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DRAWTOOLS
Quick Reference Guide

Extensis DrawTools™ is a collection of plug-ins that enable you to work faster, easier and more efficiently in Adobe Illustrator™ and Macromedia FreeHand.™

DrawTools provides fast, easy solutions for your everyday illustration needs. Whether you're designing a poster, creating technical illustrations or working with full-color art, DrawTools increases your creative control and improves your efficiency.

Each plug-in in this collection contains a number of filters. The Filters share a consistent user interface and are designed and tested to work smoothly with them. We believe you'll find DrawTools a natural extension of Illustrator and FreeHand.

The DrawTools plug-ins are designed, tested and guaranteed to work together. To order, or for more information on any of our award-winning products, simply call us at **1-800-796-9798.**

EDIT CURVES

Extend your control of color in your illustrations. With Edit Curves, you can quickly and easily fine-tune colors, adjust density, alter saturation and highlight tones and control brightness and contrast.

To edit a color curve:
1. Select one or more objects.
   If you do not make a selection, the filter is applied to the entire page.
2. Select DrawTools Color in the Filter menu. In the DrawTools Color menu, select Edit Curves. The Edit Curves dialog box appears.
3. Select the desired color model in the Model pop-up menu. The Model pop-up menu lists the supported color models. DrawTools also provides a C+M+Y+K option that allows the editing of all color channels with a single graph line.
4. Use the Channels checkboxes to select the channels to be edited. The Channels checkboxes control which graph lines are displayed. When a graph line is not displayed, it is not affected by changes to the graph.
5. Edit the graph lines for each channel as desired.
6. Click the OK button to apply the changes.

To save a graph file:
1. Edit the graph lines for each channel as desired.
2. Click the Save button. The Save dialog box appears.
3. Enter a name for the graph file and select the storage location.
4. Click the Save button.

To load a graph file:
1. Select the appropriate color model in the Model pop-up menu.
2. Click the Load button. The Select File dialog box appears.
3. Select the graph file to load.
4. Click the Open button.
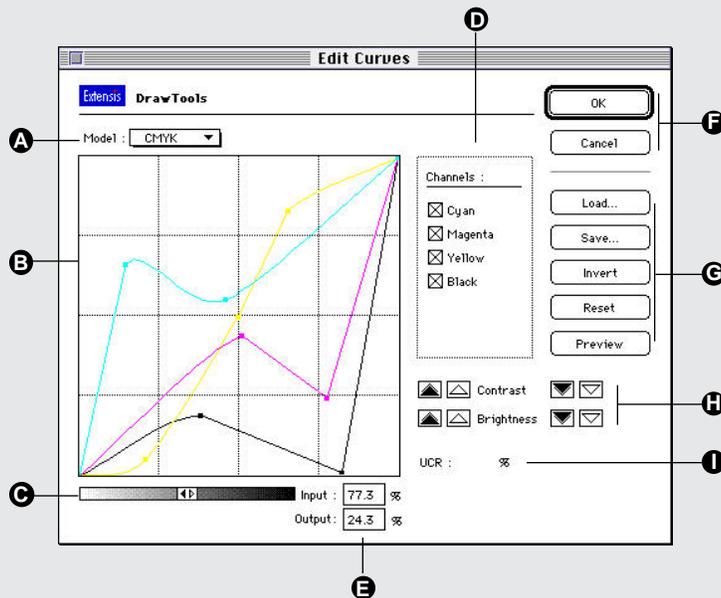
A The Model pop-up menu lists the supported color models. Selecting a color model changes the channel controls and resets all curves to a linear path.

B The color curve or "ramp" is represented as lines on a graph; one line for each color channel. The graph is a representation of the relationship between the current color (input) and the desired color (output). The input is plotted on the horizontal (X) axis, the output on the vertical (Y) axis.

C Clicking on the Density Bar switches the graph between relative percentages (0-100%) and absolute densities (0-255).

D The Channels checkboxes control which graph lines are displayed. When a graph line is not displayed, it is not affected by changes to the graph. These controls let you edit specific graph lines while leaving others unaffected.

E The Input and Output fields show the relative percentages or absolute densities for the current cursor position when it is over the graph. Typing values in the fields and pressing the Return key adds a graph point to the graph line. You may also add graph points by positioning the cursor over the desired location and pressing the Return or Enter key.

F Click the OK button to close the dialog box and apply the color graph changes to your illustration. Click the Cancel button or the close box to close the dialog box without making any changes to the color graph.

G Click the Load button to load a saved graph. Before loading a graph, you must set the Model pop-up menu to the appropriate color model. Click Save to store color graph files for reuse. Click the Invert button to flip the graph along its horizontal axis. (Note: Inverting CMYK graphs without disabling the K channel can result in overly dark images.) Click

the Reset button to set all currently active channels back to a linear graph line. Click the Preview button to temporarily apply the current color graph to the illustration.

H Use the arrows to reshape the curve to affect brightness and/or contrast. The single arrows make adjustments of + or - 1/255. The double arrows make adjustments of + or - 5/255.

I The UCR (Under Color Removal) field is enabled when the selected color model is CMY, RGB, or IHS. Under Color Removal lets you remove a portion of the non-black color channels and add it to the black channel. See the Additional Information section at the end of this manual for more UCR information.

COLOR MIXER/REPLACER

Extend your control over illustration colors with quick and easy mixing and color replacement tools. Color Mixer lets you modify or replace existing colors and also lets you mix new process colors. In addition, you can create, save and load unique color sets.

To mix a new color:
1. Select DrawTools Color in the Filter menu. In the DrawTools Color menu, select Color Mixer/Replace Colors. The Color Mixer/Replace Colors dialog box appears.
2. Do one of the following:
• Click the Custom button to start with a spot color from the current document.
• Click the New button to create a new color.
3. Use the Color Mixing controls to create the desired color. The color sample below the mixing controls displays the edited color.
4. Enter a name for the color in the Name field.
5. Click the Save button to save the Color Set file.
6. Click the OK button.

To replace colors:
1. Select one or more objects in your illustration that contain the colors you want to replace.
2. Select DrawTools Color in the Filter menu. In the DrawTools Color menu, select Color Mixer/Replace Colors. The Color Mixer/Replace Colors dialog box appears.
3. Do one of the following:
• Create a new color.
• Load a Color Set file.
• Move a color from the Selected list by selecting it and clicking the Add button. Modify the color using the Color Mixing controls.
4. Select the desired color in the Color list.
5. Select the color to be replaced in the Selected list. (Use Shift- or Command-Click to select multiple colors.)
6. Click the Change button.
7. Click the OK button.
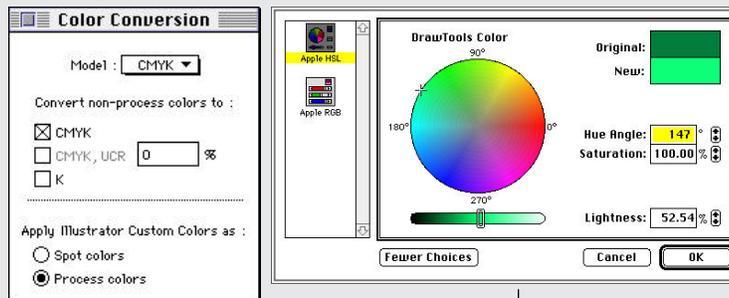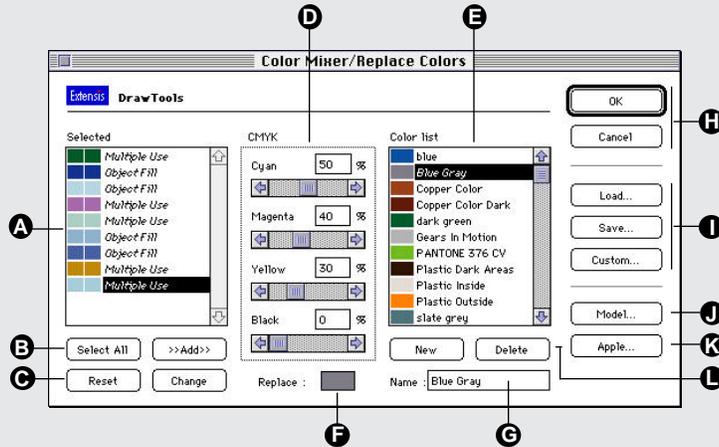
A The list of colors used in the selected objects. If no objects are selected when the filter is invoked, the list will be empty. Colors in the list are named according to their usage in the selected objects: object fill, object outline, text fill, text outline, custom color or gradient. If a color is used more than once, it is listed as "Multiple Use." The two color samples shown to the left of the color names show the original (left) and modified (right) colors.

B Click the Select All button to select all colors in the Selected list. Click the Add button to copy the selected colors to the Color List on the right.

C Click the Reset button to reverse any modifications made to the colors in the Selected list. Click the Change button to change all colors selected in the Selected list to the color selected in the Color List.

D Color Mixing controls. Use the sliders and fields to edit the individual color channels. The specific controls will vary depending on the color model selected.

E The Color List. This list contains all colors added from the Selected list,

loaded from a Color Set or created in the Color Mixer. Spot colors from the document can be added by clicking the Custom button. A sample of each color is displayed in the list, along with the color name. Process colors appear in italicized text and custom colors appear in plain text. Names of Spot colors loaded from a FreeHand Color Set end in "FH Spot."

F The color currently being edited by the Color Mixing controls. If the color model is set to K, the gray value is displayed.

G The name of the color selected in the Color List. Use this field to name a new color or rename an existing color.

H Click the Cancel button or the close box to close the dialog box without making any changes to the selected objects. Click the OK button to close the dialog box and apply all changes to the selected objects.

I Use the Load button to load a previously saved Color Set file. Use the Save button to save a Color Set file. Click the Custom button to add all custom colors from the current document to the Color List.

J Click the Model button to display the Color Conversion dialog box. Use this dialog box to select the color model to be used to create or mix colors. Use the Convert Non-Process Colors controls to specify which color model will be used when converting RGB, IHS or CMY colors. Use the Apply Illustrator Custom Colors controls to tell DrawTools how to apply custom colors. This setting applies to changed colors and Color Set files.

K Click the Apple button to display the Apple Color Picker dialog box, which may be used to select a specific color.

L Click the New button to create a new entry in the Color List matching the current settings of the Color Mixing controls. New colors are added to the bottom of the list. Click the Delete button to remove the selected color from the Color List.

GRAYSCALE MODE

Quickly and easily convert full-color illustrations to grayscale. Without the Grayscale Mode filter, this is often a difficult, time-consuming task.

To convert one or more objects to grayscale:
1. Select the objects to be converted or, to convert the entire document, make no selection.
2. Select DrawTools Color in the Filter menu. In the DrawTools Color menu, select Grayscale Mode. The Convert to Grayscale dialog box appears.
3. Use the Convert buttons in the Convert to Grayscale dialog box to specify the conversion of just the selected objects or of the entire document.
4. Click the Options button. The Conversion Options dialog box appears. This dialog box provides options for excluding certain object types from the conversion.
5. Click the close box in the Conversion Options dialog box.
6. Click the OK button in the Convert to Grayscale dialog box.
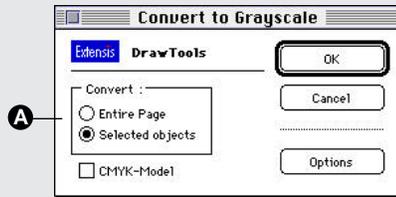
Convert to Grayscale

Extensis DrawTools

OK

Convert :
- ○ Entire Page
- ● Selected objects

☐ CMYK-Model

Cancel

Options

Conversion Options

Exclude :
- ☐ Object Fills
- ☐ Object Strokes
- ☐ Text Fills
- ☒ Text Strokes
- ☒ Custom Colors

A Specify whether you want to convert the entire page or only the currently selected objects.

B Select the object types you want to exclude from the conversion.
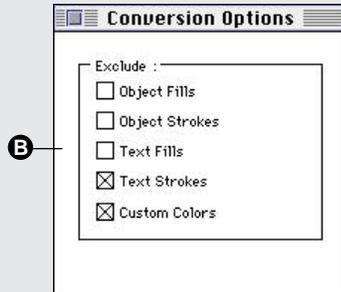

RANDOM COLOR REPLACE

Randomly add or replace colors in an illustration. Random Color Replace randomly replaces existing object colors and adds colors to black and white objects.

To add or replace colors in objects:
1. Select the objects to be converted, or, to convert the entire document, make no selection.
2. Select DrawTools Color in the Filter menu. In the DrawTools Color menu, select Random Color Replace. The Random Color Replace dialog box appears.
3. Use the Convert buttons to specify the conversion of just the selected objects or of the entire document.
4. Click the Options button. The Replace Options dialog box appears. This dialog box provides options for excluding certain object types from the conversion. Click the Match Color checkbox if you want previously identical colors to be replaced with the same new color.
5. Click the close box in the Replace Options dialog box.
6. Click the OK button in the Random Color Replace dialog box.
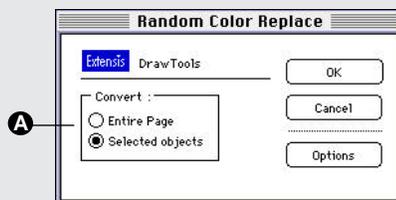
Random Color Replace

Extensis DrawTools

Convert :
- ○ Entire Page
- ● Selected objects

OK

Cancel

Options

Replace options

Exclude :
- ☐ Object Fills
- ☐ Object Strokes
- ☐ Text Fills
- ☐ Text Strokes
- ☒ Custom Colors

☐ Match Color

A Specify whether you want to convert the entire page or only the currently selected objects.

B Select the object types you want to exclude from the conversion.
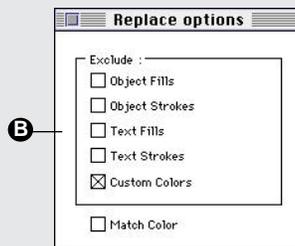
MULTITONE

Provide Illustrator with capabilities that previously required a companion bitmap application such as Photoshop. With Multitone, you can easily create custom multitones and apply them to your illustrations. Applying multitone effects to a line-art illustration provides the advantages of Photoshop multitones without the resolution limitations.

To create a multitone:
1. Select DrawTools Color in the Filter menu. In the DrawTools Color menu, select Multitone. The Multitone dialog box appears.
2. Select the desired color model in the Model pop-up menu (Illustrator only).
3. Select the colors to be used in the multitone from the Custom/Process Colors list.
4. Click the Add button to move the selected color to the Destination list. If you try to add a spot color to a process color multitone, a confirmation dialog box will appear, asking if you are sure you want the spot color converted to a process color.
5. Click the OK button.
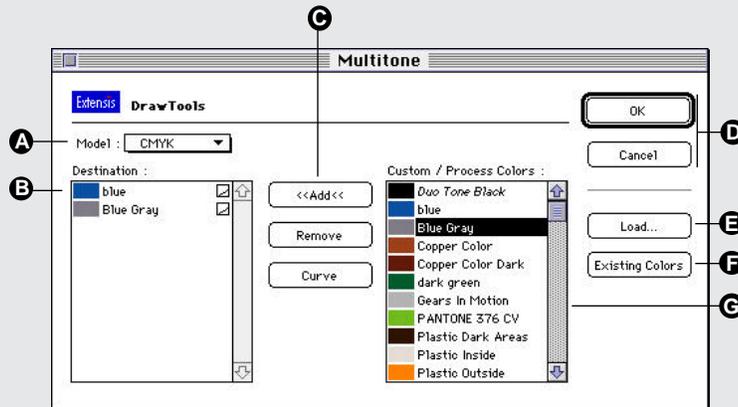
A Use the Model pop-up menu to select the desired color model (Illustrator only).

B Destination List. The colors that will be used to create the multitone. A color sample is displayed along with the color name.

C Click the Add button to add the selected color in the Custom/ Process Colors list to the Destination list. To remove a color from the Destination list, select a color and click the Remove button. Use the

Curve button to display the Multitone Curves dialog box explained in the Multitone Curves section.

D Click the Cancel button to close the dialog box without creating the multitone. Click the OK button to close the dialog box and apply the multitone.

E Use the Load button to load a previously saved Color Set file.

F Use the Existing Colors button to add colors from the Color list in the Color Mixer/Replace Colors filter to the Custom/Process Colors list. If the Color list in the Color Mixer/Replace Colors filter is empty, this button is not displayed.

G Custom/Process Colors List. The process and spot colors from the current document. The name of each color and a sample are displayed. Process colors appear in italicized text and custom colors appear in plain text.

GRADIENT SETTINGS

Control whether or not the other DrawTools Color filters can be used to edit Illustrator gradients.

Use the two options in the Gradient Settings dialog box to enable or disable the editing of gradients by all other DrawTools Color filters.

The normal communication channels between Illustrator 5.0 and 5.5 and plug-ins do not allow plug-ins to modify or edit a gradient. DrawTools Color offers gradient editing by directly modifying the document structure, bypassing the normal Illustrator to Plug-Ins communication channels. Illustrator 6.0 does allow plug-ins to modify gradients and still undo your changes. If you are using Illustrator 6.0, you should enable Gradient conversion.

Because Macromedia Freehand doesn't provide access to objects with gradients, the Gradient Settings filter is not applicable.
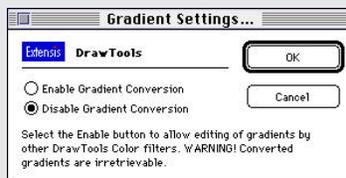
MOVE OBJECTS

Extend your control over object positioning with single-step front and back movement. Move Objects works with the current selection—either a single object, including grouped objects, or multiple objects selected by holding down the Shift key.

To move an object:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Move in the Filter menu. In the DrawTools Move menu, select Move Object(s). The Move Object(s) dialog box appears.
3. Click the Forward or Backward button as many times as needed to position the objects (as illustrated to the right).
4. Click the close box.
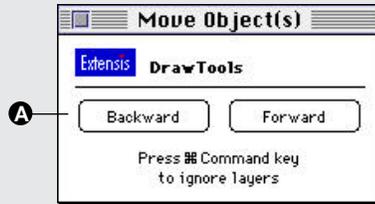
A Use the Backward and Forward buttons to position the objects.
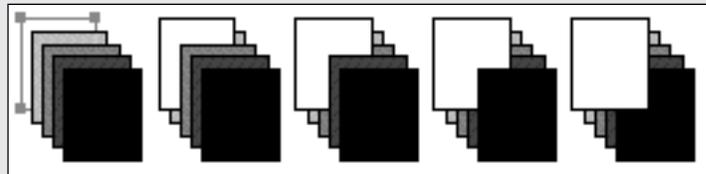
OBJECT COORDINATES

Extend your control over object positioning and sizing. With Object Coordinates, you can move objects to a specific or relative location and resize objects to a specific or relative size.

To move an object:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Move in the Filter menu. In the DrawTools Move menu, select Object Coordinates. The Object Coordinates dialog box appears.
3. Enter the new object coordinates in the X and Y fields.
4. Click the OK button.

To resize an object:
1. Select an object.
2. Select DrawTools Move in the Filter menu. In the DrawTools Move menu, select Object Coordinates. The Object Coordinates dialog box appears.
3. Enter the new object size in the ΔX and ΔY fields.
4. Click the OK button.
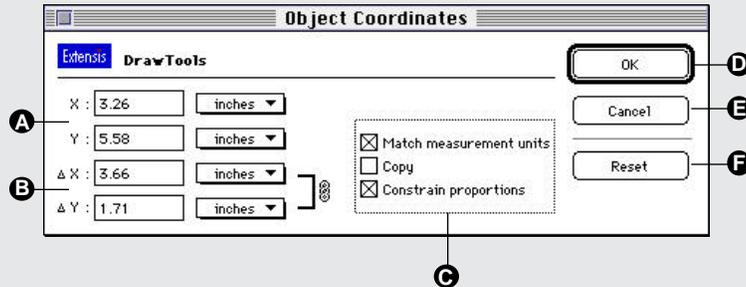
A The X and Y fields specify the horizontal (X-axis) and vertical (Y-axis) coordinates of the upper-left corner of the selected objects. Use the pop-up menus to specify the unit of measurement for the fields. The field values are recalculated for the new unit.

B The ΔX and ΔY fields display the width and height of the selected objects. Use the pop-up menus to specify the unit of measurement for the fields. The field values are recalculated for the new unit.

C Select the Match Measurement Units checkbox to automatically convert the unit of measure for all X and Y fields when any one of them is changed. Use the Copy checkbox to create a duplicate of the selected objects with the new parameters applied; the original remains unchanged. Use the Constrain Proportions checkbox to hold the original proportions when resizing an object (in other words, changing the ΔX or ΔY fields).

D Click the OK button to move or resize the objects as specified.

E Click the Cancel button to close the dialog box, leaving the selected objects unchanged.

F Click the Reset button to return the X, Y, ΔX and ΔY fields to their original values.

EXCHANGE & POSITION

Exchange

Extend your control of object pairs by allowing you to easily exchange the object levels within and between layers.

To exchange two objects:
1. Select two objects.
2. Select DrawTools Move in the Filter menu. In the DrawTools Move menu, select Exchange. The object levels are switched, but the coordinates remain unchanged. Holding down the Command key while selecting Exchange causes layers to be ignored.

Back to Front and Front to Back

Quickly position object pairs relative to each other without having to know the level or layer of either object.

To position two objects:
1. Select two objects.
2. Select DrawTools Move in the Filter menu. In the DrawTools Move menu, select Back to Front or Front to Back.
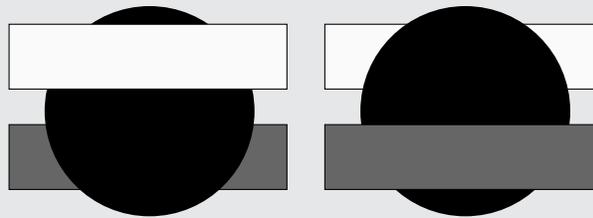
Exchange
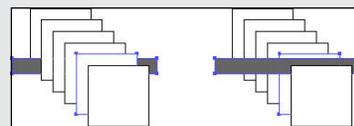
Back to Front
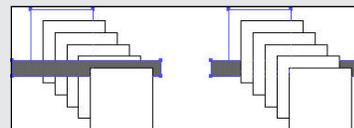
Front to Back

GLOBE SHAPE

Project an object over a geometric sphere or globe. Objects projected over the globe are shown on the front half of the globe.

To project an object onto a globe:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Shape in the Filter menu. In the DrawTools Shape menu, select Globe. The Globe dialog box appears.
3. Modify the settings in the Globe dialog box as desired.
4. Click the OK button.
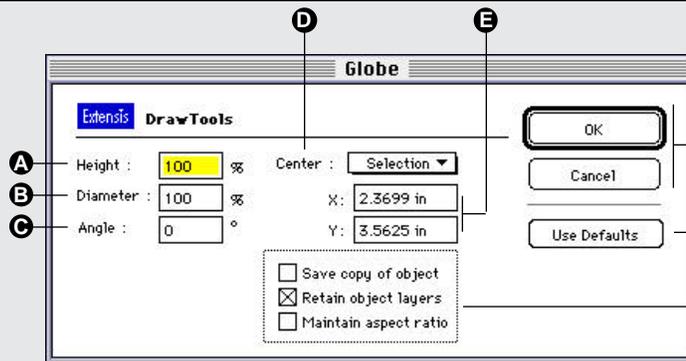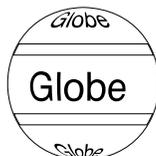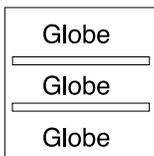
A The Height field contains the height of the projection expressed as a percentage of the height of an imaginary rectangle containing the selected objects. If a height other than 100% is used, the centers of the objects and the projection will coincide.

B The Diameter field contains the diameter of the projection expressed as a percentage of the width of an imaginary rectangle containing the selected objects. If a diameter other

than 100% is used, the centers of the objects and the projection will coincide.

C The Angle field contains the angle of the projection shown in degrees. The angle adjustment turns the projection clockwise or counter-clockwise.

D The Center pop-up menu allows you to specify the center of the projection as the center of the selected objects or as a point specified in the X and Y fields.

E The X and Y fields display the horizontal and vertical coordinates of the center of

the projection. You may enter alternate coordinates in these fields.

F Click the OK button to close the dialog box and perform the projection as specified. Click the Cancel button to close the dialog box, leaving the selected objects unchanged.

G Click the Use Defaults button to reset all filter settings to their default values.

H Save a Copy of Object causes the projection to be performed on a copy of the selected objects.

When Retain Object Layers is enabled, object layers are maintained through the projection. If it is not enabled, all objects are placed in the current active layer.

Maintain Aspect Ratio forces the aspect ratio to 1-to-1 (a square). This allows for projections onto a perfect globe or other shape.

CYLINDER SHAPE

Project an object over a geometric cylinder. Objects projected over the cylinder are shown on the front half of the cylinder.

To project an object onto a cylinder:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Shape in the Filter menu. In the DrawTools Shape menu, select Cylinder. The Cylinder dialog box appears.
3. Modify the settings in the Cylinder dialog box as desired.
4. Click the OK button.
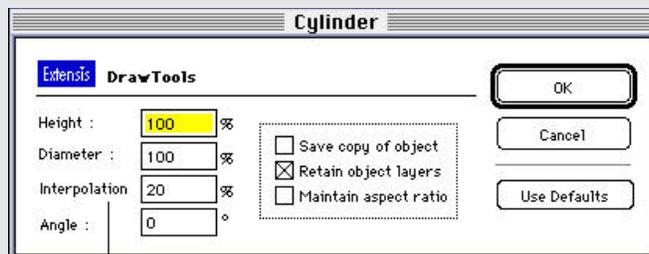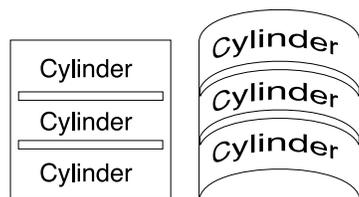
A Interpolation determines the extent to which the resulting image is viewed from the top or bottom of the cylinder.

A positive percentage results in a view from the bottom of the cylinder. A negative percentage results in a view from the top of the cylinder.

Refer to the Globe Shape section for descriptions of the other fields and controls.

CONE SHAPE

Project an object over a geometric cone. Objects projected over the cone are shown on the front half of the cone.

To project an object onto a cone:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Shape in the Filter menu. In the DrawTools Shape menu, select Cone. The Cone dialog box appears.
3. Modify the settings in the Cone dialog box as desired.
4. Click the OK button.
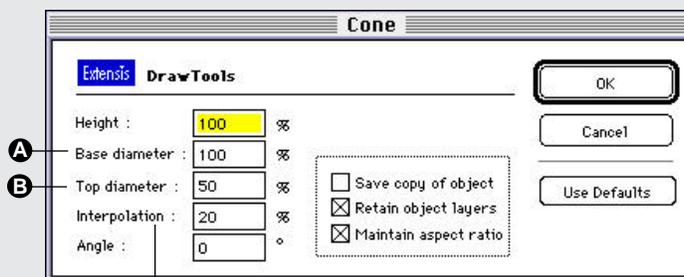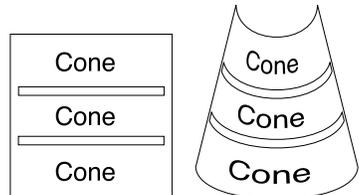
A The Base Diameter field contains the diameter of the base of the cone shown as a percentage of the width of an imaginary rectangle containing the selected objects.

B The Top Diameter field contains the diameter of the top of the cone shown as a percentage of the width of an imaginary rectangle containing the selected objects.

C Interpolation determines the extent to which the resulting image is viewed from the top or bottom of the cone. A positive percentage results in a view from the bottom of the cone. A negative percentage results in a view from the top of the cone.

Refer to the Globe Shape section for descriptions of the other fields and controls.

WATER/WAVES SHAPE

Project an object over a wave form. Objects projected over the waves are shown from a top view.

To project an object onto a wave form:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Shape in the Filter menu. In the DrawTools Shape menu, select Water or Amplified Waves. The Water or Amplified Waves dialog box appears.
3. Modify the settings in the dialog box as desired.
4. Click the OK button.

Water Shape Example
This example is from the Water filter.
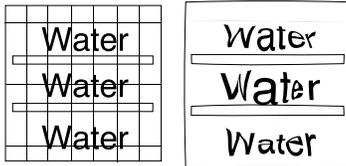

Amplified Waves
This example is from the Amplified Waves filter.
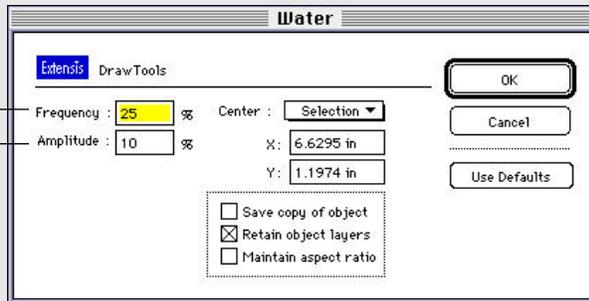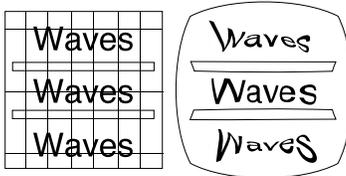
A The length of a complete wave expressed as a percentage of the width of an imaginary rectangle containing the selected objects.

B The maximum height that a wave diverges from its middle axis expressed as a percentage of the height of an imaginary rectangle containing the selected objects.

Refer to the Globe Shape section for descriptions of the other fields and controls.
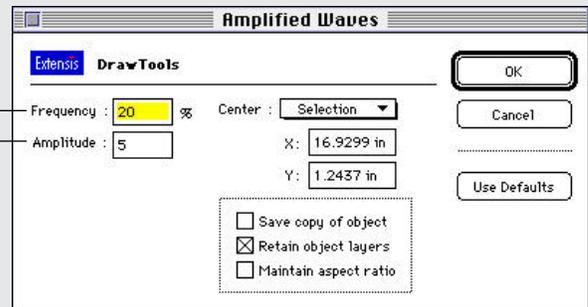
A The Frequency field contains the length of a complete wave expressed as a percentage of the width of an imaginary rectangle containing the selected objects.

B The Amplitude field contains the amplification of the wave height expressed as a multiplication factor of the previous wave height. A value of 1 provides the same result as the Water filter. A value of 2 doubles the wave height with each successive wave.

Refer to the Globe Shape section for descriptions of the other fields and controls.

DIAMOND SHAPE

Project an object over a diamond shaped parallelogram. (Think of a sheet of paper with the corners folded in toward the center.) Objects projected over the diamond are shown from a top view.

To project an object onto a diamond:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Shape in the Filter menu. In the DrawTools Shape menu, select Diamond. The Diamond dialog box appears. Refer to the Globe section for descriptions of the fields and controls.
3. Modify the settings in the dialog box as desired.
4. Click the OK button.
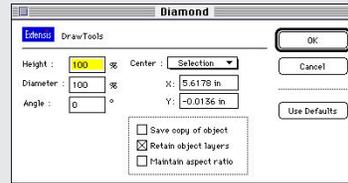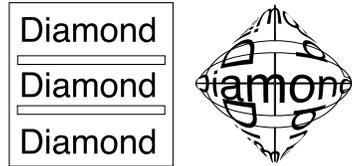
Refer to the Globe section for descriptions of the other fields and controls.

FREE PROJECTION

Project an object over a flexible "mesh." You control the shape of the mesh using anchor points.

To project an object:
1. Select an object (or Shift-select multiple objects).
2. Select DrawTools Shape in the Filter menu. In the DrawTools Shape menu, select Free Projection. The Free P rojection dialog box appears.
3. Modify the settings in the dialog box as desired.
4. Manipulate the corner (black) and spline (white) points to the desired shape.
5. Click the OK button.
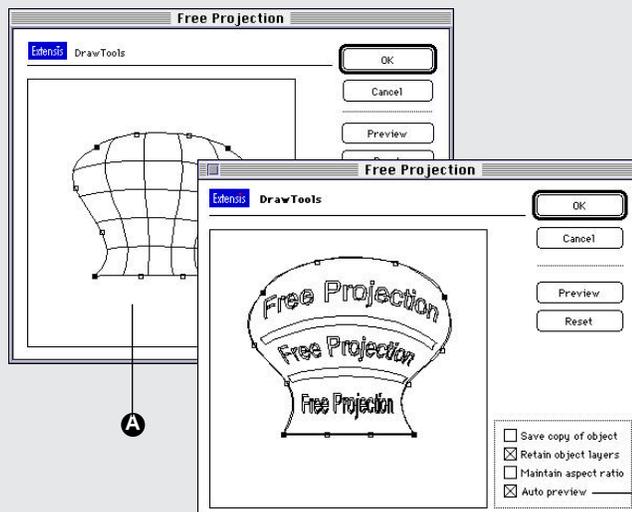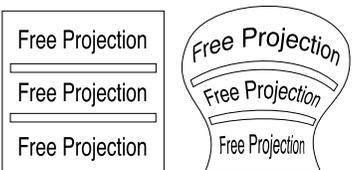
A Move the corner (black) and spline (white) points by clicking and dragging.

B Preview provides an on-demand preview of the selected objects. This option is most useful with complex objects that take a while to preview.

C Auto Preview provides a real-time preview of the selected objects as you manipulate the mesh.

Refer to the Globe Shape section for descriptions of the other fields and controls.

SHAPE FOR FREEHAND

DrawTools Shape provides a somewhat different set of controls for use within FreeHand. The DrawTools Shape for FreeHand interface provides FreeHand style drag and drop, interactive previews and floating palettes.

To project an object:

1. Select an object (or Shift-select multiple objects).
2. Select Distort in the Xtras menu. In the Distort menu, select DrawTools. The DrawTools Shape palette appears.
3. In the DrawTools Palette, click the desired Shape Tool and drag it to the Projection Preview area.
   a. Drag it over the selected object(s) and release the mouse. This applies the default shape.
   b. Drag it into the Projection preview. The Shape Preview dialog box appears.
4. Make the desired adjustments in the Shape Preview dialog box.
5. Click the Apply button.

If you wish to add the projection to the Shape Library, click the Add button in the Shape Preview dialog box. Enter a name for the projection in the Name field. Press the Return key to enter the name.
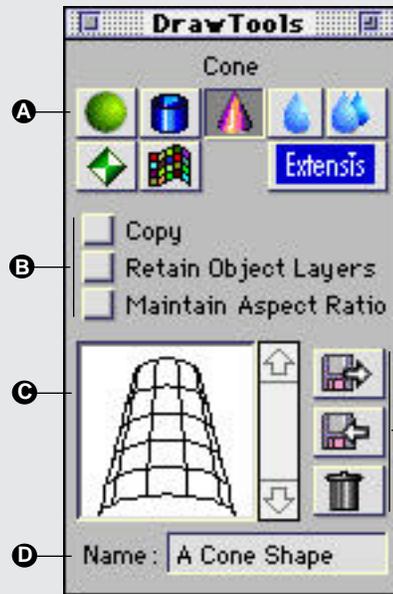
A Shape Tools. Click and drag the desired shape to the Projection Preview area (C) to display the Shape Preview dialog box, or drag it directly onto the selected objects. Click the Extensis button to see the DrawTools About box.

B Projection Options.

Copy causes the project to be performed on a duplicate of the selected objects. The originals will not be changed.

Retain Object Layers preserves the object layers throughout the projection. Otherwise, all objects are placed in the current active layer.

Maintain Aspect Ratio forces the aspect ratio to 1-to-1 (a square). This allows for projections onto a perfect globe or other shape.

C The Projection Preview area provides a view of the geometric shape over which the selected objects will be projected. Use the scroll bar to view other shapes of the selected type in the current Shape Library. Double-click on a shape to display the Shape Preview dialog box for that shape. Dragging a shape from the Preview area onto the document applies the projection to the selected objects.

D The name of a Shape in the Shape Library. You may enter names for new Shapes in this field. You may also change existing shape names in this field. Press Return to enter the name.

E Buttons for Loading and Saving Shape Library files. Dragging a Shape from the Projection Preview area to the Trash icon removes the Shape from the Shape Library. Clicking the Trash icon removes all Shapes from the Shape Library.

PREVIEW FOR FREEHAND

The Shape Preview dialog boxes work with the DrawTools Shape palette described on the previous page.

Click and drag the desired shape to the Projection Preview area in the DrawTools Shape palette. The Shape Preview dialog box appears.
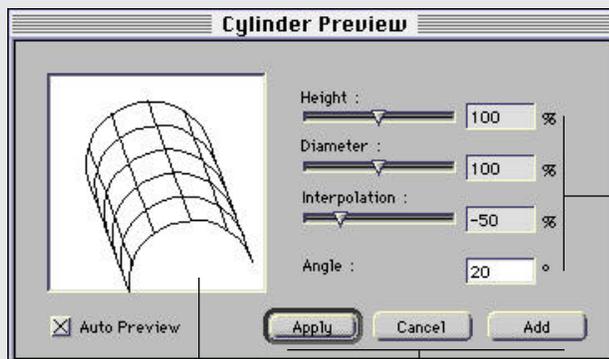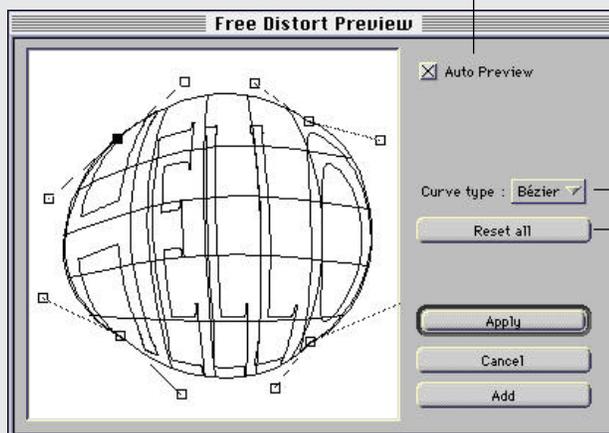
A The Projection Preview area displays the geometric shape onto which the objects will be projected. The preview is updated as the Projection Controls are manipulated. Clicking and dragging in the Preview area will adjust the Angle control.

B Projection Controls. Use the sliders and fields to modify the geometric shape. Refer to the Globe Shape filter section for additional information.

C Click the Apply button to project the selected objects onto the geometric shape.

Click the Cancel button to close the Shape Preview dialog box.

Click the Add button to add the specified shape to the Shape Library and close the Shape Preview dialog box.

D Auto Preview lets you see outlines of the selected objects projected onto the shape. The preview is updated as you manipulate the Projection controls.

E The Curve Type pop-up menu lets you control the type of curve used to control the "mesh" in the Free Distort filter. The Curve Type options are Bézier and Spline. Spline curves differ from Bézier in that all anchor points are located on the curve. You may switch between curve types at any time. You may select multiple anchor points by holding down the Shift key while clicking on the points. These controls apply only to the Free Distort filter.

F The Reset All button returns all settings to their original values.

G Use the Center button to reset the center of the projection to the center of the imaginary rectangle enclosing the selected objects. This control applies only to the Water and Amplified Wave filters.

H Click and drag the Center control to adjust the center of the projection. This control applies only to the Water and Amplified Wave filters.