels. To display the Channels palette, choose Image > Show Channels.

Vector objects and text objects do not have color or image channels. However, you can create a channel mask for any object. If an object has a channel mask, you can place the channel mask in edit mode, and use the Channels palette to work with the channel mask and create alpha channels. Alpha channels are stored with an object as long as the object has a channel mask.

Color channels

Images in RGB Color, CMYK Color, and LAB Color mode have separate color channels. A color channel stores one component of the image. For example, in CMYK Color mode, the Magenta channel stores the magenta parts of the image. This channel contains the image that would appear on the magenta plate if you output color separations.

A paint object's image mode determines the number of color channels. RGB Color images have Red, Green, and Blue color channels. CMYK Color images have Cyan, Magenta, Yellow, and Black channels. LAB Color images have Lightness, A, and B channels.

In the Channels palette, a composite channel appears above the color channels. The composite channel represents the complete image — the composite of the image's color channels. The composite channel is labeled RGB, CMYK, or LAB, depending on the image mode.

Other image modes do not have separate color channels. Images in Black & White, Duotone, Indexed, and Grayscale mode have a single image channel.

Alpha channels

Alpha channels are channels you can use to store and edit selections in any image. Because alpha channels are used for image selections, they are also referred to as "selection masks."

After you make a selection in an image, you can save the selection in an alpha channel. Later, you can load the channel to make the same selection.

An alpha channel is a grayscale channel that is the same size and resolution as the paint object in which it is stored. Pixels in alpha channels can range in lightness from 0 (black) to 255 (white). The lightness levels of pixels in an alpha channel correspond to a range of selection levels.

Black pixels in an alpha channel correspond to masked, or non-selected, pixels in an image. White pixels correspond to selected pixels. Gray pixels correspond to various levels of selection, with lighter grays corresponding to greater selection than darker grays.

Note: If you want black pixels to correspond to selected, rather than masked pixels, click Selected Area in the New Channel or Channel Options dialog box.

Using the Channels palette

The Channels palette displays the channels contained in a paint object when the paint object is in edit mode. The palette also displays the channels contained in any object that has a channel mask when you edit the mask.

You can use the palette to create, duplicate, and delete channels; to change channel options; and to make selections by loading channels.

◆ **To open the Channels palette:** Choose Image > Show Channels.

Composite channel Select the first channel in the palette to make all color channels visible and active. Paint objects in CMYK Color, RGB Color, and LAB Color modes have composite channels. The channel is labeled “CMYK” for a CMYK Color image, “RGB” for an RGB Color image, and “LAB” for a LAB Color image.

Paint objects in Indexed, Grayscale, Black & White, and Duotone modes have single channels. A vector object that has a channel mask has an “object channel.”

Color channels Color channels appear below the composite channel in the Channels palette. Color channels store the color data in an image. The image mode determines the number of color channels. CMYK Color images have Cyan, Magenta, Yellow, and Black color channels. RGB Color images have Red, Green, and Blue color chan-

nels. LAB Color images have “A” and “B” color channels and a Lightness channel. Multichannel images have numbered channels that contain grayscale pixels only.

Alpha channels Alpha channels contain grayscale pixels which can represent a selection. You can use alpha channels to create channel masks. Any paint object can have alpha channels. However, paint objects in Black & White mode must have a channel mask before they can contain alpha channels.

Channel mask

A special channel you can add to any object, a channel mask contains grayscale pixels that represent transparency. Drag a color or alpha channel to the channel mask slot to create a channel mask. You can drag a channel mask into the channel list to create a new alpha channel.

Viewing previews in the Channels palette

To view previews in the Channels palette, choose Palette Options in the palette’s pop-up menu. Click the size of the preview you want to display, or click None. Click OK to close the dialog box.

Channels palette options

Use the Channels palette to work with channels when a paint object is in edit mode.

Active channels are shaded. Editing affects the active channels only. To make a channel active, click the channel name.

Ⓐ **Composite channel.** Select this channel to make all color channels visible and active.

Ⓑ **Color channels.** Color channels appear below composite channels.

Ⓒ **Alpha channels**. Alpha channels contain grayscale pixels which represent a selection.

Ⓓ **Channel mask.** A special channel you can add to any object, a channel mask contains grayscale pixels that represent transparency.

Ⓔ An eye indicates that a channel is visible. If a channel is not visible, click or drag in the column to make it visible.

Ⓕ Drag to resize the Channels palette.

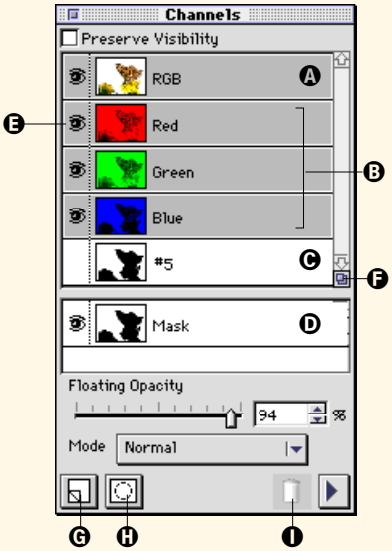
Ⓖ Click to make a new alpha channel with default settings. Drag an alpha channel here to duplicate it.

Ⓗ Click to save the current selection in an alpha channel. Drag a channel here to make a selection in the image from the channel.

Floating Opacity. If a selection is floating, drag the slider to change the opacity of the selection.

Mode. If a selection is floating, select a mode from the menu. The default mode is Normal.

Ⓘ Drag channels to the trash to delete them. You cannot delete color channels.



Preserve Visibility. Select this option to preserve the transparency of clear and partially transparent pixels when you edit an image.

Channel palette pop-up menu

The following commands appear in the Channel palette's pop-up menu.

Palette Options Lets you select the channel preview size.

New Channel Creates a new alpha channel and lets you select channel options.

Duplicate Channel Creates a new alpha channel from a single active color or alpha channel. This command isn't available if a composite channel or more than one channel is active.

Delete Channel Deletes the active alpha channel. You can't delete color channels or a composite channel.

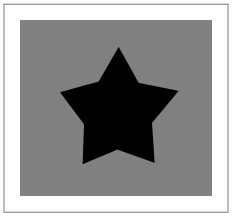
Channel Options Lets you specify options for the active channel. You can change the name, mask tint color, and opacity of an alpha channel. You also can double-click a channel to set options for it.

Working with alpha channels

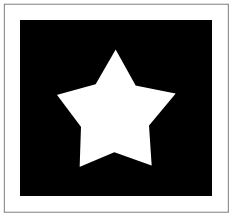
To add to the current selection, Shift-drag a channel to the button.

To subtract from the current selection, Command-drag (Mac) or Ctrl-drag (Windows) a channel to the button.

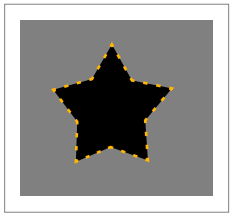
To select the intersection of a channel and the current selection, press Command+Shift (Mac) or Ctrl+Shift (Windows) and drag a channel to the button.



Original image



Alpha channel; white indicates selected area



Alpha channel loaded as selection (in color)

Applied blend affects selected area only

Creating and deleting channels

Channels pop-up menu

You can create and delete channels in the Channels palette. To display the Channels palette, choose Image > Show Channels.

To create an alpha channel

1 With a paint object in edit mode, choose New Channel in the pop-up menu at the lower-right corner of the Channels palette.

2 In the New Channel dialog box, select options for the new channel and click OK. See “To specify channel options” on page 26.23.

Deleting alpha channels

Although Canvas can store up to 24 channels in an image, you might want to delete unnecessary ones to save memory and disk space. You can delete alpha channels and channel masks, but you cannot delete color channels.

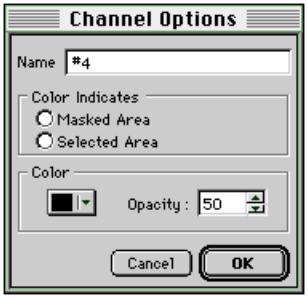
◆ **To delete an alpha channel:** With an object in image edit mode, drag the alpha channel you want to delete to the trash can icon at the bottom of the Channels palette

Customizing alpha channels

You can change an alpha channel's name, color indication, and mask tint opacity in the Channel Options dialog box. By default, Canvas numbers alpha channels, sets the mask tint opacity to 50%, and assigns a mask color.

Note: Canvas provides the mask color and opacity settings in the Channel Options dialog box as visual aids only. These settings do not affect the original image or channel.

To specify channel options



1 With a paint object in edit mode, choose Image > Show Channels to open the Channels palette.

2 Click an alpha channel and select Channel Options in the pop-up menu, or double-click the channel you want to edit to open the Channel Options dialog box.

3 To rename the channel, type a new name in the Name text box.

4 The options in the Color Indicates area control whether white or black pixels in the channel will select pixels in the image when you load the channel.

- If you want white pixels in the channel to indicate selected pixels, choose Masked Area.
- If you choose Selected Area, the normal operation of the channel will be inverted, so that black pixels in the channel will select pixels when the channel is loaded. If you use this option, keep in mind that the channel will make selections that are the inverse of normal channel selections.

5 To change the mask tint color for the channel, select a color from the Color pop-up menu. Canvas displays the tint when an alpha channel and at least one other channel are visible. To change the opacity of the tint color, enter a value from 1 to 100% in the Opacity text box.

6 After entering the settings you want, click OK.

Activating channels

To edit a channel, click the channel name in the Channels palette to make it active. Canvas uses shading to indicate that a channel is active. Painting tools and filters affect active channels only.

- You can make more than one channel active by Shift-clicking the names of the channels in the palette.
- To make a channel visible but not active, click the left column to make an eye icon appear.
- You can make more than one channel visible by dragging in the left column in the Channels palette.

To make all color channels in an image both visible and active, click the composite channel in the Channels palette. The composite channel always appears first at the top of the Channels palette.

Editing an alpha channel

You can apply painting tools, filters, and effects to the image in an alpha channel. By editing the image, you can adjust what the channel will select when you load it as a selection.

Canvas displays a shaded mask representing an alpha channel when the alpha channel and the composite channel are visible

1 With an image in edit mode, choose Image > Show Channels.

2 Create a new channel to use as a selection mask by doing one of the following:

- If you have a selection in the image that you want to customize by editing in a channel, use the Save command to create a channel from the selection; see "To save a selection in a channel" on page 26.16.
- To start with a "blank" alpha channel, use the New Channel command. Be sure to choose the Masked Area option under Color Indicates in the New Channel dialog box.

3 In the Channels palette, click the new channel to activate it. The channel appears shaded in the palette and the image changes to show only the channel. Now click in the left column of the first (composite) channel. The original image appears with a transparent colored "mask" on the image. The color mask indicates the areas that will be masked — not selected — by the channel.

4 Use painting tools or filters to edit the image in the channel. The changes you make affect the active channel only.

5 To make a selection with the channel, load the channel by choosing Image > Select > Load. Choose the channel name in the pop-up menu and then click OK.

Channel masks

Channel masks apply transparency effects to objects, including paint objects, vector objects, text objects, and group objects. A channel mask creates transparency in proportion to the luminance of its image.

A channel mask is a grayscale image channel. Black pixels in a channel mask produce 100% transparency in corresponding areas of the masked object. White pixels in a channel mask produce 0% transparency in the masked object. Gray pixels in a channel mask produce partial transparency in the masked object. Darker grays produce greater transparency than lighter grays.

Channel masks are powerful because they let you use painting and image-editing techniques to create transparency effects, and because a channel mask can be applied to any type of object. An object's channel mask is the same size as its bounding box. You can detach or delete an object's channel mask to eliminate the transparency effect.

Creating channel masks

You can use the mouse, the New Channel Mask command, the Transparency palette, or the Channels palette to make channel masks.

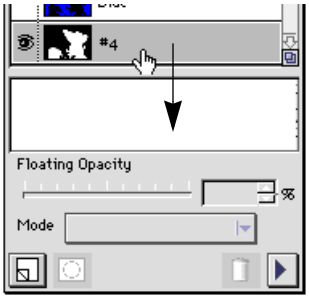
To create a channel mask

Do one of the following:

- Option+double-click (Mac) or Ctrl+double-click (Windows) the object to be masked. (If the object already has a channel mask, Canvas places the channel mask in edit mode.)
- Select the object to be masked and choose Object > Transparency > New Channel Mask.
- Select the object to be masked. In the Transparency palette, choose Channel in the Mask pop-up menu.

Canvas creates the channel mask and puts the new mask in edit mode.

- If the object is a paint object, Canvas creates a channel mask with the same resolution as the paint object.
- If the object is a vector, text, or group object, the New Mask dialog box appears. Type the resolution you want for the channel mask and click OK. Canvas creates the channel mask with the specified resolution.



To use the Channels palette

You can create a channel mask for a paint object from an existing alpha channel or color channel.

With a paint object in edit mode, drag an alpha channel into the channel mask slot in the Channels palette. If the slot already contains a channel mask, the channel you drag there replaces the existing channel mask.

Editing channel masks

You can edit an object's channel mask to change the transparency effects it produces. Generally, you can do anything that you can when editing a color channel, alpha channel, or grayscale image: use painting tools, filters, and image-adjustment commands, make selections, and paste selections into a channel mask.

To edit a channel mask

Do any of the following to place a channel mask in edit mode:

- Option+double-click (Mac) or Ctrl+double-click (Windows) the masked object.
- Select the masked object and choose Object > Transparency > Edit Channel Mask.
- Select the masked object and click Edit in the Transparency palette.

When you finish editing a channel mask, press Esc to leave edit mode.

Detaching and deleting channel masks

If an object has a channel mask, the channel mask controls the transparency of the object. You might want to detach or delete the channel mask to eliminate the transparency effects from the object.

When you delete a channel mask, it no longer exists in the document. When you detach a channel mask, it appears in the document as a separate grayscale paint object.

◆ **To detach a channel mask:** Select the masked object. Choose Object > Transparency > Detach Mask.

When you detach a channel mask, Canvas removes the channel mask from the object and places it in the document as a separate grayscale paint object. If the channel mask was detached from a vector object,

the resulting paint object will contain any alpha channels that were contained in the vector object.

To delete a channel mask

1 Select the masked object.

2 In the Transparency palette, choose None in the Mask pop-up menu.

Note: Deleting the channel mask of a vector, text, or group object also deletes any alpha channels that were contained in the object. Also, if you ungroup a group object that has a channel mask, Canvas deletes the channel mask.

You can delete a paint object's channel mask when the paint object is in edit mode by dragging the channel mask to the trash can icon at the bottom of the Channels palette.

Transparency effects with channel masks

Channel masks let you add transparency to images without altering them permanently. A channel mask creates transparency without changing any pixels in an image. You can remove a channel mask to eliminate the transparency effect at any time.

To make an image transparent

To make parts of an image transparent — to eliminate the background in a photograph, for example — you can create a channel mask from a selection. This procedure explains how to transfer a selection into a channel mask to make selected areas transparent.

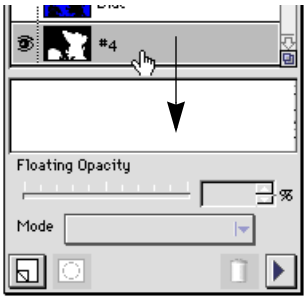
1 Choose Image > Show Channels to open the Channels palette. Double-click the paint object to put it into edit mode. You can use various techniques to select the areas you want to be transparent:

- You can click the Wand tool to select similar colors throughout the image. If a photograph has a colored background, for example, click the background to select it. You can also use the Color Range command to make a selection.
- To soften the edges of the selection, you can use the Image > Select > Feather command.

2 Click the Selection button in the Channels palette to save the selection in a new alpha channel. In the alpha channel, white pixels correspond to the selection. (A partial selection produces gray pixels in the channel). Black pixels in the channel correspond to unselected

areas of the image. To create transparent areas from the selection, you need to invert the channel.

3 Press Esc to deselect the selection in the image. Then, click the alpha channel in the Channels palette to make it active. Choose Image > Adjust > Invert. This reverses the white and black areas in the channel.



Drag a channel into the Channel Mask slot

4 Drag the alpha channel into the Channel Mask slot in the Channels palette. Black areas in the channel mask produce transparent areas in the image. White areas in the channel mask produce opaque areas in the image.

5 Press Esc to exit image edit mode. The selection you made is now transparent. If you place the paint object on a background in your document, the background will be visible through the transparent areas of the image.

To create a transparency fade

You can create a transparent fade effect using a channel mask. This procedure explains how to create a blend in an alpha channel, and then create a channel mask to make an image fade to transparency.

1 Choose Image > Show Channels to open the Channels palette. Double-click a paint object to put it in edit mode.

2 Click the New Channel button in the Channels palette. A new alpha channel appears in the palette. Click the channel to make it active.

3 Select the Blend tool. With the foreground color set to white and the background color set to black, drag vertically from top to bottom in the channel. This creates a blend from white to black.

- You can change the distance that you drag the Blend tool in the channel to adjust the length and position of the fade to transparency.
- You might need to use the Blend dialog box to select the Linear option for the Blend tool before you create the blend in the alpha channel. You can also set other options for the Blend tool to fine-tune blends.

4 Drag the alpha channel into the channel mask slot in the Channels palette. White pixels at the top of the channel produce opaque areas. Black pixels produce completely transparent areas. Gray pixels

in the channel mask correspond with partially transparent areas in the image.

To create a channel mask by rendering

Canvas can create a channel mask when you render a vector, group, paint, or text object. To create the mask, choose the Mask and Transparency options in the Render dialog box. Canvas will create a channel mask that makes blank areas around and inside the objects transparent.

When you make a new paint object by pasting a non-rectangular selection copied from an image, Canvas makes a channel mask to hide white pixels surrounding the selection.

Original

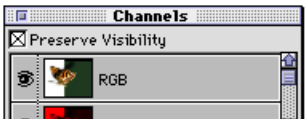
Channel mask from alpha channel

Vignette

Preserving transparency in images

You can select the Preserve Visibility checkbox in the Channels palette to preserve transparency when you paint or apply filters to an image. The Preserve Visibility checkbox is available when you edit a paint object that has a visibility mask. A paint object has a visibility mask if it was created with a transparent background, or if you applied a visibility mask with the Add Visibility Mask command.

If a paint object has an opaque background, the Preserve Visibility checkbox is dimmed and can't be selected.



To preserve transparency while editing an image

When a paint object is in edit mode, select Preserve Visibility in the Channels palette. When the option is selected, you can paint and edit the image without affecting clear areas or reducing the transparency of partially transparent pixels.

Note: If an image is completely clear (contains no colored pixels), you cannot alter the image when Preserve Visibility is selected.

The Preserve Visibility option affects all aspects of image editing. When Preserve Visibility is selected, pasted selections do not affect clear areas. Also, a pasted selection will match the transparency of the existing pixels when you defloat the selection.

You must deselect Preserve Visibility to paint in clear areas of an image. Then, if you want to edit the painted areas, select Preserve Visibility again.

For example, you can deselect Preserve Visibility and paint airbrush strokes in a clear image. Then, select Preserve Visibility and you can paint over the airbrush strokes to change their color, without losing the soft edge or "spilling" color into clear areas.

When Preserve Visibility is selected and you use the Eraser tool, pixels you "erase" are painted with the current background color; they are not erased to clear.

Also, when you use any painting tool to apply color, you cannot make pixels more or less transparent. This is why you cannot apply any color in clear areas when Preserve Visibility is selected.

When you select Preserve Visibility, you can paint and apply filters to modify pixels that are less than 100% transparent. You can change the hue, saturation, and intensity of pixels but can't change their transparency.

To paint or apply filters to an entire image, deselect Preserve Visibility. This turns off the visibility mask and lets painting tools and filters affect the entire image.

CHAPTER 27

IMAGE ADJUSTMENT AND CORRECTION

You can adjust images in Canvas using built-in filters and third-party plug-ins. For example, you can use the Levels filter to adjust image highlights and shadows, and sharpen scanned photos with the Unsharp Mask filter.

This chapter describes the commands you can use to adjust image color and brightness. It also describes commands for sharpening, softening, and refining images.

Applying image-editing commands

You can apply most image-editing commands to a single paint object if it's selected or in edit mode.You can also apply most commands to multiple selected paint objects. You can set image modes, apply filters, and adjust settings for multiple paint objects at the same time.

In most cases, a command affects an active selection, or an entire image if nothing is selected in edit mode.

Note: When you apply an image-editing command to more than one selected paint object, you can't use the Preview option if the dialog box has it. Preview is available when a single image is in edit mode.

The following summarizes how image-editing commands can be applied.

- Mode commands let you set the image mode for one or more selected paint objects.
- You can convert multiple objects to image proxies.
- The Crop command and the Proxy Info command can't be applied to multiple objects.
- The Resolution command sets the resolution for one or more selected objects.
- The Trim command trims one or more selected paint objects.
- You can apply filters to one or more selected paint objects. If a single paint object is in edit mode, a filter applies to the entire image or an active selection.

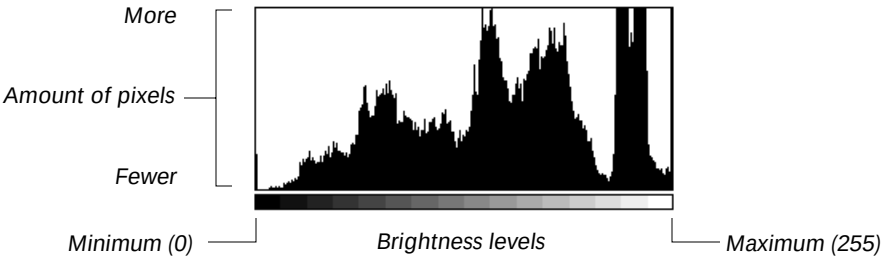
- The Histogram command can be applied to paint objects in edit mode only.
- Many commands in the Adjust submenu can be used to uniformly adjust one or more selected paint objects, or a paint object in edit mode.

Working with image-adjustment dialog boxes

Some dialog boxes for image-editing commands include histograms and preview options to help you achieve the effect you want.

Understanding histograms

A histogram plots the relative number of pixels in each brightness level in an image.



In the histogram above, shorter bars on the left indicate that the image doesn't contain large areas of very dark pixels. Higher bars toward the right of the graph show that the image does contain large areas of medium and very bright pixels.

◆ **To view an image's histogram at any time:** With an image in edit mode, choose Filter > View > Histogram.

✔ Tip (Mac OS only)
When working with large images, you can improve speed by using video LUT animation instead of previews; see "Painting preferences" on page 9.4.

Using the Preview option

Most dialog boxes for image-adjustment commands include a Preview check box. Select the Preview option to see how settings affect the image. Preview is available only when a single paint object is in edit mode.

Consolidating colors

The Threshold and Posterize commands let you consolidate color values in an image or selection. Besides producing interesting effects

with these commands, you can use them in alpha channels to help isolate areas within an image.

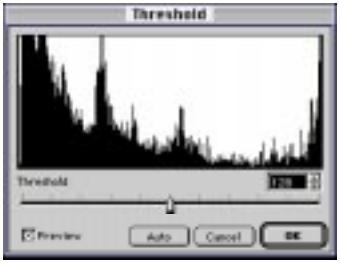
If you select an area within an image, Canvas applies the adjustment only to that area. Otherwise, Canvas adjusts the selected paint objects.

Setting a brightness threshold

You can use the Threshold command to convert any image to black and white. The Threshold command compares each pixel's brightness value to a threshold value that you set. It changes brighter pixels to white and darker pixels to black. The threshold setting is based on a scale of brightness values from 0 (black) to 255 (white). You can't use the Threshold command on images in Black & White or Indexed mode.

For example, if you set a threshold value of 128, pixels that are brighter than medium gray become white, while pixels darker than medium gray become black.

To map an image to black and white



1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image is affected.

2 Choose Image > Adjust > Threshold.

3 In the Threshold dialog box, enter the threshold value by dragging the slider or typing a number in the text box. If you want Canvas to convert half the pixels to black and half to white, click Auto.

4 After entering the setting you want, click OK.

To isolate selections, you can apply the Threshold command in conjunction with the High Pass filter to an image in an alpha channel. See "Isolating areas using the High Pass filter" on page 28.10.

Creating high-contrast 'posterized' images

You can condense the brightness variations in an image with the Posterize command. If you apply the Posterize command to a photograph, it creates a high-contrast image by compressing hundreds of brightness levels into only a few. You set the number of brightness levels you want to retain, and Canvas reduces each color channel to that number of values.

Original RGB image

Posterize 8 levels

Posterize 4 levels

Posterize 2 levels

The Posterize command's effect depends on the mode of the image you posterize.

For example, if you apply the Posterize command with a setting of 2 levels to a grayscale-mode image, the image becomes black and white. If you apply the same setting to an RGB-mode image (even if it contains only grays), the command converts each pixel's red, green, and blue value to either zero or full color, reducing the image to eight colors — red, green, blue, red-green, red-blue, blue-green, black, and white. You can't use the Posterize command on images in Black & White or Indexed mode.

To posterize an image

1 Select one or more paint objects to posterize all the images. You can select an area in one image in edit mode to posterize the selected area only. If you don't make a selection, the entire image is affected.

2 Choose Image > Adjust > Posterize.

3 Enter a level from 2 to 255. Higher numbers produce subtle effects. Lower numbers produce high-contrast images.

4 After you enter the Levels setting, click OK.

Changing color and contrast

You can use the Invert, Desaturate, and Brightness/Contrast commands to create special effects and correct lightness levels in images. These commands apply changes equally to all color values.

If you select an area of an image, Canvas applies the command to that area only. Otherwise, Canvas applies the command to the entire image in a paint object.

Inverting colors in images

You can use the Invert command to reverse the colors in an image, as in a photographic negative. The command converts each pixel's color into its opposite hue in the color spectrum. It does this by inverting the brightness value of each pixel in each color channel.

For example, if a pixel is pure red, its brightness levels are 255, 0, 0 in RGB mode. When inverted, this pixel's brightness values become 0, 255, 255, changing it to pure blue-green, its opposite in hue.

Invert filter examples




The Invert command can be particularly useful in channel editing, as colored pixels can denote either masked or selected areas.

To invert an image

1 Select one or more paint objects to invert all the images. You can select an area in one image in edit mode to invert the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Indexed mode.

2 Choose Image > Adjust > Invert.

Desaturating image colors

You can use the Desaturate command to remove color from images completely, while retaining the relative brightness levels of shadows, midtones, and highlights. The command converts an entire image to shades of gray without changing the image mode.

To desaturate an image

1 Select one or more paint objects to desaturate all the images. You can select an area in one image in edit mode to desaturate the

selected area only. If you don't make a selection, the entire image in edit mode is affected. This command works with paint objects in RGB Color mode, CMYK Color mode, and LAB Color mode.

2 Choose Image > Adjust > Desaturate.

Adjusting brightness and contrast

You can adjust the brightness and contrast of an entire image or specific channels with the Brightness/Contrast command. Brightness refers to the lightness of an image. Contrast is the difference in brightness between two pixels.

Because the Brightness/Contrast command adjusts all pixels equally, you should avoid using it to lighten an image that appears too dark, because the image can lose shadow detail. To preserve shadows or highlights when adjusting the brightness of an image, you can use the Levels or Curves commands. See "Levels" on page 27.7 and "Adjusting brightness curves" on page 27.9.

To use the Brightness/Contrast command

1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode or Indexed mode.

2 Choose Image > Adjust > Brightness/Contrast.

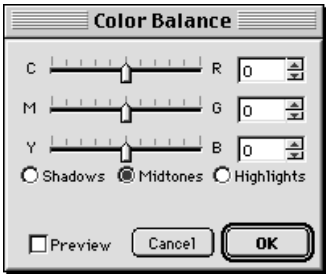
3 Enter a Brightness value from -100 to 100. Higher values can wash out midtones and shadows. Lower values can dull highlights.

4 Enter a Contrast value from -100 to 100. Increasing contrast moves the color values of pixels to the extremes of the brightness spectrum. Decreasing contrast moves color values toward medium gray.

5 After entering the settings you want, click OK.

Color balance

The Color Balance command lets you adjust color in shadows, midtones, and highlights. You can use it with paint objects in CMYK Color or RGB Color modes.



1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected.

2 Choose Image > Adjust > Color Balance.

3 Click Shadows, Midtones, or Highlights to select the tonal range you want to adjust. You can set the color levels independently for each tonal range.

4 Drag a slider toward a color label to increase the amount of that color. The letters indicate the primary color values: Cyan, Red, Magenta, Green, Yellow, and Blue.

When you increase the amount of a color, you also reduce its inverse, which is the color labeled at the other end of the slider.

5 Click Preview to preview the color adjustments. Preview is only available if a single paint object is in edit mode.

6 Click OK to apply the settings.

Levels

You can adjust the brightness of shadows, highlights, or midtones by using the Levels command. Brightness values range from 0 (black) to 255 (white). For colored pixels, brightness is the brightness value in each color channel.

The Levels command works with all image modes except Black & White and Indexed.

To adjust levels

1 Select a paint object to adjust. You can select an area in the image to adjust the selected area only.

2 Choose Image > Adjust > Levels.

3 Select a channel or combination of channels in the pop-up menu. The Levels command will affect only the specified channels.

4 Do one or more of the following

Lighten highlights: Enter a positive number less than 255 in the right Input Levels box, or drag the white slider under the histogram. Canvas assigns the maximum output level to all pixels on the right of the slider.

Lighten shadows: Enter a positive number in the left Output Levels box, or drag the black slider under Output Levels to increase the minimum output level. This value becomes the darkest value allowed in the image.

Darken highlights: Enter a positive number less than 255 in the right Output Levels box, or drag the white slider under Output Levels to set the maximum output value. This is the brightest value allowed in the image. You can darken highlights in one color channel to bring brighter colors back into the printable color range.

Darken shadows: Enter a number greater than zero in the left Input Levels box, or drag the black slider under the histogram. Canvas assigns the minimum output level to all pixels on the left of the slider.

Adjust midtones: Enter a value in the center Input Levels box or drag the gray slider under the histogram. To lighten midtones, enter a value from 1.01 to 9.99 or drag the slider to the left. All pixels on the right of the slider will be brighter than medium gray. To darken midtones, enter a value from 0.1 to 1.00 or drag the slider to the right. All pixels on the left of the slider will be darker than medium gray.

5 Click OK.

Saving and loading Levels settings

You can save Levels settings on disk to use again. For example, after correcting a scanned photo, you can save the settings and use them to correct other images scanned from the same source.

◆ **To save Levels settings:** In the Levels dialog box, click Save. Type a name for the settings file, select a location, and click Save.

◆ **To load previously-saved Levels:** In the Levels dialog box, click Load. A directory dialog box opens. Locate the settings file you want to open, and click Open.

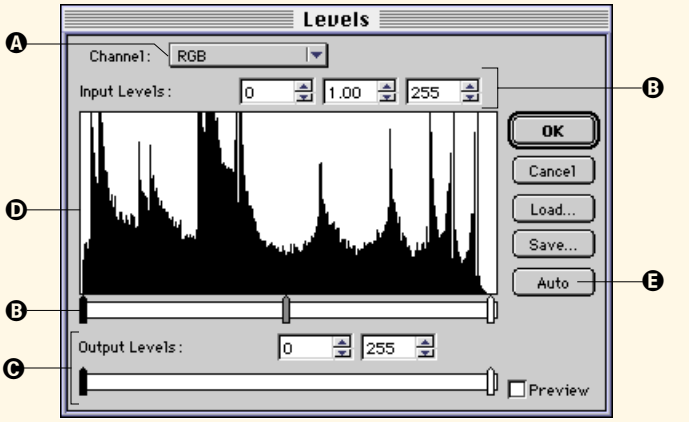
Levels dialog box

You can use the Levels dialog box to control different aspects of brightness levels.

A Choose an individual color channel or the composite channel.

B Type values in the Input Levels boxes or drag the slider under the histogram to set the minimum input level, midtone ratio, and maximum input level.

C Enter numbers in the text boxes or drag the sliders to set the minimum and maximum output levels.



D The histogram graphs brightness levels for the selected channel.

E Click Auto for Canvas to map the darkest values in the selection to black and the lightest value to white.

Adjusting brightness curves

You can adjust the tonal range of an image with the Curves command. Unlike the Levels command, which can set the minimum, maximum, and median values, Curves adjusts the entire range of values. It lets you map input values to output values according to a line ("curve") on a graph. Curves provides the most control over the tonal range of an image.

This command is not available when a paint object in Black & White mode or Indexed mode is selected.

In the Curves dialog box, brightness values range from 0 (black) to 255 (white), or 0 percent (white) to 100 percent (black). To switch between these scales, click the grayscale bar under the graph.

A typical setting is a gentle S-curve (or inverted S-curve, depending on the scale you use), which adds contrast to an image without appearing too harsh.

Curves dialog box

The graph shows how Canvas maps input brightness values to output values. Select Preview to see the effect on the image.

Ⓐ Choose a channel to adjust.

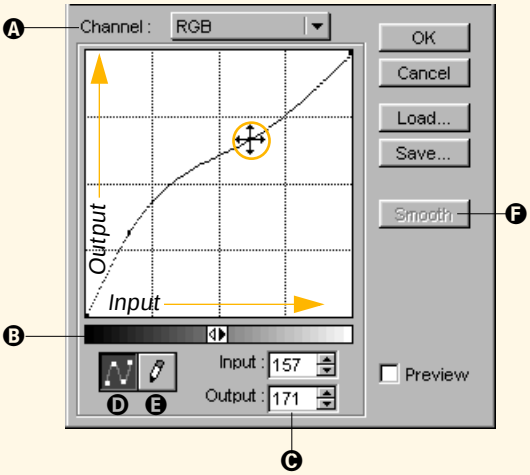
Ⓑ The grayscale ramp shows the lightness scale, either 0-255 (dark to light) or 0-100 percent (light to dark). Click the ramp to reverse the scale and the curve.

Ⓒ Type brightness values in the Input and Output boxes. Or, drag the pointer (circled) to specify brightness values. Here, pixels of 157 brightness are lightened to 171.

Ⓓ Click this icon and drag a point on the curve to reshape the curve. Click the curve to add up to 19 control points. Drag points off the curve to delete them.

Ⓔ To draw a disconnected segment, click this icon and drag in the graph.

Ⓕ With the pencil (Ⓔ) selected, click to smooth the curve.



To adjust brightness curves

1 Select one paint object to adjust. The paint object can be in edit mode. You can select an area in the image. If you don't make a selection, the entire image is affected.

2 Choose Image > Adjust > Curves.

3 In the Channel pop-up menu, select the composite channel or an individual channel to adjust. To adjust multiple channels, select the channels in the Channels palette first.

4 To change the shape of the existing curve, make sure the curve button at the bottom-left is selected.

- Click points that you want to keep the same
- Drag points on the curve that you want to change. Or, enter values in the Input and Output boxes. For example, to keep midtones the same, click the center of the curve, then drag other areas of the curve. To adjust midtones without affect-

✔ Tip

To redraw the curve completely, or to create sharp changes in brightness for a tonal range, click the pencil and draw a new curve or segment.

ing highlights and shadows, click the quarter and three-quarter points of the curve, and drag the middle.

5 If you draw disjointed segments with the pencil, you can click Smooth to create one continuous curve.

6 Click OK to apply the current settings to the image.

Saving and loading Curves dialog box settings

You can save Curves dialog box settings on disk to use again. For example, after correcting the brightness curve for a particular Photo CD image, you can save these settings and later apply them to other images from the same source.

◆ **To save Curves settings:** In the Curves dialog box, click Save. In the directory dialog box, type a name for the settings file, select a location, and click Save.

◆ **To load Curves settings:** In the Curves dialog box, click Load. In the directory dialog box, locate the settings file and click Open.

Hue/Saturation

You can modify the tint and purity of specific colors with the Hue/Saturation command. In terms of image editing, *saturation* refers to the amount of gray in colors.

The Hue/Saturation dialog box varies slightly depending on the color mode. For RGB Color and CMYK Color images, you can modify red, yellow, green, cyan, blue, or magenta color ranges. For LAB mode images, you can modify blue, magenta, yellow, or green color ranges.

The Hue/Saturation command is available when you work with CMYK, RGB, or LAB Color mode images. Before choosing the Hue/Saturation command, make the composite channel active. For more information, see “Activating channels” on page 26.23.

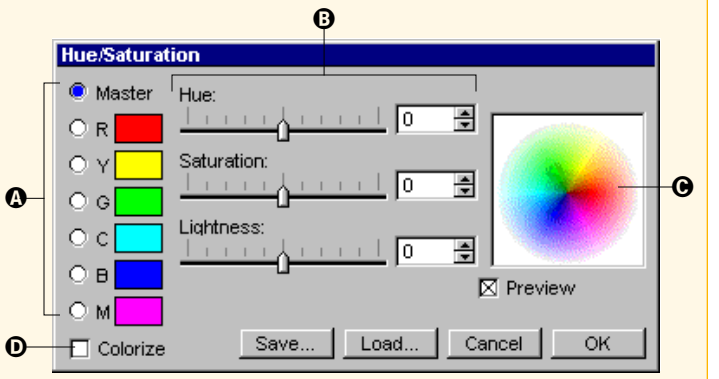
Hue/Saturation dialog box

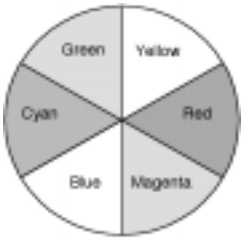
Ⓐ Choose the color to adjust. Click Master to affect all colors.

Ⓑ Enter numbers in the text boxes or drag the sliders to adjust hue, saturation, and lightness.

Ⓒ The color wheel illustrates changes made in the settings.

Ⓓ Turn on to add the same hue to the entire image.





Color wheel

To adjust the hue of a color range

1 Select a paint object to adjust. You can select an area in the image to adjust the selected area only.

2 Choose Image > Adjust > Hue/Saturation.

3 On the left of the dialog box, click the color range to adjust, or click Master to affect all colors equally.

4 To change the selected color, enter the amount of the color shift, from -180 to 180 degrees, in the Hue text box. Negative values indicate a counter-clockwise shift around the color wheel; positive values indicate a clockwise shift. For example, with the Master option selected, setting Hue to 60 changes red to magenta, magenta to blue, blue to cyan, and so on.

5 To apply the current settings to the image, click OK.

To adjust the saturation of a color range

1 Select a paint object to adjust. You can select an area in the image to adjust the selected area only.

2 Choose Image > Adjust > Hue/Saturation.

3 Click the option button of the color you want to adjust, or click the Master option button to affect all colors equally.

4 Enter a value from -100 to 100 in the Saturation text box or drag the slider. Positive values decrease the amount of gray in the selected colors. Negative values increase the amount of gray.

5 To apply the current settings to the image, click OK.

To adjust the brightness of a color range

1 Select a paint object to adjust. You can select an area in the image to adjust the selected area only.

2 Choose Image > Adjust > Hue/Saturation.

3 Choose a specific color range or choose Master to affect all colors equally.

4 Enter a value from -100 to 100 in the Lightness text box or drag the slider. Positive values increase the amount of white in the color range. Negative values decrease the amount of white.

5 To apply the current settings to the image, click OK.

For more control of brightness adjustments, use the Levels or Curves command. For more information, see “Levels” on page 27.7 and “Adjusting brightness curves” on page 27.9.

To colorize an image

You can use the Colorize option in the Hue/Saturation dialog box to tint an image. This applies the same hue and saturation to all pixels that are not 100 percent black or white. The Colorize option does not affect the lightness levels of pixels.

1 Select a paint object. You can select an area in the image to adjust only the selection.

2 Choose Image > Adjust > Hue/Saturation.

3 Select the Colorize option.

4 Enter a value from -180 to 180 degrees in the Hue text box. Positive values shift counter-clockwise around the color wheel, negative values shift clockwise around the color wheel. For example, Hue 120 creates a green-toned image.

5 Enter a value in the Saturation text box or drag the slider.

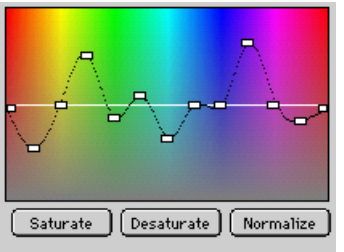
6 After entering the settings you want, click OK.

Color Equalization

You can graphically adjust the saturation of different color ranges with the Color Equalization command. You can add or remove gray

from various color ranges in images in RGB Color mode, CMYK Color mode, and LAB Color mode.

To use the Color Equalization command



Color Equalization window

1 Select a paint object to adjust. You can select an area in the image to adjust only the selected area.

2 Choose Image > Adjust > Color Equalization.

3 Drag the handles in the window to change the saturation of color ranges. To increase saturation, drag upward. To decrease saturation, drag downward.

4 To increase the saturation of all colors, click Saturate. To decrease the saturation of all colors, click Desaturate. Click Normalize to return all colors to their original saturation.

5 Click OK to apply the settings.

Blur filters

Blur filters soften images by decreasing contrast between neighboring pixels. These commands work with all image modes except Indexed and Black & White.

To use Blur and Blur More

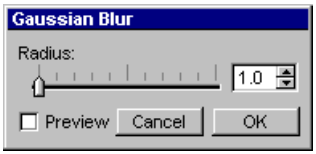
Blur slightly modifies an image. Blur More is about four times stronger than Blur. Both commands work with all image modes except Black & White and Indexed.

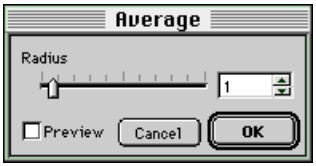
1 Select one or more paint objects to blur. You can select an area in one image to blur the selected area only.

2 Choose Image > Filter > Blur > Blur or Blur More.

Gaussian and Average blur

You can create a softening effect by using the Gaussian Blur or Average blur filters. Their effects are similar, but the Gaussian Blur filter creates a more diffused effect than the Average blur filter.





The Gaussian Blur filter changes the color value of each pixel by applying a weighted average based on the color values of pixels within a specified distance. Color values at the edge of the specified distance influence the final color value less than closer pixels.

The Average filter determines the new color value for each pixel by equally averaging all color values within the specified radius.

To apply Gaussian Blur or Average blur

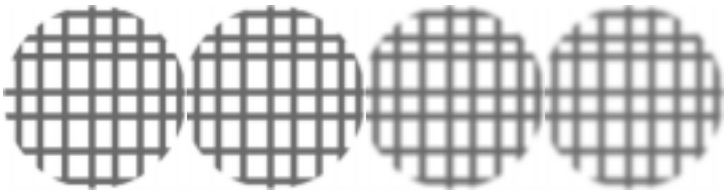
1 Select one or more paint objects to blur. You can select an area in one image to blur the selected area only.

2 Choose Image > Filter > Blur > Gaussian Blur or Average.

3 Specify a radius value from 0.1 to 250.0 in the Gaussian Blur dialog box, or 1 to 16 in the Average dialog box. Smaller radius values produce more subtle effects than larger ones.

4 Click OK.

Depending on the size of the radius, applying a Gaussian or Average blur can take longer than other Blur filters.



Blur *Blur More* *Average* *Gaussian*

Motion Blur

The Motion Blur filter can create the effect of linear movement. You can specify the direction and magnitude of the effect. This command works with all image modes except Black & White, Indexed, and Duotone.

To apply motion blur

1 Select one or more paint objects to blur. You can select an area in one image to blur the selected area only.

2 Choose Image > Filter > Blur > Motion Blur. Adjust the settings in the Motion Blur dialog box, and then click OK to apply the filter and close the dialog box.

Grayscale paint object

Motion Blur: Direction = 0, Distance = 30, Phase = 12

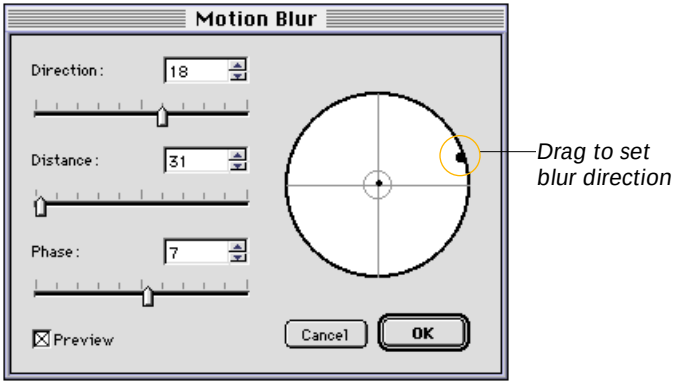
Motion Blur settings

Direction Establishes the angle of the blur and the object "movement." Enter a value from -90 to 90 degrees. You can drag the slider or drag the solid dot inside the circle to set the Direction value. A value of 0 degrees creates a horizontal blur; 90 degrees creates a vertical blur.

Distance The magnitude of the blur. Enter a number from 1 to 999, or drag the slider to set the Distance. A lower number creates less blurring.

Phase Establishes the apparent direction of movement by creating a blurred trail that follows the object. Enter a number from -100 to 100 or drag the slider to set the Phase. Negative numbers create apparent movement up and to the right. Positive numbers create apparent movement down and to the left.

Preview Displays the effect of the current settings.



Radial Blur

The Radial Blur filter can create the effect of circular movement in an image. This command works with all image modes except Black & White, Indexed, and Duotone.

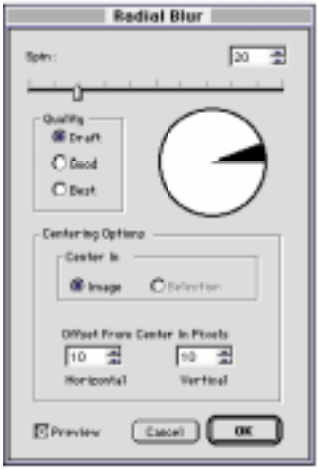
To apply radial blur

1 Select one or more paint objects to blur. You can select an area in one image to blur the selected area only.

2 Choose Image > Filter > Blur > Radial Blur. Adjust the settings in the dialog box, and then click OK to apply the filter.

Radial Blur

Original | *Spin 5* | *Spin 20* | *Spin 50*



Radial Blur settings

Spin Controls the magnitude of the apparent rotation in the image. Type a number from 1 to 100 or drag the slider to set the value. Or, drag the solid area inside the circle. Drag clockwise to simulate slower rotation; drag counterclockwise to simulate faster rotation and produce more blurring.

Quality Higher quality creates a smoother image but takes more time. The quality differences become more pronounced when the image is enlarged or printed on standard size paper.

Select Draft for the fastest redraw. Select Good for average redraw speed and quality. Select Best when image quality is most important.

Centering options These options let you set the rotation origin. Center In Image sets the origin at the center of the image. Center in Selection sets the origin at the center of a selection. “Offset from Center in Pixels” lets you type values to offset the origin from the center of the image or selection. Type vertical and horizontal offset amounts in pixels in the text boxes. Negative horizontal offsets move the center to the left. Negative vertical offsets move the center up. Positive horizontal offsets move the center to the right. Positive vertical offsets move the center down.

Preview Displays the effect of the current settings.

Zoom Blur

The Zoom Blur filter can create the effect of movement in an image, as if the scene were moving rapidly toward or away from the observer. The filter blurs along an axis perpendicular to the image. You can specify the depth, direction, and smoothness of the blur effect. This command works with all image modes except Black & White, Indexed, and Duotone.

To apply zoom blur

1 Select one or more paint objects to blur. You can select an area in one image to blur the selected area only.

2 Choose Image > Filter > Blur > Zoom Blur. Adjust the settings in the dialog box, and then click OK to apply the filter.

Zoom Blur settings

Span Sets the depth, (length) of the zoom effect. Type a number from 1 to 100 or drag the slider to set the value. A larger number simulates a greater zoom depth and a more blurred effect.

Zoom In/Out Establishes the direction of the blur effect toward or away from the viewer. Type a number from -100 to 100 or drag the slider to set the value. Negative numbers make the image appear to move closer; positive numbers make the image appear to move away.

Smoothness Controls the quality of the transition of the blur effect. Type a number from 1 to 10 or drag the slider to set the value. A smaller number creates a smoother blur with fine color blending.

Centering options These options let you set the zoom origin. Center In Image sets the origin at the center of the image. Center in Selection sets the origin at the center of a selection. “Offset from Center in Pixels” lets you type values to offset the origin from the center of the image or selection. Type vertical and horizontal offset amounts in pixels in the text boxes. Negative horizontal offsets move the center to the left. Negative vertical offsets move the center up. Positive horizontal offsets move the center to the right. Positive vertical offsets move the center down.

Preview Displays the effect of the current settings.

Zoom Blur applied to area selected around center

Span: 25
Zoom In/Out: 25
Smoothness: 5

Sharpen filters

✔ Tip
Although the Sharpen and Blur filters have opposite effects, they do not negate each other. To reverse the effects of a Sharpen filter, choose Undo in the Edit menu.

Sharpen filters increase the contrast between adjacent pixels, which can make an image appear more distinct. These commands work with all image modes except Black & White, Indexed, and Duotone.

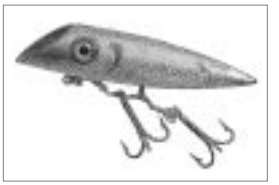
- The Sharpen filter modifies an image slightly. The effect of the Sharpen More filter is about four times greater.
- The Sharpen Edges filter affects only high-contrast areas.
- The Unsharp Mask filter provides additional control over the sharpening effect.

To sharpen an image

1 Select one or more paint objects to sharpen. You can select an area in one image to sharpen the selected area only.

2 Choose Image > Filter > Sharpen, and then choose a filter from the Sharpen submenu.

Original



Sharpen More applied 5 times

Sharpen Edges applied 8 times

Unsharp Mask
Amount = 113
Radius = 4.5
Threshold = 0

To apply the Unsharp Mask filter

1 Select one or more paint objects to sharpen. You can select an area in one image to sharpen the selected area only.

2 Choose Image > Filter > Sharpen > Unsharp Mask.

3 Enter 1 to 500 percent for Amount. Enter less than 100 percent to sharpen the image slightly.

4 Enter 0.1 to 250 pixels for Radius. This is the size of the area used to determine new color values for the original pixels. Smaller values focus the sharpening effect on high-contrast edges.

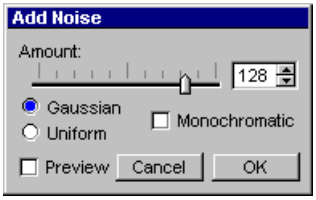
5 Enter 0 to 255 levels for Threshold. Enter 0 to filter all pixels. Enter a larger value to filter only high-contrast edges.

6 Click OK to apply the filter.

Adding and removing noise

In images, “noise” refers to randomly-colored pixels. Noise can be good or bad. For example, you can apply noise to computer-generated graphics to make them appear more photographic. You can also use a filter that removes noise to minimize the appearance of tiny scratches or other artifacts present in the source material or introduced during digitizing. Noise commands work with all image modes except Black & White and Indexed.

To add noise to selections



1 Select one or more paint objects to adjust. Select an area in one image to adjust the selected area only.

2 Choose Image > Filter > Noise > Add Noise.

3 Enter 1 to 999 for Amount to specify how far the color of the noise can vary from the original color.

4 Choose the Uniform or Gaussian distribution option:

- Choose Uniform to apply colors randomly picked within the Amount specified. Canvas evenly distributes the color of the noise across a range of colors. This option gives the smoothest effect.
- If you want the noise to favor lighter and darker colors within the specified range, choose the Gaussian option. This option creates a more pronounced effect than Uniform.

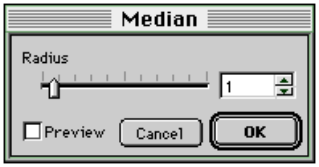
5 If you want to add noise of different brightness levels of the original color, select Monochromatic.

6 Click OK to apply the noise settings.

Removing noise from selections

You can remove noise from an image or selection using the Median, Despeckle, or Dust & Scratches filters. The Median filter removes noise by averaging the color of pixels. The Despeckle and Dust & Scratches filters remove noise by selectively blurring regions of the selection.

To use the Median filter



On a pixel-by-pixel basis, the Median filter applies the median color value of all pixels within the specified radius. Although the filter ignores extreme values in its computations, higher radius values can still wash out an image.

1 Select one or more paint objects to adjust. You can select an area in one image to adjust the selected area only.

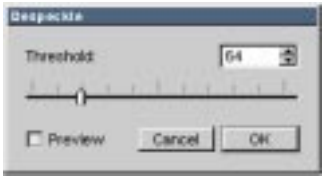
2 Choose Filter > Noise > Median in the Image menu.

3 Type a value from 1 to 16 in the Radius text box, or drag the slider. Smaller radius values produce subtler effects.

4 Click OK.

To use the Despeckle filter

The Despeckle filter can remove defects such as dust and other speckling in images. The filter blends pixels with the lightness values of neighboring pixels. It's a good idea to select areas that need correction before applying the filter.

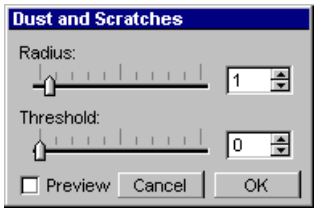


1 Select an area in an image to adjust. If you don't make a selection, the entire image is affected.

2 Choose Image > Filter > Noise > Despeckle.

3 Drag the slider or type a number in the text box to set the Threshold value. Higher values produce greater blending of pixels.

To reduce dust and scratch marks



The Dust and Scratches filter can remove dust specks by replacing a pixel's value with a median value. The filter does not change a pixel's value unless the absolute value of the difference of its gray value and the median gray value of its neighborhood is greater than the Threshold. Larger numbers of pixels are replaced by the median value when the Threshold is low.The practical effect of this is that larger pixels regions (larger "specks") are reduced or removed with a lower Threshold. Therefore, you can use the Threshold to control the size of the artifacts you want to remove.

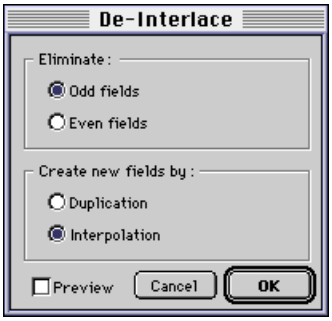
1 Select an area to adjust in an image. If you don't make a selection, the entire object is affected.

2 Choose Image > Filter > Noise > Dust & Scratches.

3 Enter a value from 1 to 16 in the Radius text box. Smaller radius values produce a subtler effect than larger ones.

4 Type a value from 0 to 255 in the Threshold text box. After entering the settings you want, click OK.

Smoothing video images



Because video images contain two interlaced pictures, you can sometimes see a slight banding effect in images acquired from video-recording devices. You can correct this by using the De-Interlace filter and then applying the Unsharp Mask filter. De-Interlace works with all image modes except Black & White.

To smooth video images

1 Select one or more paint objects to adjust. You can select an area in one image to de-interlace the selected area only.

2 Choose Image > Filter > Video > De-Interlace.

3 Click Odd fields or Even fields to select bands to eliminate.

4 Choose a replacement method for the eliminated pixels:

- Click Duplication to fill the area by inserting a copy of an adjacent band.
- Click Interpolation to fill the area by inserting intermediate color values based on the color values of neighboring pixels. This option creates a smoother, more accurate fill than Duplication.

5 After entering the settings you want, click OK.

CHAPTER 28

IMAGE FILTERS AND EFFECTS

Canvas provides commands that you can use to transform images for a variety of effects. These commands can be used to alter entire images or only selected areas, as well as image channels.

The commands in the Filter submenu are often called “filters” because they “filter” images or selections pixel-by-pixel. This chapter explains how to use these filters as well as other commands in the Image menu.

Applying effect filters

You can use the Render, Stylize, and Offset filters to transform images. The filters in the Render submenu apply forms or textures to an image. The Stylize filters apply a conceptual effect to an image. Stylize filters include Emboss, Trace Contour, and Solarize. The Offset filter shifts the pixels within an image.

Rendering clouds

You can apply texture to areas in an image, such as skies or walls, by applying the Clouds filter. The Clouds filter renders soft swirls of color using the foreground and background colors.

Image with translucent clouds

Note: The Clouds filter completely replaces the original image or selection.

To apply a swirl of color to an image

1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don’t make a selection, the entire image in edit mode is affected. This command doesn’t work with paint objects in Black & White mode, and Indexed mode.

2 Choose Image > Filter > Render > Clouds.

To render translucent clouds

You can use alpha channels to render translucent clouds.

1 With a paint object in edit mode, choose Select All in the Edit menu and then choose Copy in the Edit menu to copy the image to

the Clipboard. The paint object in edit mode cannot be Black & White mode or Indexed mode.

Completed alpha channel

2 Choose Show Channels in the Image menu to open the Channels palette. Choose New Channel in the palette's pop-up menu. Make sure you select "Masked Area" in the "Color Indicates" area, and then click OK.

3 Click the new channel in the Channels palette to make it active. Choose Paste in the Edit menu to paste the image into the channel.

4 In the areas where you want clouds to replace the original image, apply white using the Paintbrush or Eraser. In areas where you want a translucent effect, apply gray. The darker the shade, the less the clouds will obscure the original image.

5 In the Channels palette, click the first item listed to make the composite channel active.

6 Choose Image > Select > Load. In the dialog box, select the channel you edited in step 4.

7 Choose Image > Filter > Render > Clouds. The filter renders clouds in the selections made by loading the channel.

Rendering a color wheel

You can fill a selection with a radial blend of colors by choosing Image > Filter > Render > Wheel. The rendered effect looks like the color wheel preview in the Hue/Saturation dialog box. The Wheel filter works with paint objects in RGB Color and CMYK Color.

Unless you make a selection in the image, the Wheel filter replaces the entire image. If you want to apply a translucent wheel effect, follow the steps for the procedure "To render translucent clouds" on page 28.1, but in the seventh step, choose the Wheel command.

Original

Embossed Angle = 163
Height = 5, Amount = 260

Embossing an image

You can make an image appear raised with the Emboss filter. This filter converts low-contrast areas to gray and accentuates high-contrast areas with color (or black and white if the image is Grayscale mode) according to the placement of a theoretical light source.

To apply the Emboss filter

1 Select one or more paint objects to emboss. To apply the emboss filter to a limited area in one image, select the area. The Emboss filter doesn't work with paint objects in Black & White mode, and Indexed mode.

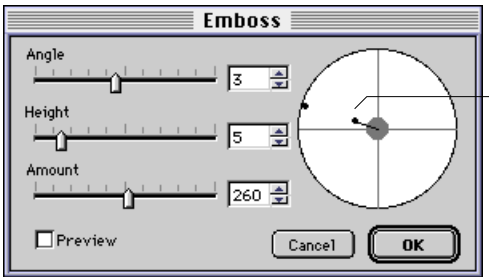
2 Choose Image > Filter > Stylize > Emboss.

3 Enter an Angle from 0 to 360. An angle of 0 is straight right with higher numbers going counter-clockwise.

4 Enter a height from 1 to 32 pixels to set the height of the effect.

5 Enter a number from 1 to 500 in the Amount text box. To retain more color along high-contrast borders, increase this value.

You can adjust the Angle, Height, and Amount individually by dragging the sliders...



...or drag the handle to set the Angle, Height, and Amount values simultaneously

Solarizing images

You can create surrealistic effects in an image by applying the Solarize filter. The Solarize filter mimics a photographic darkroom procedure that exposes film to light during development.

You can solarize CMYK Color, RGB Color and Grayscale mode images. If you make a selection, Canvas filters only selected pixels.

To solarize an image

1 Select one or more paint objects to solarize. To apply the Solarize filter to a limited area in one image, select the area.

2 Choose Image > Filter > Stylize > Solarize.

Original

Solarized

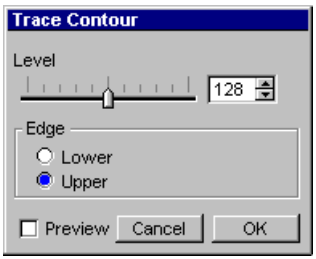
Outlining areas based on color value

With the Trace Contour filter, you can outline image areas that border a particular color. This filter makes color outlines if you are working with a color image, and black outlines if you are working with a Grayscale mode image.

To use the Trace Contour filter

1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.

2 Choose Image > Filter > Stylize > Trace Contour.



3 Enter a Level value from 0 to 255. The Trace Contour filter uses this color brightness value to determine the areas to trace.

4 Select Upper or Lower in the Edge area. To outline areas with higher brightness levels than the one specified, choose Upper. Choose Lower to outline areas with lower brightness levels.

5 To see the effect of the settings, turn on Preview. When the settings are correct, click OK.

Original

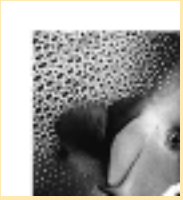
Level =169
Edge = Lower

Level =169
Edge = Upper

Offsetting selections

You can shift an image area with the Offset filter. Canvas fills the vacated area with color, duplicated pixels, or parts of the offset area.

Original



Set to Background

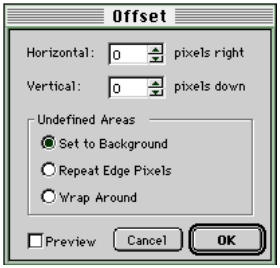
Repeat Edge Pixels

Wrap Around

To offset image areas

1 With an image in edit mode, select an image area.

2 Choose Image > Filter > Other > Offset.



3 Enter horizontal and vertical offset amounts in pixels. Positive values result in offsets to the right and down; use negative numbers (preceded by a minus sign) to offset up and left.

4 Choose an option under Undefined Areas.

Choose this option	For this effect
Set to Background	Fills area with the background color
Repeat Edge Pixels	Duplicates edge pixels until they fill the area vacated by the offset
Wrap Around	Moves pixels cut off by the offset into the vacated area

5 To see the effect of the settings, turn on Preview. When the settings are correct, click OK.

Ripple effects

With the Ripple filter you can create the impression of ripples in an image, like the ripples made by dropping a stone into smooth water. By varying the controls in the Ripple dialog box, you can produce a range of effects in an image, from slight rippling to extreme distortion.

To apply the Ripple filter

1 Select a paint object. To limit the effect to a particular area, select the area where you want to apply the filter. If you don't make a selection, the filter affects the entire image.

2 Choose Image > Filter > Other > Ripple. Adjust the settings in the Ripple dialog box, and then click OK to apply the settings and close the dialog box. To close the dialog box without changing the image, click Cancel.

Ripple settings

You can adjust the following settings in the Ripple dialog box.

Spin The Spin value controls the effect of swirling the image around its center point. Type a number from -100 to 100 or drag the slider to set the amount and direction of spin. Positive numbers generate a clockwise spin; negative numbers generate a counter-clockwise spin. Larger values (positive or negative) increase the amount of swirling. If Spin is zero, the filter creates no ripples in the image and none of the other controls produces an effect.

Frequency The Frequency value affects the number of "waves" created in the image. Type a number from 0 to 50. A large number creates more small waves; a small number creates fewer large waves.

Clustering The Clustering option can create interesting interference patterns in combination with some Frequency values. In general, Frequency values of 15 to 50 and Spin values of 25 and higher are most effective. You can enter a Clustering value of 0 to 30. The higher the Clustering value, the more interference ripples appear between the main waves.

Wave Decay The Wave Decay value softens the effect of the Frequency setting by dampening or stretching the waves away from the center of the image. The closer a wave is to the center of the image, the less it is stretched. Wave Decay creates the impression of blending the waves farthest from the center of the disturbance, especially when Include Corners is selected.

Enter a Wave Decay value of 0 to 100. The higher the value, the more the waves appear stretched toward the edge of the image.

High Frequency The High Frequency option causes an approximate doubling of the effect of the Frequency setting.

Bullseye Mode Selecting Bullseye Mode leaves rings of unchanged original image area between the wave distortions. This

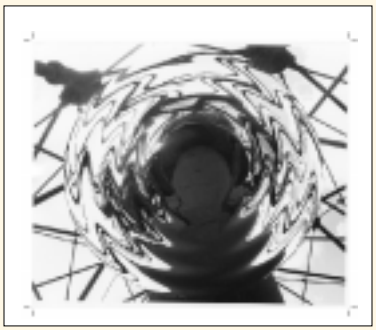
creates a pattern of concentric rings like those surrounding the bull's-eye of a target. This mode can provide a means of integrating a recognizable version of the image with its distortion.

Include Corners This option spreads the filter's effects to the corners of an image or selection. If Include Corners is not selected, the effects are confined to a circular area at the center of the image or selection.

Preview Select Preview to see the effects of the current settings before applying the filter to the image.

Ripple examples

Original

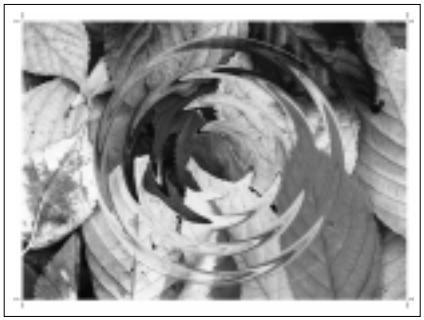


Ripple filter applied in area selected with the Oval Marquee tool

Original

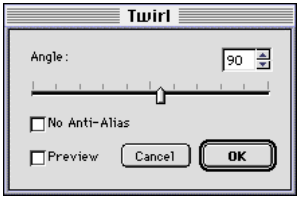
Spin = 30
Frequency = 8
Clustering = 0
Wave Decay = 9

Same settings (above) with Bullseye Mode



Twirl effects

The Twirl filter twists an image around its center to create interesting spiral distortions.



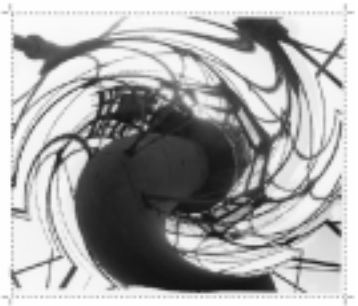
To apply the Twirl filter

1 Select a paint object. To limit the effect to a particular area, select the area where you want to apply the filter. If you don't make a selection, the filter affects the entire image.

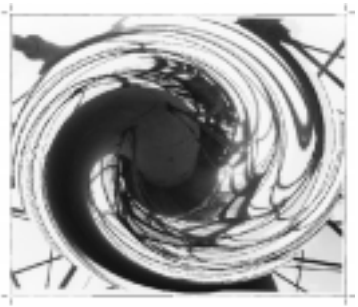
2 Choose Image > Filter > Other > Twirl. Adjust the Angle settings in the Twirl dialog box. The Angle value specifies the direction and extent of the effect. Type a number in the box or drag the slider to set the Angle value. Higher numbers (positive or negative) create more twists around the center. A positive number twirls clockwise. A negative number twirls counter-clockwise. Select **No Anti-Alias** to turn off smoothing of edges in the image.

3 Click OK to apply the settings and close the dialog box. Select Preview to see the effects of the current settings before applying the filter to the image. To close the dialog box without changing the image, click Cancel.

Original



Twirl Angle 90



Twirl Angle 180

Spherical distortion

The Spherize filter can distort an image to simulate a reflection on a curved surface.

To apply the Spherize filter

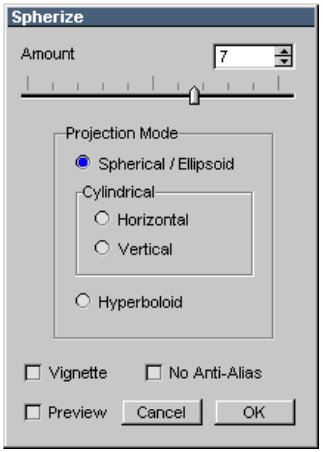
1 Select a paint object. Make a selection if you want to limit the effect to a selected area. If you don't make a selection, the filter affects the entire image.

2 Choose Image > Filter > Other > Spherize. Adjust the settings in the dialog box, and then click OK to apply the filter.

Original paint object

Spherize: Amount = 5

Vignette option selected



Spherize settings

Amount The extent of the distortion. Type a number from 1 to 10 or drag the slider to set the value. A higher number simulates a stronger curve.

Projection Mode The shape of the distortion. Select Spherical/Ellipsoid to simulate reflection on a spherical surface like a globe. Select Cylindrical to simulate reflection on a cylinder, such as a can. Select Horizontal to make cylindrical distortion horizontal. Select Vertical to make cylindrical distortion vertical. Select Hyperboloid to simulate reflection on a concave hyperboloid surface.

Vignette Isolates the shape of a spherical distortion from the rest of the image. If the image has a visibility mask, the areas of the image that fall outside of the distorted area will be transparent. If the image does not have a visibility mask, the areas are filled with the current background color. You can use this option when Spherical/Ellipsoid is selected.

No Anti-Alias Turns off smoothing of edges in the image. Deselect this option for a smoother effect.

Preview Displays the current effect before you apply the filter to the image.

Using the High Pass, Maximum, and Minimum filters

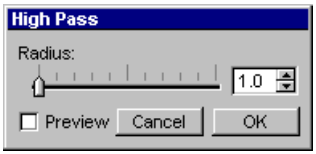
This section describes how you can create selections in alpha channels and resize bright areas in color channels. You can isolate areas in an image using the High Pass filter and Threshold command. You

can use the Maximum and Minimum filters to spread color areas you might need to trap for commercial printing.

Isolating areas using the High Pass filter

The High Pass filter isolates high-contrast edges in an image by removing low-contrast detail. The filter makes pixels located in low-contrast areas gray. In color images, the High Pass filter outlines high-contrast edges in color. Otherwise, it outlines these edges in dark gray.

To apply the High Pass filter



1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.

2 Choose Image > Filter > Other > High Pass.

3 Enter a radius from 0.1 to 250.0 pixels. To retain more of the original image surrounding high-contrast edges, enter a high number. If you enter a low number, the filter makes more of the image gray.

Isolating images with the High Pass filter

1 With an image in edit mode, choose Select All and then choose Copy in the Edit menu.

2 Choose Show Channels in the Image menu. Create a new channel by clicking the button in the lower-left corner of the Channels palette.

3 Click the new channel and choose Paste in the Edit menu.

4 Choose Image > Filter > Other > High Pass and enter a radius value. Click OK.

5 Choose Image > Adjust > Threshold. Adjust the threshold until you outline the areas you want.

6 Paint areas white to include them in the selection. Fill the rest of the image with black.

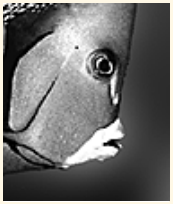
Original Image

High Pass filter

Threshold filter

Editing with painting tools

Finished alpha channel



Isolated subject

7 Click the composite channel. Choose Image > Select > Load to load the channel and select an area.

8 In this example, the image was finished by choosing Image > Select > Inverse and applying a Gaussian blur of 3.0 pixels.

✔ Tip
To apply a choke or spread to an image manually, use the Maximum or Minimum filters in a color channel.

Maximizing and minimizing bright areas in an image

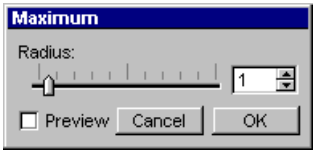
You can increase or decrease light areas in an image with the Maximum and Minimum filters. The Maximum filter adds light to shadows. The Minimum filter shrinks light areas.

When you apply these filters, Canvas compares each pixel to its neighbors within the radius you specify, then replaces it with the lightest or darkest pixel in the group.

Original

Maximum 4 pixels

Minimum 4 pixels



To use the Minimum and Maximum filters

1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.

2 To maximize the light areas in an image, choose Image > Filter > Other > Maximum and enter a radius from 1 to 16 pixels.

3 To minimize the light areas in an image, choose Image > Filter > Other > Minimum and enter a radius from 1 to 16 pixels.

4 Turn on Preview to check the settings and then click OK.

Filling selections with color

The Image > Filter > Other > Fill command lets you quickly and uniformly fill a selection with the foreground or background color, black, white, or gray. In addition, you can select an opacity level and transfer mode for application of the color.

To fill a selection with a color

1 With an area of an image selected, choose Image > Filter > Other > Fill. The Fill dialog box opens.

2 In the Use pop-up menu, choose a fill option. To make the color appear transparent, set the Opacity level to less than 100%. To use a mode effect, choose an option in the Mode pop-up menu.

3 Click OK to fill the selection.

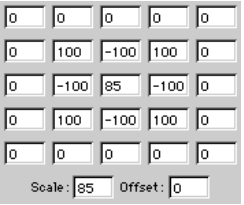
Creating custom image filters

You can create your own special-effect and image-correcting filters using the Custom command. You can also save custom filters and use them in future Canvas documents.

Filters work with an image one pixel at a time. Using a mathematical formula and the color values of pixels within a specified radius, filters assign each pixel a new color value. In a custom filter, you supply the numbers the filter uses to calculate the new color values.

The same filter can produce different effects in other images. To get the most out of custom filters, spend time experimenting.

Original



Custom filter

Blurred image

Custom filter

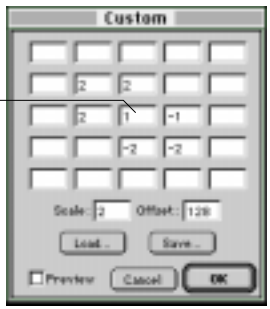
Embossed image

To use Custom filters

1 Select one or more paint objects to adjust all the images. You can select an area in one image in edit mode to adjust the selected area only. If you don't make a selection, the entire image in edit mode is affected. This command doesn't work with paint objects in Black & White mode, and Indexed mode.

2 Choose Image > Filter > Other > Custom. In the Custom dialog box, type values from -999 to 999 in the boxes in the grid. Canvas ignores blank boxes.

This box represents the target pixel in an image



These boxes represent the pixels surrounding a target pixel

3 Enter a Scale value from 1 to 9,999. To retain the general appearance of the original image, the scale should equal the sum of the entries in the configuration grid. For example:

Grid entries	Sum	Scale
2 2 1 -1 -1 3	2+2+1-1-1+3=6	6
-15 7 4 -3 2 8	-15+7+4-3+2+8=3	3

4 Enter an Offset value from -9,999 to 9,999. Positive values increase the brightness of the final outcome while negative values decrease the brightness.

5 Turn on the Preview option to check the filter effect. When the settings are correct, click OK.

◆ **To save a custom filter:** In the Custom dialog box, enter the filter settings and click Save. Enter a name and location for the filter and click Save.

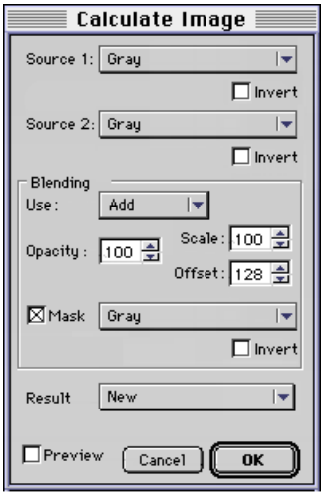
◆ **To load a custom filter:** In the Custom dialog box, click Load. In the directory dialog box, select the filter file and click Open.

Combining image channels

The Calculate command lets you combine channels to create selection masks for effects like embossing text in an image. By adding, subtracting, and multiplying channels, you can also enhance shadows and highlights.

The Calculate command combines corresponding pixels from two channels by the method you choose. You can place the result in a new or existing channel.

To combine channels



1 With an image in edit mode, choose Calculate in the Image menu.

2 Choose the first channel in the Source 1 pop-up menu. If you want to invert the channel, turn on Invert. For more information, see “Inverting colors in images” on page 27.5.

3 In the Source 2 pop-up menu, choose the channel you want to combine with the first channel. If you want to invert the channel, turn on Invert.

4 In the Blending area, choose an option in the Use pop-up menu. See “Descriptions of Calculate blending options,” next.

5 Enter an opacity from 0 to 100 percent for Source 1. Other options are available for some Blending methods.

6 If you want to mask Source 1, turn on Mask in the Blending area and choose a channel in the pop-up menu. To invert the mask, turn on Invert in the Blending area.

7 Choose the name of a destination channel or choose New in the Result pop-up menu. If you select an existing channel, Canvas replaces the channel with the results of the Calculate operation.

8 Click OK to calculate the channel using the current settings.

Descriptions of Calculate blending options

You can select various blending methods in the Calculate Image dialog box.

Normal. Places Source 1 over Source 2 at the specified opacity. 100 percent opacity replaces Source 2 with Source 1.

Multiply. Creates a darker channel than the source channels. Black areas in either source create black areas in the resulting channel. White areas do not affect the result.

Screen. Creates a lighter channel than the source channels. White areas in either source create white areas in the resulting channel. Black areas do not affect the result.

Overlay. Places Source 1 over Source 2 without destroying the shadows or highlights of Source 2.

Soft Light. Lightens or darkens pixels in Source 2 depending on the brightness value of the corresponding pixels in Source 1. Pixels in Source 1 that are lighter than 50% black lighten Source 2. Pixels in Source 1 that are darker than 50% black darken Source 2.

Hard Light. Lightens or darkens pixels in Source 2 depending on the brightness value of the corresponding pixels in Source 1. Hard Light works similarly to Soft Light. However, black in Source 1 produces black in the resulting channel and white produces white.

Darken. Replaces pixels in Source 2 with the corresponding pixels in Source 1, if the pixels in Source 1 are darker.

Lighten. Replaces pixels in Source 2 with the corresponding pixels in Source 1, if the pixels in Source 1 are lighter.

Add. Creates a lighter channel than the source channels. Add is similar to Screen but usually produces a higher-contrast image.

If you select the Add option, you can enter a Scale value from 1 to 2 with a precision of three decimal places. To calculate the average brightness value of two channels, choose Add and enter a Scale of 2.

You can brighten or darken the resulting channel by specifying an Offset value. To lighten the overall image, enter an offset from 1 to 255. To darken the image, enter an offset from -1 to -255.

Subtract. Creates a darker channel than the source channels. Subtract is similar to Multiply. However, corresponding pixels of the same color produce black in the resulting channel.

If you select the Subtract option, you can enter a Scale value from 1 to 2 with a precision of three decimal places.

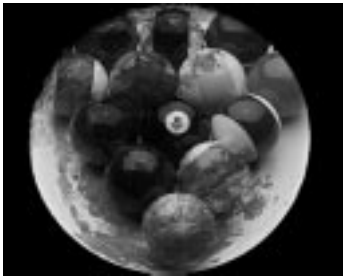
You can brighten or darken the resulting channel by specifying an Offset value. To lighten the overall image, enter an offset from 1 to 255. To darken the image, enter an offset from -1 to -255.

Difference. Compares the color value of each pixel in Source 1 with the corresponding pixel in Source 2, subtracts the darker value from the lighter, and then uses this difference in the resulting channel.

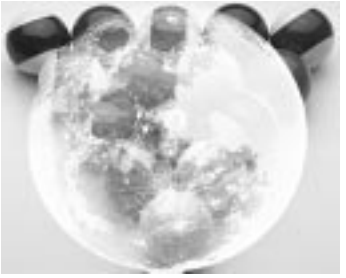
Examples of Calculate blending options

Source 1

Source 2



Multiply

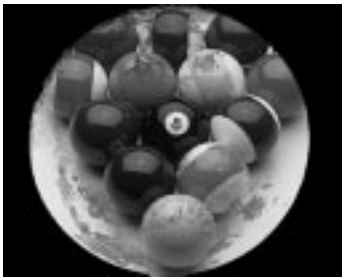


Screen

Overlay

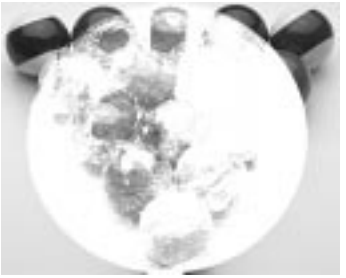
Soft Light

Hard Light

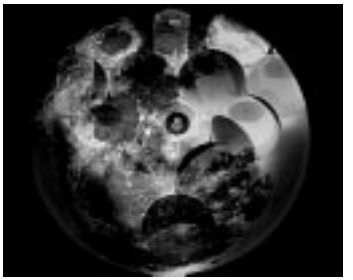


Darken

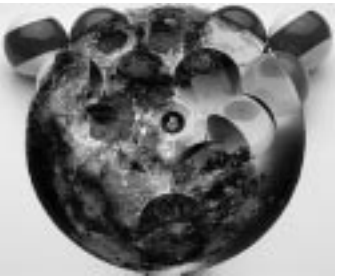
Lighten



Add



Subtract



Difference

CHAPTER 29

IMAGE PROXIES

Proxies are low-resolution images you can use in Canvas documents. A proxy is a placeholder that is linked to an original image. The original high-resolution image is stored in a Canvas Image File on disk.

Proxies are most useful for conserving time and memory when you use large, high-resolution color images in documents.

Using proxies can significantly reduce the time required to redraw the screen while you work. Also, a Canvas document that contains proxies requires much less disk storage space than one containing high-resolution images (although the space required to store the document and the linked image files is approximately the same as for the document containing high-resolution images).

A high-resolution image stored in a Canvas Image File on disk.

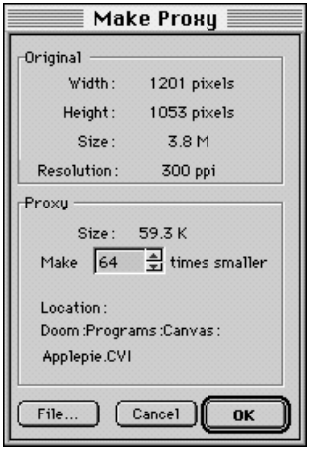
A low-resolution proxy replaces the image in a Canvas document. The proxy is linked to the Canvas Image File.

Replacing an image with a proxy

The procedure described in this section lets you replace an image contained in a Canvas document with a low-resolution proxy. When you do this, Canvas exports the original image to a Canvas Image File, and links the Canvas Image File to the proxy.

If you later double-click the proxy for editing, Canvas loads the original image from the Canvas Image File. You can edit the original image as you would any other Canvas paint object. When you leave image-editing mode, Canvas stores the changes in the Canvas Image File and then displays the proxy again.

To create a proxy linked to a Canvas Image File



1 In the Canvas document, select the image object you want to replace with a proxy.

2 Choose Image > Proxy > Make Proxy. A directory dialog box appears.

3 Select a location on disk and type a name for the Canvas Image File that Canvas will create.

4 Click Save. The Make Proxy dialog box appears.

5 Type a value in the “Make...Times Smaller” box. The larger this number, the lower the proxy resolution and the less memory required by the proxy in the document. The value must be from 1 to 1,000.

6 Click OK. Canvas replaces the image with a proxy and creates a file containing the original image on disk. The proxy is linked to the Canvas Image File on disk.

If you click Cancel, Canvas closes the dialog box without replacing the original image, placing the proxy, or storing the image file on disk.

Final output with proxies and Canvas Image Files

To produce final high-resolution output from a document, you may need to copy the Canvas document from your disk to another storage media, such as a Zip disk. When you copy a document that contains image proxies, you need to copy the linked high-resolution Canvas Image File also, to be able to print the high resolution images.

Make sure when you copy the documents to another disk, that you maintain the original folder structure. It is a good idea to open the Canvas document that you copied, and check that the links have not been broken. See “To verify proxy links” on page 29.6 for more information.

You can also replace a proxy with its linked image to eliminate the need to copy the Canvas Image File. To learn how to do this, see “To replace a proxy with its linked image” on page 29.5.

To create a proxy by acquiring a file

You can use the Acquire command to create a proxy that is linked to a TIFF, JPEG, or CVI file.

You can edit acquired proxies the same as other proxy images. However, some changes you might make, such as adding image channels, are not supported by JPEG or TIFF files. In this case, when you save the file, Canvas asks whether to save the image in Canvas Image format to preserve the changes.

1 To acquire an image from a file, choose Image > Acquire and choose a file format in the Acquire submenu.

2 In the directory dialog box, select the Acquire As Proxy option. Select the image files to acquire and click Done.

3 The Make Proxy dialog box appears. Type the proxy resolution in the "Make…Times Smaller" box. The larger the number, the lower the resolution of the proxy image in the document.

4 Click OK. Canvas places the proxy images in the document.

Make Proxy dialog box

You use the Make Proxy dialog box to create proxies linked to Canvas Image Files.

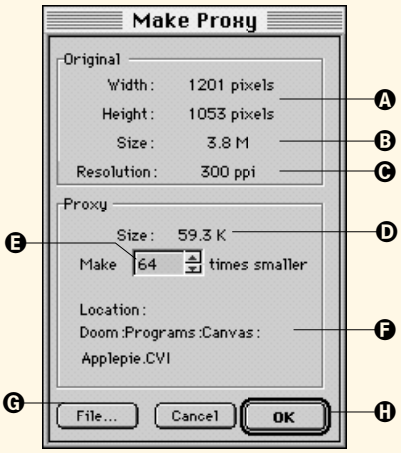
A Width and height of the image.

B Size of the Canvas Image File you are about to create.

C Resolution of the image.

D Memory required by the proxy. The memory required changes if you enter values in the "Make...times smaller" text box.

E Type the proxy reduction factor in this text box. The larger this value, the lower the proxy resolution and the less memory required by the proxy.

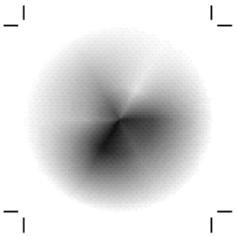


F Location of the file on disk.

G Click to change the location that Canvas will store the Canvas Image File.

H Click OK to replace the image with the proxy and create the Canvas Image file.

Editing proxies



A paint object in image-edit mode

Object editing

Changes you make to a proxy when you do not edit the pixels in the image are object-level edits. You can skew and scale proxies like other objects. Skewing, scaling, and other object-level editing do not affect the Canvas Image File to which the proxy is linked.

Pixel editing

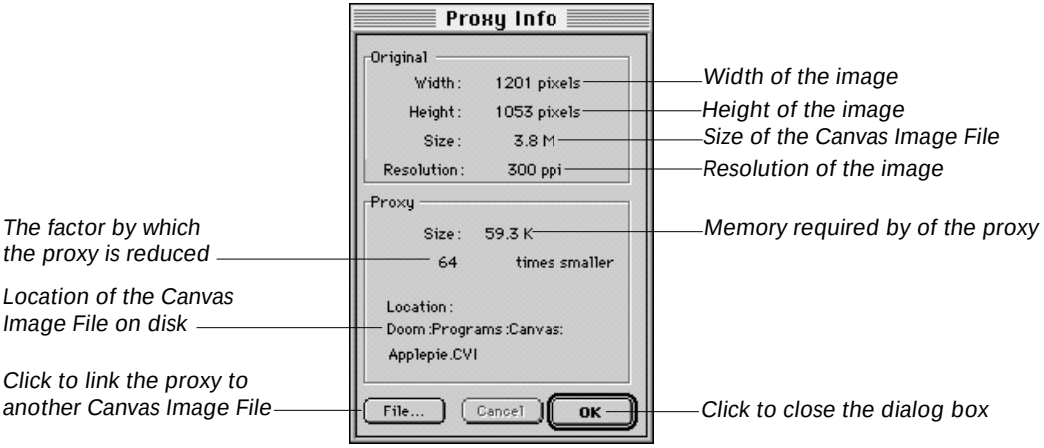
When you place a proxy object in image-edit mode, Canvas loads and displays the linked Canvas Image File in place of the proxy. If the original image has changed, you see the changes.

Changes you make in image-edit mode are saved in the linked Canvas Image File on disk when you exit image-edit mode. Canvas then displays an updated proxy.

Editing an image linked to a proxy is the same as editing any image in Canvas: You can use painting tools and commands to alter pixels in the original image.

Displaying proxy information

When you select a proxy object, the information area of the Status bar displays the data for the Canvas Image File to which the proxy is linked in italic type. To display information on the proxy object, choose Image > Proxy > Proxy Info. The Proxy Info dialog box displays the dimensions and resolution of the proxy object and the location of the linked original image on disk.



Removing proxies

To remove a proxy object easily, without replacing it with an original image, select the proxy object and press Delete, or use the Cut or Clear commands in the Edit menu.

To replace a proxy with its linked image

1 Select the proxy you want to replace.

2 Choose Image > Proxy > Unlink Proxy. Canvas asks if you are sure you want to remove the link between the Canvas Image File and the proxy.

3 Click OK to replace the proxy and remove the link to the Canvas Image File.

Maintaining proxies

If someone changes the name or location of a Canvas Image File that is linked to one or more proxies, Canvas alerts you that the file could not be found when you try to edit, unlink, or update any of the proxies.

✔ Important

You should always verify the proxy links in a document before final output. If you produce final high-resolution output from a document with unlinked or broken proxy objects, the associated images will not print correctly.

You can check proxies in a document at any time to verify that the links are valid. If Canvas detects unlinked proxies, you can re-link them to existing Canvas Image Files.

To verify proxy links

To determine if any proxy links are broken, choose Image > Proxy > Check Proxies.

If Canvas finds an unlinked proxy, it displays selection handles around the proxy and centers it in the document window. Canvas displays a message telling you that the proxy has a problem because the image file could not be found.

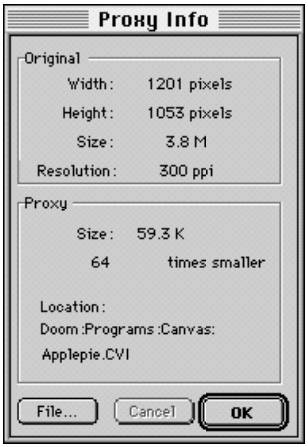
Note: When it finds an unlinked proxy, Canvas displays the proxy's name, if you have assigned a name to the proxy object. You can do this by typing a name in the Object Name box on the Data tab in the Object Specs palette.

When Canvas tells you that a proxy has a problem, you should follow the procedure "To re-link a proxy," next. If a proxy does not have a valid link to a Canvas Image File, Canvas prints the low-resolution proxy when you print the document.

If all proxies in the document have valid links to Canvas Image Files, Canvas displays the message: "No problems found." Canvas also displays this message if the document contains no proxies.

To re-link a proxy

If you are using the Check Proxies command and Canvas finds an unlinked proxy, you can link the proxy to a Canvas Image File.



1 After Canvas identifies an unlinked proxy, click Fix in the message box. The Proxy Info dialog box appears.

- If you click OK, Canvas skips the proxy and continues checking other proxies. If you click Cancel, the check ends.

2 In the Proxy Info dialog box, click File. A directory dialog box appears.

3 In the directory dialog box, select a Canvas Image File to link to the proxy, and then click Open. Canvas returns to the Proxy Info dialog box, which shows the path to the linked image file.

4 Click OK. Canvas closes the Proxy Info dialog box and continues to check for unlinked proxies.

5 If Canvas finds another unlinked proxy in the current document, Canvas again selects the unlinked proxy and displays a message that the proxy has a problem. Repeat the procedure from Step 1 above to re-link unlinked proxies that Canvas selects.

When Canvas doesn't find any unlinked proxies, it ends the Check Proxies procedure and returns to the document.

To change the file linked to a proxy

Use the following procedure to link a proxy to a different Canvas Image File.

1 Select the proxy object.

2 Choose Image > Proxy > Proxy Info. The Proxy Info dialog box appears. Click File and a directory dialog box appears.

3 Select the Canvas Image File you want linked to the proxy and click Open. The Proxy Info dialog box appears, and shows the new path and the name of the linked image file.

4 Click OK to close the Proxy Info dialog box.

Updating proxies

Use the Update Proxies command to update all proxies in a document so they match the image data in their linked Canvas Image Files. The Update Proxies command is not available if any objects are selected in the document.

◆ **To update all proxies in the active document:** Choose Image > Proxy > Update Proxies.

◆ **To update a specific proxy:** Select the proxy object you want to update and choose Image > Proxy > Update Proxy.

Exporting Canvas Image Files

You can export any image from a Canvas document to create a Canvas Image File on disk. You can then create proxies linked to the Canvas Image File.

This procedure creates a Canvas Image File, but does not link the image file to the document, or replace the image with a proxy in the document.

To export an image to a Canvas Image File

1 Select the paint object in the document and choose Image > Export > Canvas Image File.

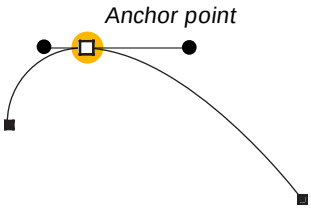
2 A directory dialog box appears. Select a location and type a name for the image file, and then click Save. Canvas creates a Canvas Image File on disk.

GLOSSARY / INDEX

GLOSSARY

ACTIVATE To make a window active by clicking anywhere in it.

ACTIVE WINDOW The window with the program's focus, usually in front. Tools and commands work in the active window.



ALPHA CHANNELS A grayscale duplicate of an image on which you can store masks and selections.

ANCHOR POINT The starting or ending point of a path segment. Anchor points appear only when an object is in edit mode. When selected, anchor points of curve segments display one or two direction lines.

Anti-aliased line

ANSI American National Standards Institute; one of the standards available to specify dimension object properties.

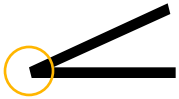
ANTI-ALIAS To soften the edges of an applied brush stroke, effect or selection. When something is anti-aliased, the color on the edges fades to transparency instead of stopping abruptly.

ASCII American Standard Code for Information Interchange (pronounced "ASK-ee"); used for representing text inside a computer and for transmitting text between computers.

baseline

BASELINE An imaginary line on which a line of text rests. The descenders of characters such as **g, j,** and **p** extend below the baseline.

BEVEL JOIN A style of connection between two segments in a vector object, in which the stroke lines appear to be trimmed diagonally.



Bevel join

BÉZIER CURVE A curve, named after French mathematician Pierre Bézier, defined by the position of *anchor points* and *tangent lines*.

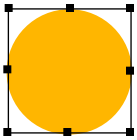
BIND To align the baseline of text so it follows the contours of a path.

BITMAP A digital image composed of pixels; technically, an image containing only black and white. *See also* Image.

Vector (left) and bitmapped fonts

BITMAPPED FONT A font made up of characters composed of pixels, rather than vector data. Fonts displayed on a computer screen are bitmapped fonts, for example, and usually aren't suitable for printing.

BLACK AND WHITE A method of digital imaging that uses pure black and pure white pixels. The frequency of black or white pixels create the illusion of shades.



A bounding box of a circle

BLEND A smooth transition of shape and color between two vector objects through intermediate objects created by Canvas.

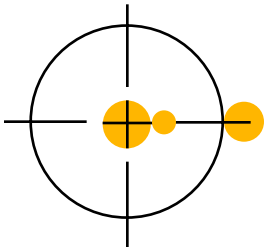
BOUNDING BOX An invisible rectangle that defines the boundaries of an object. Canvas displays an object's bounding box when the object is selected.

BULLET A special text character, usually a filled circle (•), available in many fonts, especially symbol fonts.

BUTTON A pushbutton-like image in dialog boxes where you click to designate, confirm, or cancel an action.

CANVAS TEMPLATE A Canvas document that includes options and settings and is used as the basis for new documents.

CCITT Consultative Committee on International Telegraphy and Telephony; its standards include data transmission formats.



Center length, center gap, center extension

CENTER EXTENSION The distance that Center dimension lines extend beyond the dimensioned object.

CENTER GAP The space between a Center dimension crosshair and the lines that extend from it.

CENTER LENGTH The Center dimension crosshair length.

CHANNEL In digital images, a layer of primary color in a full-color image. For example, an RGB image has at least three color channels (one each for red, green, and blue) and a composite channel, which adds the three channels together to create a full-color image.

CHANNEL MASK A channel that creates transparency based on the the luminance of pixels in the channel. It can be applied to any type of object.

CHARACTER Any symbol, such as letters, numbers, and punctuation, that can convey information. Some characters can be displayed on the monitor screen and printed on a printer.

CHARACTER STYLE A set of attributes, such as color, typeface, and style, that can be applied as a group to text characters.

CLICK (v.) To position the pointer on something, and then press and quickly release the mouse (or other pointing device) button. (n.) The act of clicking.

CLIP ART Electronic pictures that you can use in documents. The term comes from using scissors to clip pictures on paper.

Text used as a clipping path on a photo

CLIPBOARD A holding place in system memory for the last information cut or copied from a document. You can paste information from the Clipboard into a document. Information remains on the Clipboard until replaced by another cut or copied selection.

CLIPPING PATH A vector or text object used to “clip” (hide) areas of another object that are outside of the clipping path.

CLOSED PATH A vector path that does not have separate starting and ending points.

CMYK COLOR A color system based on the four colors used in color printing: cyan, magenta, yellow, and black. Also, a color mode used to define colors in a digital image. *See* Process Color.

COLOR PALETTE A collection of colors used in a document, from which you can select colors to apply.

COLOR SEPARATIONS Computer files, printed output, or film, in which the colors in a document are divided into their primary or custom color components. Color separations are used to produce printing plates for commercial color printing. *See* Process Color and Spot Color.

COLOR WHEEL A two-dimensional view of color showing hue and saturation. Hue is the position of a color on the circumference of the wheel. Moving clockwise and starting at twelve o’clock, the colors are yellow, red, magenta, blue, cyan, and green. Colors toward the center of the wheel have more gray than those near the edge.

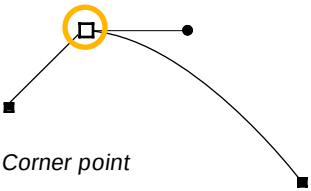
COLUMN GUIDES Non-printing lines that define text columns and gutters in a section.

COMMAND KEY On Mac OS system keyboards, a key (usually with a propeller symbol and sometimes labeled “Command”) that modifies an action when pressed.

COMPOSITE CHANNEL The combination of all color channels in an image. In the Channels palette, the first channel listed, identified by RGB, CMYK, LAB, or Black, depending on the image mode.

CONTROL KEY A keyboard key, usually marked “Ctrl,” that modifies an action when pressed.

CONTROL PANEL A Mac OS or Windows system program that lets you change features of the operating system, such as settings for the display, keyboard, and networking.



Corner point

CORNER POINT An anchor point where path segments meet at an angle, rather than with a smooth transition.

CROP To trim an image to a specified rectangular area.

CROP MARKS Small lines placed at the page edge that mark where printed material will be trimmed.

CURRENT INK The ink, or color, that applies to new objects you draw, set by applying an ink when no objects are selected; this setting does not change when you set the ink for a specific object. For example, if you set the current fill ink to red, new objects you draw will be filled with red; if you then change an object's color from red to green, however, the current ink remains red.

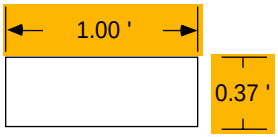
CURRENT STROKE The stroke that applies to new objects you draw, set by applying a stroke when no objects are selected; this setting does not change when you set the stroke for a specific object. For example, if you set the current stroke to a 5-point pen, new objects you draw will have a 5-point pen width; if you then change an object's stroke from 5 to 10 points, however, the current pen width remains 5 points.

CUSTOM VIEW A recording of a screen position and magnification level in a Canvas document.

DECIMAL TAB A tab, represented by a decimal tab marker, that aligns columns of numbers at the decimal point position.

DESATURATE To increase the gray content of a color.

DIALOG BOX A box that an application displays to request information or to report that it is waiting for a process to complete.



Dimension objects

DIMENSION OBJECT Object created with the Dimensioning tool.

DIMENSION TEXT GAP The space between the dimension text and arrow.

DIN STANDARD Deutches Institut für Normung standard; one of several used to specify the properties of dimension objects.

DIRECTORY DIALOG BOX A type of dialog box you use to navigate a computer file system when you save or open a file.

DITHER To arrange pixels of several colors into patterns to give the appearance of a broader range of colors.

DOCUMENT The container for information and objects you work with in Canvas. Canvas has four types of documents — Illustration, Presentation, Publication, and Animation.

DOT GAIN In commercial printing, the amount of size increase of halftone dots caused by ink spreading on the printed medium.

DOUBLE-CLICK (v.) To press and release the button on a mouse (or other pointing device) twice in quick succession.

DPI Dots per inch; the unit of measurement of the resolution of a printing device.

DRAG To press and hold down the button on a mouse (or other pointing device), move the device, and then release the button.

EMULSION Photosensitive coating on film or paper.

ENCAPSULATED POSTSCRIPT (EPS) A format for storing graphics and text in a file using the PostScript language. An EPS file can include a preview image. *See* PostScript.

ESC KEY A keyboard key that lets you stop a procedure.

EXTERNAL TOOLS Individual program modules that provide features, tools, and commands in the Canvas program.

FADE Gradual decrease of a painting tool effect until there is no noticeable change in the image. For example, if "Fade Size within 32 steps" is selected in the Paintbrush manager, the brush becomes smaller as you drag.

FILE Any named, ordered collection of information stored on a disk.

FILL INK The ink that Canvas applies to the inside, as opposed to the outline, of objects and text.

Flat end cap

FLAT END CAP A style of stroke end in which the stroke end is squared off, perpendicular and flush to the end of the stroke.

FLOATING SELECTION An image area that "floats" above an image. You can move and edit the floating selection without changing the underlying image until you defloat, or "drop," the selection on the image.

FONT A complete set of characters in one design, size, and style. In typography, a font can be restricted to a particular size and style (such as 10-point Helvetica) or can comprise multiple sizes, or multiple sizes and styles, of a typeface design.

FOLDER A container for documents, applications, and other folders in the Mac OS and Windows file systems.

FRAME (1) One illustration "page" in an animation. An Animation document contains a series of frames which are displayed in sequence to make an animation. (2) A technical term for the outline of an object or text, to which Canvas applies stroke settings, such as dashes.

GAMUT The range or extent of a color model's spectrum.

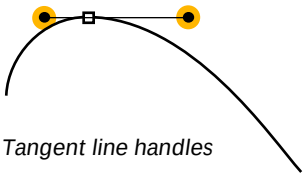
GRADIENT A gradual transition or blend between two or more colors. The direction and shape of a gradient can be radial, linear, elliptical, or shape-derived.

GRAYSCALE An image mode that uses eight bits of information per pixel for up to 256 brightness levels, from black to white through shades of gray.

GROUP (v.) To associate two or more objects so they behave as a unified object; (n.) the resulting object.

GUIDES Non-printing lines to which objects can be aligned.

HALFTONE A pattern of tiny black and white dots that appear to the human eye as shades of gray; a photograph or other image converted to such a pattern for commercial printing.



Tangent line handles

HANDLES (1) Small squares, usually at the corners and midpoints of an object's bounding box, displayed when an object is selected; you can drag handles to resize the object. (2) Small circles at the ends of tangent lines; you can drag a handle to change the length or angle of a tangent line.

HATCH PATTERN Object-based fill pattern made of line groups.

HIGHLIGHT To make something visually distinct. For example, when you select a block of text in Canvas, the selected text appears against a colored background.

HUE A color's main characteristic; its name, as in blue, red, or orange, defined by its position on the color wheel.

I-BEAM A type of pointer shaped like the capital letter "I."

IMAGE A picture composed of pixels; referred to as a "raster image," "paint image" or "bitmap." *See* Image Mode.

IMAGE MODE The system used to define colors in an image. Canvas image modes include Black and White, RGB Color, CMYK Color, Grayscale, Indexed, and LAB Color.

IMPORT To use any of several techniques to move graphics or text from another program into a Canvas document.

INDEXED A digital image mode that lets you specify a palette of up to 256 colors used in the image. Usually used for on-screen display and electronic distribution of images, because it requires less memory than RGB or CMYK color modes.

INK Colors, symbols, hatch patterns, textures, and gradients that can be applied to objects.

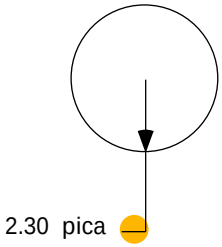
Insertion point

INSERTION POINT A blinking vertical line where text you type will appear in a text object or dialog box.

ISO STANDARD International Organization for Standardization; one of several standards used to specify the properties of dimension objects.

JIS STANDARD Japanese Industrial Standard; one of several used to specify the properties of dimension objects.

Text without kerning (top) and with kerning applied (bottom)



Leader character length

JUSTIFICATION The method used to align paragraphs of text within a text object's margins, either left, right, center, or full.

KERNING Adjusting the normal space between characters in text; also, the amount of the adjustment.

LAB COLOR An image mode in which the color components are divided into a lightness channel and A and B color channels.

LANDSCAPE Orientation of an illustration or page that is wider than it is tall.

LAYER A level in a Canvas document used to organize parts of illustrations so they can be easily selected.

LAYOUT AREA The rectangular area on screen in a Canvas document, which represents the extent of the layout and may cover multiple printed pages, depending on the size of paper used for printing.

LEADER CHARACTER A character, usually a period (".") used to fill space between the character before a tab space and the character immediately following the tab space.

LEADER CHARACTER LENGTH The length of the horizontal portion of the witness line of a dimension object.

LEADING Space between lines of text, measured in points from the baseline of one line to the next.

LENS A special object which applies effects such as filters and magnification to an area in a document.

LIGHTNESS The amount of black or white in a color.

LINE GROUP A set of parallel lines in a hatch pattern that have identical properties.

LINE CAP The shape of the end of a pen stroke.

LINE JOIN The shape of the pen stroke where two path segments meet.

LPI Lines per inch; a measure of halftone screen resolution.

MAC OS The Apple Computer operating system used on Macintosh and on compatible personal computers.

MACRO OBJECT A vector object that can be used to place copies of itself in documents; the copies remain linked to the original.

MARQUEE A selection in an image defined by a rectangular flashing border; also, the tool used to make a marquee selection.

MASTER PAGE A special page in a Publication, Presentation, or Animation document. Items on the master page, slide, or frame are visible and print on every page in the document.

MASK A general term for objects or channels that limit that visibility of other objects, or that protect areas in an object or image from changes.

MASTER SLIDE A special slide in a Presentation document. Items on the master slide are visible and print on every slide in the document.

MEGABYTE (MB) A unit of measurement equal to 1024 kilobytes, or 1,048,576 bytes.

MEMORY A hardware component of a computer system that can store information for later retrieval.

Miter join

MITER JOIN A style of connection between two segments in a vector object in which the stroke lines come together at a point.

MODIFIER KEY A general term for a key that changes the meaning of other keys or mouse actions; for example, Command, Control, Option, and Shift.

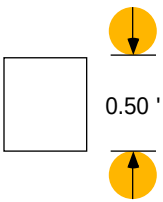
NTSC National Television Standards Committee; also, the standard video format defined by the NTSC, also called composite because it combines all the video information, including color, into a single signal.

OBJECT A discrete vector path, block of text characters, or raster image, contained within an invisible rectangular frame. You can select an object and perform standard operations on it, including move, copy, delete, cut, rotate, flip, and skew.

OPACITY An attribute of all objects. Opacity with a value of 100% is non-transparent. Opacity values can be set from 1 to 100%.

OPEN PATH A path defined by separate starting and ending points.

OPTION KEY A Mac OS keyboard modifier key, usually labeled "Option."



Outside line length

OUTSIDE LINE LENGTH Dimension object arrow length, when the Arrows Inside option is not selected.

OVERPRINT A technique where two or more colors are printed on top of each other. For example, if you overprint yellow on blue, the combination appears green.

PAINT OBJECT An object that contains a raster image. The term is synonymous with image object.

PAINTING TOOL Any of several tools used to create or edit a paint object.

PALETTE A type of dialog box that can remain open on screen. A palette contains tools, attributes, or options for commands.

PALETTE ICON A toolbox icon that opens a palette.

PARAGRAPH STYLE A set of attributes, such as font, leading, indents, and tab settings, that can be applied to a paragraph of text.

PATH One or more connected segments, generally created with a drawing tool, within a vector object. The path itself is invisible unless it has visible fill ink, or pen ink and stroke, applied to it.

PEN INK The colors and patterns applied to an object's stroke.

PICA A unit of measurement equal to 12 points or 1/6 of an inch, abbreviated "pc."

PIXEL Short for *picture element*; a single tiny dot of a raster image or a computer display.

PLUG-IN A program module that can be used by Canvas to provide an additional image-editing function.

POINT A unit of measurement for type equal to 1/72 inch; abbreviated "pt."

POINTER A small shape that follows the movement of the mouse on screen or shows where your next action will take place. The pointer can be an arrow, an I-beam, or other shapes.

PORTRAIT The orientation of a page or illustration so that the height is larger than the width.

POSTSCRIPT® (1) An Adobe Systems, Inc. computer language that defines the appearance of printed type and images. (2) A type of font that relies on PostScript to be printed.

POSTSCRIPT PRINTER DESCRIPTION (PPD) A text file that provides information about a specific printer to the operating system and application programs.

PPI Pixels per inch; a measure of the resolution of an image.

PRESS (1) To point to an item on screen and press and hold down the mouse button without moving the mouse. (2) To push a key down and then release it; you hold a key down only when using a modifier key with another key, for example, when instructed to *press Ctrl+A*.

PRINTER DRIVER A program that controls the exchange of information between the computer and a specific type of printer.

PROCESS COLOR The method for printing a full range of colors using only cyan, magenta, yellow, and black; also, any one of these colors. *Compare to* Spot Color.

RANDOM-ACCESS MEMORY (RAM) The part of the computer's memory that stores information temporarily while you're working.

RASTER IMAGE A picture made up of a matrix of pixels, created by digitizing or scanning an image, which is contained in a paint object.

REGISTRATION MARK A small mark, several of which are used together to align films and plates for commercial printing.

Registration mark

RGB COLOR Method of defining colors, based on combinations of the primary colors red, green, and blue. Also, a color mode for digital images.

RESOLUTION A measure of the amount of information in a digital image, expressed in pixels per inch (ppi); also, a measure of the smallest dot or pixel that can be used by a computer display or output device, expressed in dots per inch (dpi).

Round end cap

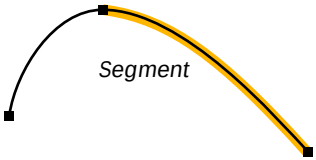
ROUND END CAP A style of stroke end, in which the end of the stroke is capped with a semicircle.

SATURATE To increase color intensity by removing gray.

SCANNER Any input device that converts printed matter, such as a photographic print or transparency, into digital data.

SECTION A rectangular area that arranges text in columns.

SHIFT KEY A key that, when pressed, causes the subsequent letter you type to appear in uppercase or the top symbol on a two-character key to be produced. The Shift key can also modify mouse actions.



SEGMENT A line or curve between two endpoints in a path.

SELECTION The information or items that will be affected by the next command, including objects or a series of characters.

SELECTION BOX A dashed rectangle that appears as you drag a Selection tool over objects to select them.

SEPARATIONS *See* Color Separations.

SLIDE SHOW The display of different screens of information — "slides" — in sequence. Canvas changes the screens after a set time interval or when you click the mouse.

SMART POINTER A pointer symbol representing the Smart Mouse constraint that is in effect.

SMOOTH POLYGON A polygon with rounded segments and corners.

SNAP GRID A grid of horizontal and vertical lines you can display. The pointer can snap into alignment with the snap grid.

SOURCE LINE Dotted line that points to the part of the object defining a Smart Mouse constraint that is in effect.

SPACEBAR The long, unlabeled bar in the bottom row of keys on a computer keyboard that you press to insert space between characters.

SPOT COLOR Customized color representing a particular ink that will be used to print the color. *Compare to* Process Color.

SPRITEEFFECTS A Canvas technology that lets image-editing effects, such as blur and curves, be applied to any type of object.

SPRITELAYER A Canvas technology that provides transparency effects, including opacity and transparency masks.

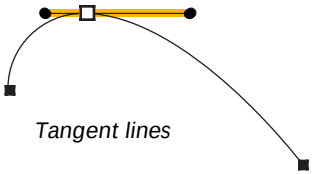
Square end cap

SQUARE END CAP A style of stroke end, in which the end of the stroke is squared off and extends half the line width beyond the endpoint of the path.

STATUS BAR The area at the bottom of the Canvas window or the screen that displays information on tools, the position of the pointer, and selected objects.

SYMBOL INK A repeating pattern, created from vector objects, that can be applied to vector objects and text as a fill ink or stroke ink.

TAB KEY A keyboard key that moves the insertion point to the next tab marker, or to the next place to enter information in a dialog box. The Tab key is also used as a modifier key.



Tangent lines

TANGENT LINE Line passing through an anchor point on a vector path; visible when the path is in edit mode and an anchor point with tangent lines is selected. Its angle and length affect the shape of adjacent segments.

TEMPLATE *See* Canvas Template.

TEXT BACKGROUND INK An ink applied to the background of a text object or text selection.

TEXT FRAME INK An ink applied to the bounding box of a text object or a box around a text selection.

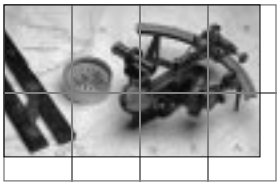
TEXT FRAME STROKE A stroke applied to the bounding box of a text object or a box around a text selection. The text frame ink appears on the text frame stroke.

TEXT OBJECT An object containing text.

TEXT BOX A place in a dialog box where you can type information.

TEXT FILE A file that contains information stored in the form of readable characters encoded in ASCII format.

TEXTURE INK A repeating pattern, created from a raster image, that can be applied as a fill ink or pen ink.



Tiling

TILING Dividing a large illustration into multiple pages, or “tiles,” for printing on a desktop printing device.

TOLERANCE In image editing, a value that sets the threshold for similarity between colors before an effect occurs. For example, if the Wand tool tolerance is set to 0, it selects only pixels of the exact same color. If the tolerance is set higher, the tool selects pixels of similar colors.

TOLERANCE DOWNSPACE Amount of space (leading) between tolerance text in dimensions with two tolerance measurements.

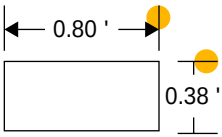
TOLERANCE TEXT SCALE Size of tolerance text in a dimension in proportion to the dimension text.

TRANSFER MODE Method by which a color blends with a background color. Transfer modes include Dissolve, Multiply, Screen, Lighten, and Saturation.

VECTOR MASK A SpriteLayer effect that applies transparency to an object based on a gradient from opaque to transparent.

VECTOR OBJECT An object defined by anchor points and a path. The Line, Rectangle, Oval, Arc and similar tools draw vector objects.

WINDOWS (1) The brand name of a family of Microsoft operating systems, including Windows 95, Windows 98, and Windows NT. (2) The separate areas on screen in which programs display information.



Witness extensions

WITNESS EXTENSION Witness line part extending past dimension arrows.

WITNESS GAP Space between an object and dimension witness lines.

WRAP To change text margins so text flows around or remains inside a vector object.

X-HEIGHT The height of a lowercase *x* in a given font; the height, measured from the base line, of the main portion of most lowercase letters in a font, excluding ascenders and descenders.

ZOOM To increase or decrease the magnification of a document.

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