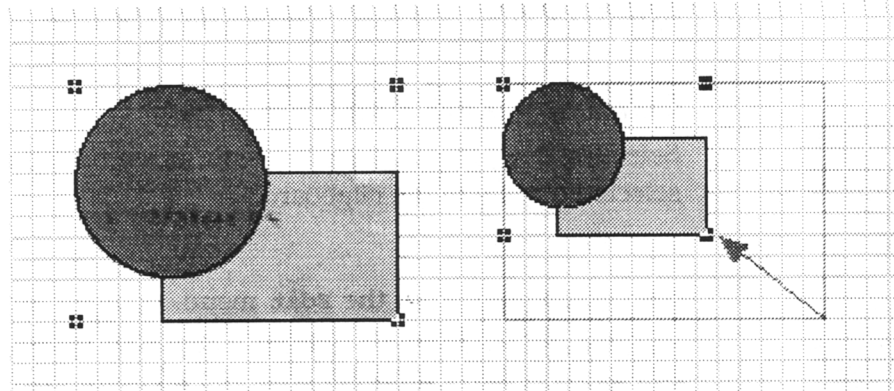


Once objects are grouped together, they are treated as if they were a single object. You can move, resize and scale a group just as you do with an individual object.

Figure 78

Changing the size of a group.



The grouping of objects can be undone by selecting **Ungroup** from the **Arrange** menu.

## Using the Clipboard

Before reading this section make sure you are familiar with the use of the HyperLook clipboard (see “The System Properties” on page 3-31).

### Copying and Pasting Objects

Selecting **Copy** from the **Edit** menu, or using the **Copy** key, copies the selected objects to the clipboard.

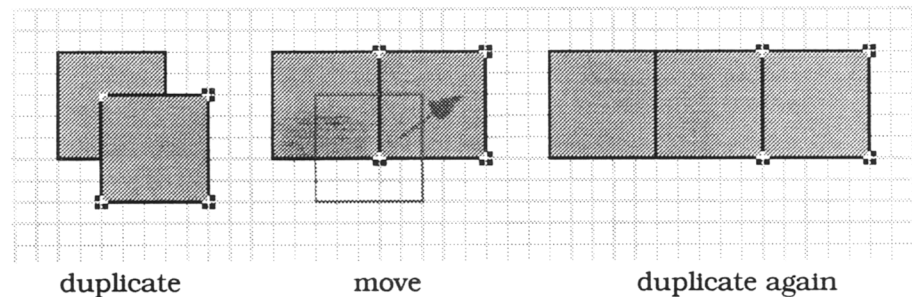
Selecting **Paste** from the **Edit** menu, or using the **Paste** key, pastes drawing objects from the clipboard into your drawing. You can use copy and paste to move graphics from one graphics editor to another.

### Duplicating Objects

To duplicate the selected objects use **Duplicate** from the **Edit** menu. An exact copy of the selected object is added to the drawing a little below and to the right of the original.

Figure 79

Duplicating an object.



If you duplicate an object and then move the new object, HyperLook remembers the offset. If you duplicate again the new (third) object has an offset equal to that between the original and the first duplicate.

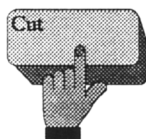






## Deleting Objects

To delete objects from a drawing, select them and hit the **Delete** key. You can also select **Clear** from the **Edit** menu.



Select **Cut** from the **Edit** menu, or use the **Cut** key, to cut the selection from the drawing to the clipboard.



## Undo

Most editing operation can be undone. If you have made a mistake while editing a drawing, simply select **Undo** from the **Edit** menu, or use the **Undo** key, to undo the last change.

## Special Objects

So far, you have learned how to edit objects such as rectangles and lines. Some of the other objects have special features, which are discussed in this section.

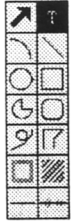


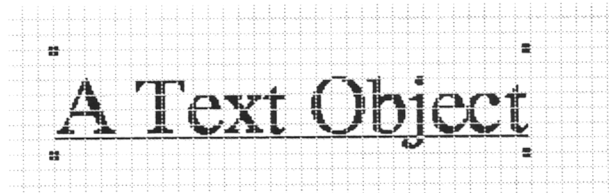
Figure 80

Creating a text object. The object is in *edit* mode.

### Text Objects

To add a text object, select the text tool from the tool pallet, and click on the location where you want the text. An empty text object will be added. To enter the text, just start typing.

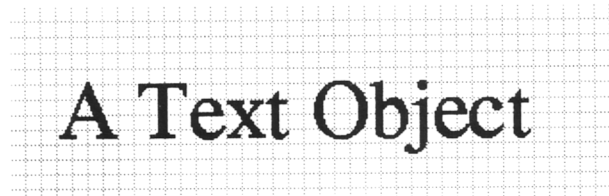
While the object is selected and you're typing text, it will be displayed in *edit* mode.



The text will look rather rough while in *edit* mode. As soon as you deselect it, it will be redisplayed in its normal state.

Figure 81

The text after reselecting it. It is no longer in *edit* mode.



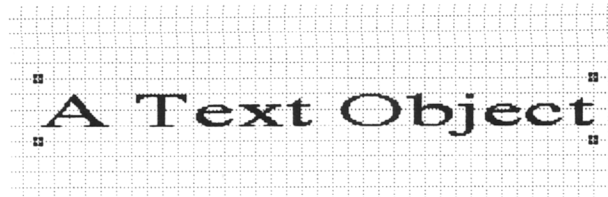
Text objects can have multiple lines of text separated by typing return. If you want to edit an existing text object just select it and start typing.

The **Text** menu has four submenus. The **Font** menu changes the font, the **Style** menu changes the font style, the **Size** menu changes the font size, and the **Align** menu changes the alignment of multi-line text objects.

The size and scaling of the font is adjusted when the object's size is changed. You can resize a text object just like any other object.

*Figure 82*

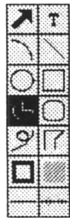
The text after stretching it using the marker points.



You can rotate text objects. All of the operations that you can apply to other objects work with text objects too.

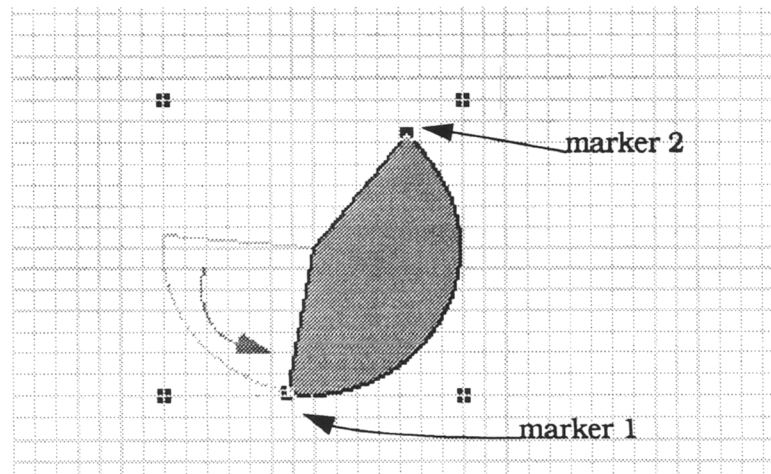
## Pie Objects

Pie objects let you create sliced pie shaped wedges. A pie object, when selected, shows 2 extra marker points. You can drag them to change the angular size of the pie slice. The exact angle of the slice is displayed near the cursor while you are changing it.

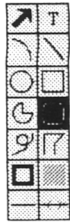


*Figure 83*

Editing a pie object.



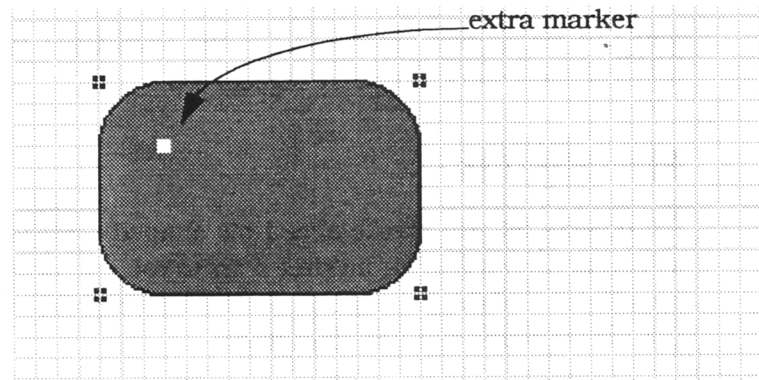
## Rounded Corner Rectangles



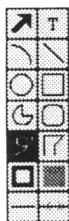
A rounded corner rectangle also has an extra marker. It lets you change the roundness of the corners. The rounding is restricted to the minimum of the width and the height of the rectangle. The size of the rectangle's corners is displayed near the cursor while you are changing it.

Figure 84

A rounded corner rectangle with the extra marker point.



## Polygon and Spline Objects

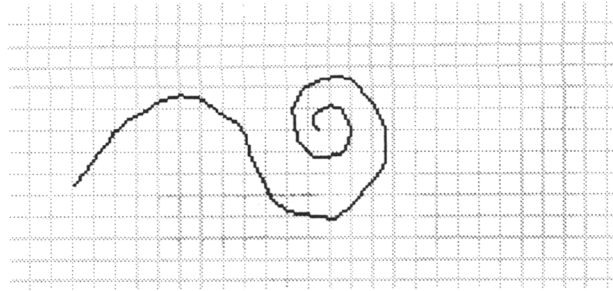


The easiest way to draw a complex curve is with the freehand tool. When it is active, dragging the mouse creates a polygonal path following the mouse. The freehand tool is ideal for entering paths with smooth curves and strange shapes.



Figure 85

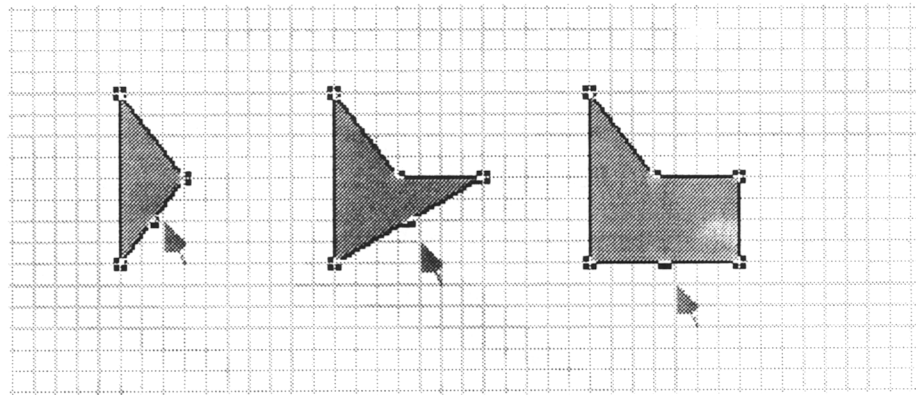
A polygon created with the freehand tool.



You can also enter a polygon point by point. This is like editing line objects. A polygon has a marker point for every point you enter, plus one extra marker point. This extra point extends the polygon. Dragging the extra marker adds a new point to the polygon.

Figure 86

Editing a polygon using the extra marker point.

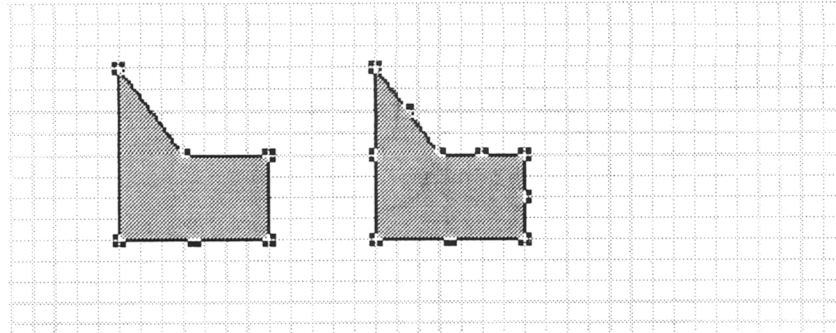


If you double click the polygon tool (see “Creating Multiple Objects” on page 4-12), the next mouse click will add a new point to the polygon, instead of creating a new polygon. This is useful if you want to add a lot of points.

If you want to add an extra point to every edge of the polygon, then use **Double Poly Points** from the **Special** menu. After adding more and more points you can use **Reduce Poly Points** from the **Special** menu to reduce the points to the minimum necessary.

Figure 87

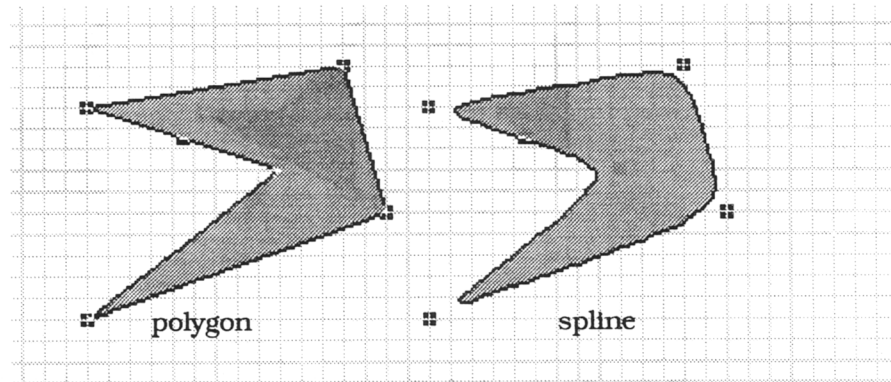
Doubling the number of polygon points.



Once you have created a polygon, you can change it to a spline (a smooth curve). Select **Flip Poly and Spline** from the **Special** menu. Splines can be turned back into ordinary polygons using the same menu. Splines are edited in the same way as polygons.

Figure 88

A polygon and its spline.

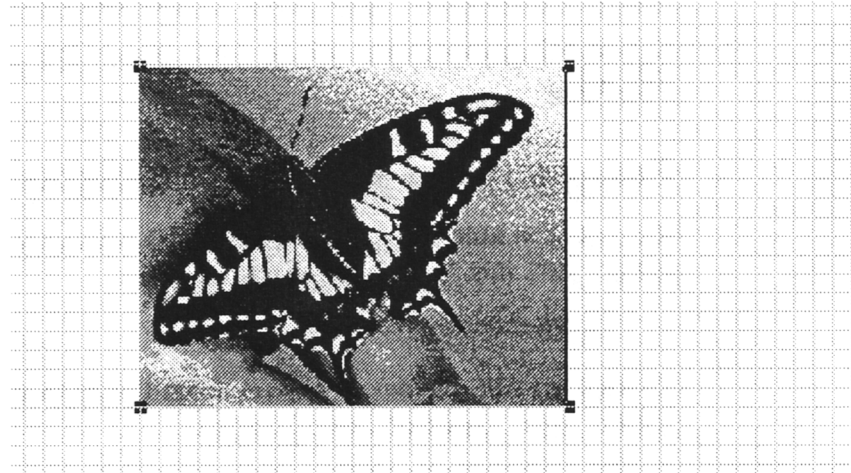


## Image Objects

You can add images to a drawing by selecting **Import** from the **File** menu. The editor can import Sun rasterfiles, which often have a **.img** extension (see “The Clipboard” on page 3-18, on how to use the OpenFile dialog to enter an image file name). When the image is loaded, it is added to the drawing in the center of the view.

*Figure 89*

An image loaded into the editor.



You can also load images with other file formats. To load such an image you must provide a filter to convert the image from its original format into Sun rasterfile format. The name of the filter tells HyperLook what extensions to expect on the image files.

The filter is called with the input file name as the first argument. It should produce the raster file on the standard output.

For example, you might use a filter to convert **tiff** format images into rasterfile format. To do this you create a file called **tiff2img** in a resource directory (for example **~/stacks**). This tells HyperLook that it can convert files with a **.tiff** extension into Sun rasterfiles using the filter. HyperLook will use the filter automatically every time you load a **.tiff** file into the graphics editor.

Suppose you have a filter called **tiffras**, located in the **/usr/local** directory. To install the filter use:

```
ln -s /usr/local/tiffras ~/stacks/tiff2img
```

This will enable you to load images with a **.tiff** extension.

In general, to be able to use other extensions set up a filter in a resource directory **ext2img** if **".ext"** is the desired extension.

HyperLook provides the **z2img** filter which lets you load compressed rasterfiles.

## Encapsulated PostScript Objects

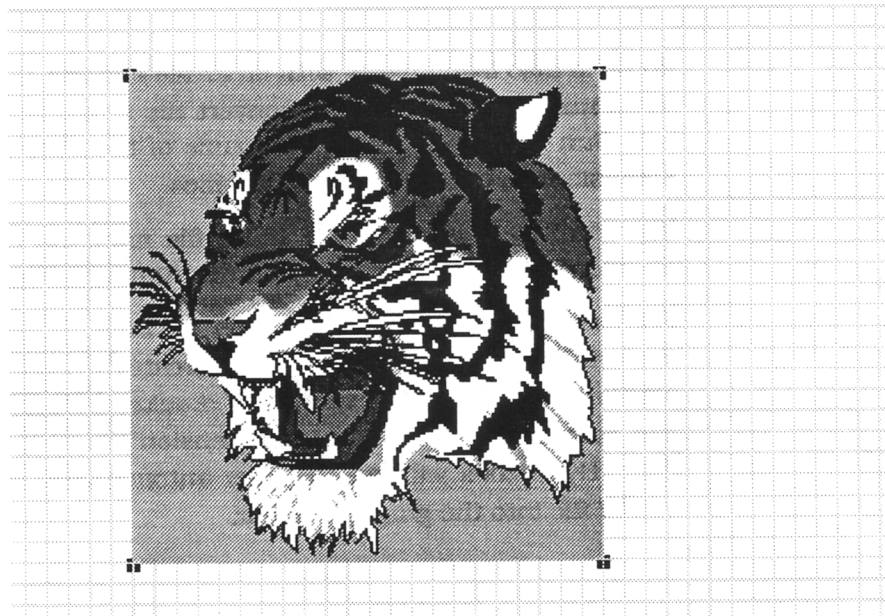
The editor is able to load *Encapsulated PostScript* files (also called EPS or EPSF). EPS files usually start with the line:

```
%!PS-Adobe-2.0 EPSF-1.0
```

To load an EPS file select **Import** from the **File** menu and select a file with a **.eps**, **.epsf** or **.ps** extension.

Figure 90

An Encapsulated PostScript object.





When the file is loaded, it is drawn into an image and the image is displayed. This optimizes the time spent drawing it.

If you prefer the editor to draw the file directly onto the screen, make the object transparent using the fill color tool (see “Selecting the Fill and Line Color” on page 4-17). When the object is transparent, it takes longer to draw onto the screen but it is displayed better at different magnifications.

## Solid Objects

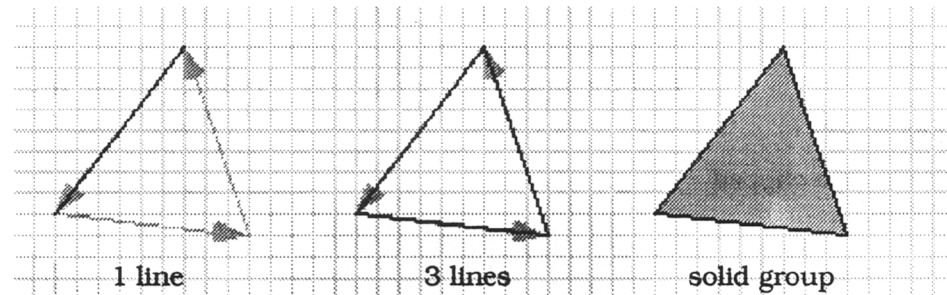
Sometimes you want to draw a shape that is not part of the standard set of graphics objects. An example is a triangle.

The editor lets you to create new shapes by drawing the outline using lines, arcs, rectangles, etc.

To create a triangle, first draw a triangle using three lines, then select all three lines, and select **Solid Group** from the **Special** menu.

Figure 91

Creating a triangle by drawing lines.



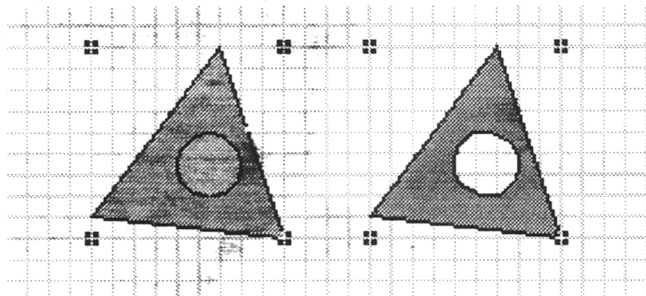
When creating solid objects from lines you must make sure that the lines are properly connected.

The solid group can be ungrouped into its original components with the **Ungroup** item of the **Arrange** menu.

Interesting effects can be created with solid groups. It's possible to create objects that have holes in them. Take a triangle, draw an oval over it, select them both, and make a solid group out of it. The result is a triangle with a hole in it!

Figure 92

Creating a triangle with a hole in it.



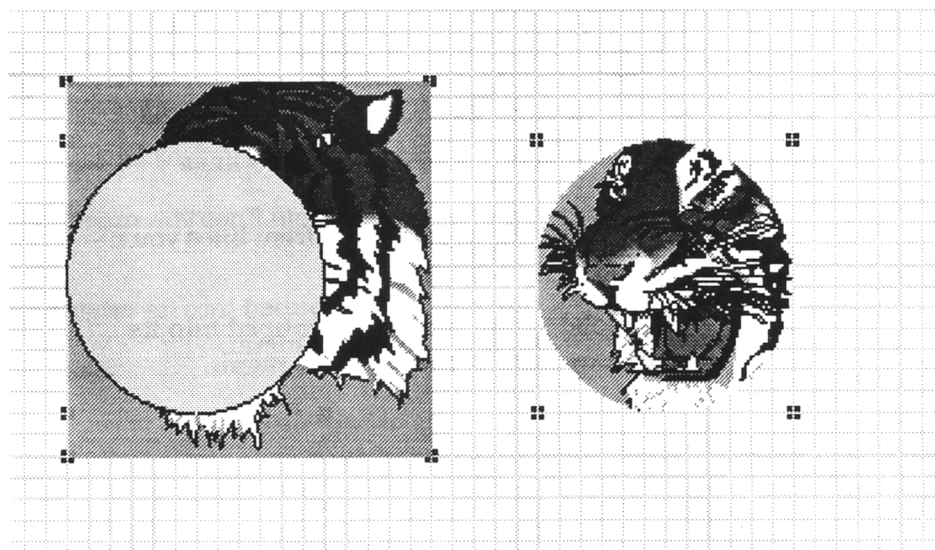
## Clipped Objects

The editor lets you draw an object through a stencil of any shape. This technique is called clipping.

To create a clipped object, draw a shape over a drawing, select the shape and the drawing, then choose **Clipped Group** from the **Special** menu.

Figure 93

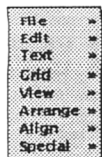
Creating a clipped group.



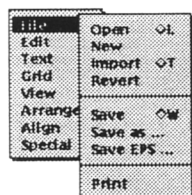
The bounding box of the clipped object is as big as the shape to which the drawing is clipped.

The clipped object can be returned to its original components using **Ungroup** from the **Arrange** menu.

## The Graphics Editor Menus



This section explains all the menus and their items. The main menu is shown by holding down the right mouse button anywhere on the paper.



### File

#### Open

Load a drawing (see "Loading Drawings" on page 4-6).

#### New

Start a new drawing, discarding the current one. You are asked for confirmation.

#### Import

Import a drawing, Encapsulated PostScript (see "Encapsulated PostScript Objects" on page 4-30) or image (see "Image Objects" on page 4-29).

#### Revert

Reload the drawing from its file, discarding any changes made to the current drawing since it was last saved.

#### Save

#### Save as...

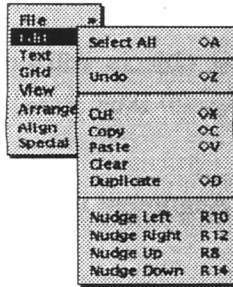
#### Save EPS...

Save the drawing (see "Saving Drawings" on page 4-6).

#### Print

Print the drawing (see "Printing Drawings" on page 4-7).





## Edit

### Select All

Select all the objects in the drawing (see “Selecting Objects” on page 4-9).

### Undo

Undo the previous editing operation (see “Undo” on page 4-23).

### Cut, Copy, Paste, Clear

Clipboard editing operations (see “Using the Clipboard” on page 4-22).

### Duplicate

Duplicate the currently selected objects. Repeated duplicates will be offset by the same amount (see “Duplicating Objects” on page 4-22).

### Nudge Left

### Nudge Right

### Nudge Up

### Nudge Down

Nudge the selected objects in the indicated direction. The distance of the nudge is the grid size. The arrow keys are shortcuts to these menu choices (see “Moving Objects” on page 4-13).



## Text

### Font

Set the font of the selected text objects (see “Text Objects” on page 4-24 and “Changing the System Fonts” on page 3-31).

### Style

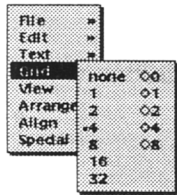
Set the font style of the selected text objects. Options are **Plain**, **Bold**, **Italic** or **BoldItalic**.

## Size

Set the size of the selected text objects. The text objects will be resized to fit the new font height (see "Text Objects" on page 4-24).

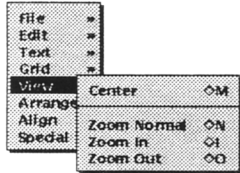
## Align

Change the alignment of the selected text objects. Alignment is only significant if the text has multiple lines.



## Grid

Change the current grid (see "Using the Grid" on page 4-15).



## View

### Center

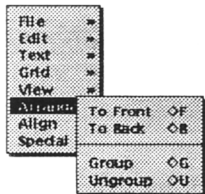
Move the selected object into view. If no object is selected, then the whole drawing is moved into view.

### Zoom Normal

### Zoom In

### Zoom Out

Change the magnification (see "Zooming" on page 4-8).



## Arrange

### To Front

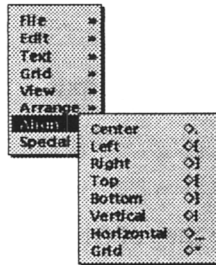
### To Back

Change the front to back order of the selected objects (see "Front to Back Order" on page 4-20).

## Group

## Ungroup

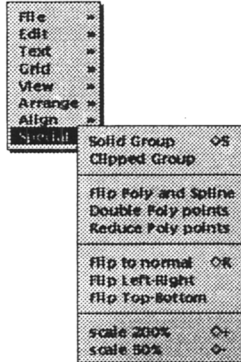
Change the grouping of objects (see “Grouping” on page 4-20).



## Align

- Align Center**
- Align Left**
- Align Right**
- Align Top**
- Align Bottom**
- Align Vertical**
- Align Horizontal**
- Align Grid**

Align multiple objects (see “Aligning Objects” on page 4-16).



## Special

### Solid Group

Create a new shape by combining multiple objects (see “Clipped Objects” on page 4-32).

### Clipped Group

Clip a part of an object (see “Clipped Objects” on page 4-32).

### Flip Poly and Spline

Change a polygon into a spline and vice versa (see “Polygon and Spline Objects” on page 4-26).

### Double Poly Points

### Reduce Poly Points

Change the number of polygon points (see “Polygon and Spline Objects” on page 4-26).

**Flip to Normal**

Remove rotation and flipping from an object (see “Rotating Objects” on page 4-14).

**Flip Left-Right**  
**Flip Top-Bottom**

Flip the selected objects around their vertical or horizontal axis.

**Scale 200%****Scale 50%**

Make objects larger and smaller (see “Changing the Size of Objects” on page 4-13).





*HyperLook*

# Editing Stacks

5

Every editable HyperLook stack can be in one of two modes<sup>1</sup>. The first is called *browse* mode. In this mode you can use the stack, move from card to card, etc. The other mode is *edit* mode. It lets you change the stack and its objects.

This chapter explains how to create and edit stacks and objects. How to create and use cards and backgrounds is also described in detail (see "Cards and BackGrounds" on page 5-24).

Chapter 6, "Object Properties" explains how to modify HyperLook objects. Chapter 7, "Scripting" explains how to program components and stacks.

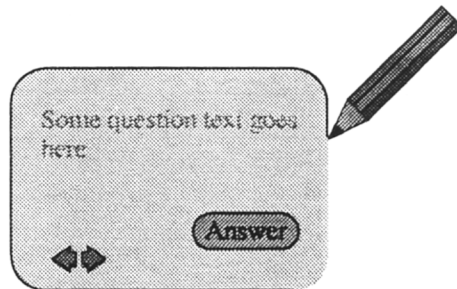
## Designing Your Own Stack

Before going into details, it is useful to explain the process by which you create and design stacks.

Normally you will start by creating a new stack from scratch. You then switch the stack into edit mode and add, edit and delete objects, cards and backgrounds.

Figure 94

Designing your own stacks.



When you are happy with your stack, you switch it into browse mode and test it.

When you have finished editing the stack, save it in a file. The stack can be reloaded at any time.

Now you can connect a C program to your stack. See Chapter 8, "Client Programming" on how to communicate with stacks from C programs.

---

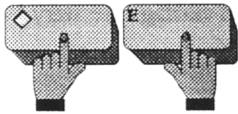
1. Some applications use non-editable stacks.

At any point in the design process, you can test the stack, save it, or revert to a previously saved version. This gives you the confidence to try things out!

## Edit Mode

In edit mode you can modify the stack, its cards, backgrounds, and components.

To get to edit mode you can use the stack menu (see “Using Menus” on page 3-5). You will often read instructions like “select **Save** from the **Stack** menu”. This really means “select the **Save** option from the **Stack** sub menu of the stack menu”.



Select **Edit Mode** from the stack's **Edit** menu to switch to edit mode. To leave edit mode select **Browse Mode** from the **Edit** menu. A quick way to enter and exit edit mode is by typing **Meta-E**.

In edit mode, the objects of a stack do not respond to user input. The stack editor intercepts all user interaction until the stack is in browse mode again.

It is not possible to move a stack when it is in edit mode. To move the stack, first return to browse mode (see “Moving Stacks” on page 3-9).

The fact that a stack is in edit mode is reflected by a change in the cursor. Usually the cursor in browse mode is a little hand, in edit mode the cursor is usually a bull's eye<sup>1</sup>.

Figure 95

HyperLook cursors.



browse cursor



edit cursors

1. You will notice that in edit mode the cursor changes depending on its position.

## The Stack Menu in Edit Mode

A stack in edit mode has an extended menu. There are 3 different menus which are active depending on the number of selected objects:

- no object selected
- one object selected
- multiple objects selected

Each of the menus is different. The **Look** menu is always available.

Most menu functions apply to either the selected object or objects, the current card, the current background or the stack itself.

If you want to see at a glance what all the menus do, read "Edit Mode Menus" on page 5-36. Otherwise read on and you'll find out about how to edit stacks, encountering options on the stack menu along the way.



## Editing and Saving Stacks

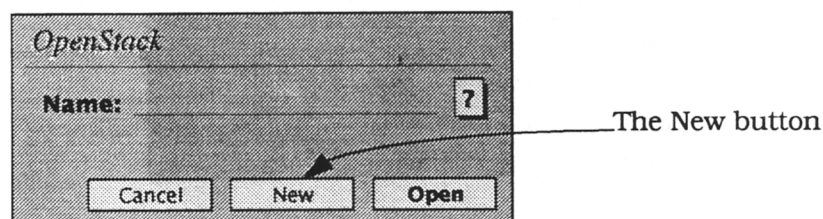
This section explains how to create new stacks and how to save them when you have finished editing them.

### Creating a New Stack

To create a new stack, press the **Open** button in the system stack. This will show the OpenStack stack (see “Opening Stacks” on page 3-8).

Figure 96

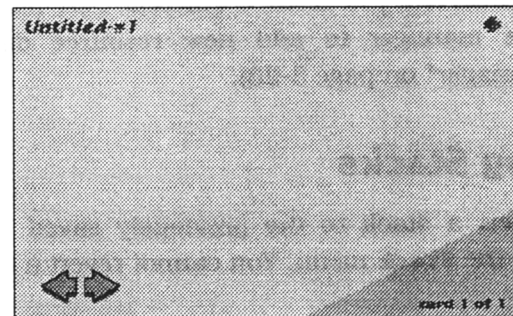
The **new** button in the OpenStack.



Now click on the **New** button and a new untitled stack will appear.

Figure 97

Creating a copy of the Untitled stack.



The standard Untitled stack has some useful components which you can remove if you don't need them.

If you enter the name of an existing stack before hitting the **New** button you will create a copy of the stack. The new stack is given a name that differs from the original.

Another way to create a new stack is to save an existing stack using a new name (see “Saving Stacks” on page 5-6). You can still reload the original stack!

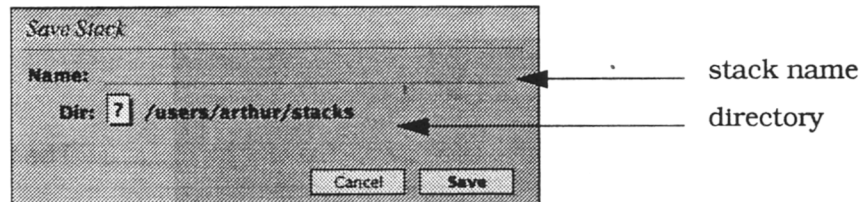
## Saving Stacks

After you have made changes to your stack, you can save the stack by selecting **Save** from the **Stack** menu. The stack is saved to the file from which it was loaded.

If the stack is untitled, or if you select **Save As . . .** from the **Stack** menu, a dialog is shown which lets you choose a new name and a new directory for the stack.

Figure 98

The SaveStack dialog.



Type the name of the stack in the **Name** field and click on the **Save** button. The stack will be saved to the directory which is listed below the name.

?

The "?" pulldown lets you select a different user resource directory. Use the resource manager to add new resource directories (See "The Resource Manager" on page 3-23).

## Reverting Stacks

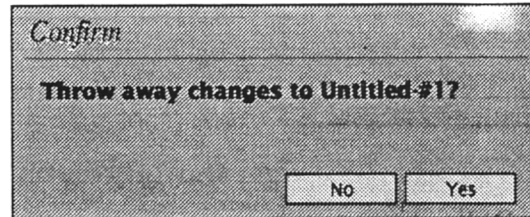
You can revert a stack to the previously saved version by selecting **Revert** from the **Stack** menu. You cannot revert a stack if it has not yet been saved.

## Throw Away Changes?

If you try to zap or revert a stack which has been modified, the changes to the stack will be lost. An attempt to do this will show a dialog asking whether you really want to throw away the changes.

Figure 99

Are you sure you want to throw away changes?.



If you really want to throw away the changes, press the **Yes** button. If you have changed your mind and want to save the changes, press **No**.

## Printing Cards

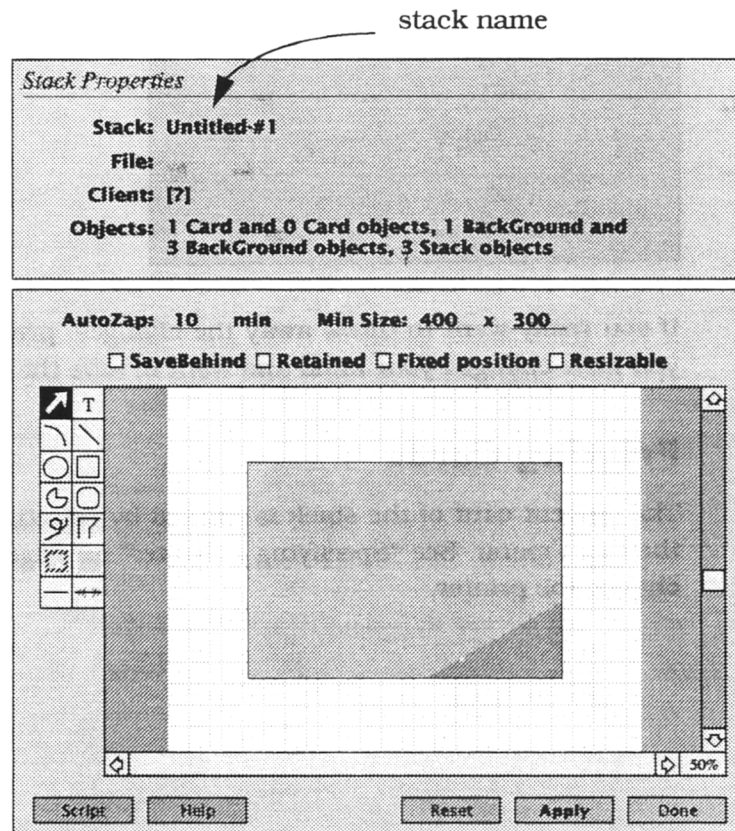
The current card of the stack is printed by selecting **Print Card** from the **Card** menu. See "Specifying a Printer" on page 3-32 if you want to change the printer.

## Stack Properties

You can change the properties of a stack by selecting **Stack Info** from the **Stack** menu to show the properties window of a stack.

Figure 100

The properties of a stack.



After changing the properties of the stack press the **Apply** button. You can undo the changes made by pressing **Reset**. When you have finished, press **Done**.

Don't worry about the **Script** and **Help** buttons as they are explained later.



## Stack Properties Explained

The **stack name** field shows the name of the stack. The **File** field shows the file from which the stack was loaded (if any).

The **Client** field shows the name and process id of the client which is connected to the stack. If no client is connected, [?] is shown.

The **Objects** field shows some information on the objects, cards and backgrounds of the stack (these are explained later).

The **AutoZap** numeric field lets you specify the time in minutes between the stack being zapped from the screen and really being deleted from memory. See also "The Stack Manager" on page 3-22. If this field is left empty, the stack is not automatically deleted from memory after zapping it (it remains in the trash indefinitely).

The **MinSize** numeric fields let you specify the minimum width and height of the stack. These fields are ignored if the stack is not resizable (see "Making a Stack Resizable" on page 5-11 on how to create resizable stacks).

The **SaveBehind** checkbox determines whether the screen behind the stack is saved to allow for fast drawing when the stack is hidden. This feature is useful for stacks which are visible for a short time only, but you may want to disable this feature if you are short of memory.

The **Retained** checkbox determines whether the stack's content is retained to allow for fast redrawing. This feature is useful when drawing the stack takes a long time. Retained stacks take up a lot of memory!

The **Fixed position** checkbox lets you specify whether the stack can be moved around on the screen or not.

The **Resizable** checkbox indicates whether the stack can be resized or not. See "Making a Stack Resizable" on page 5-11 on how to create resizable stacks.

## Designing the Shape of a Stack

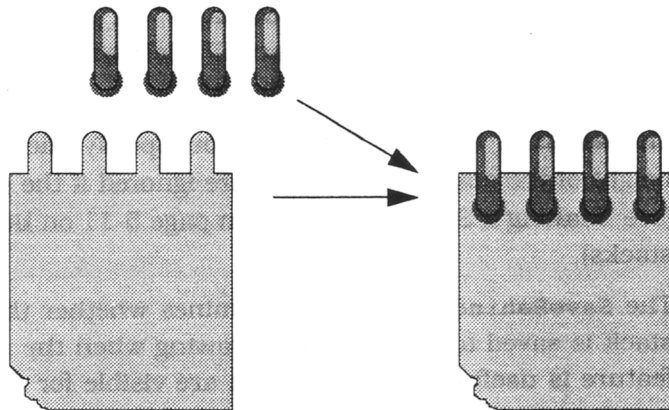
The graphics editor in the stack properties window lets you draw the shape of the stack. The drawing you enter here must consist of at least one graphical object, for example a circle or a rectangle.

The shape of the stack window is defined by the back most graphical object. All the graphics are drawn into that shape.

For example, to create a window with rounded corners you can draw a rounded corner rectangle. You can also create more complex shapes. The Notepad stack is a good example of a stack with a complex shape.

Figure 101

Defining a stack shape for the Notepad stack.



First the ring binder shape was created by linking a set of lines and arcs together into a solid object (see “Solid Objects” on page 4-31). This is then used as the shape of the stack.

Next the rings are drawn on top of the stack shape. The stack shape is now ready. You have created a stack shaped like a ring-binder simply by drawing!

Sometimes the outline of the stack is not completely visible. This is because the outline is clipped by the stack shape. Avoid using complex curves as a stack shape for this reason.

Make sure that the shape of the stack is completely filled with graphics. If parts of the stack’s interior are not filled, bits of the things behind the stack may not be painted and show through.

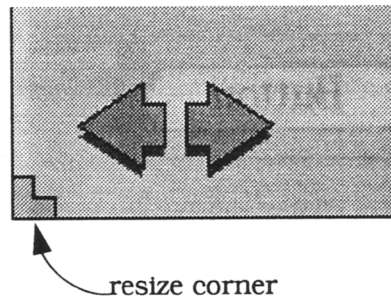
### Making a Stack Resizable

By default stacks are not resizable. To make a stack resizable, you must first switch on the **Resizable** property of the stack (see “Stack Properties Explained” on page 5-9).

Now you have to add some resize corners to the stack. The **ButtonIdeas** stack contains a few resize corners you can use. Install all the components of the **ButtonIdeas** stack into the **New** menu by following the directions in “Using the Object Warehouse” on page 5-13.

Figure 102

A resize corner added to the Untitled stack.



When you resize the stack, the stack shape changes. This usually works best for simple stack shapes such as rectangles. Any graphics on a resizable stack should be encapsulated in buttons (see “Drawing Buttons” on page 6-10), otherwise they may be resized incorrectly.

For each object in the stack, you should set its *glue* to make sure that it is moved to its appropriate location after the stack has been reshaped. The glue of an object is set from the object’s property stack (see “Glue Property” on page 6-5).

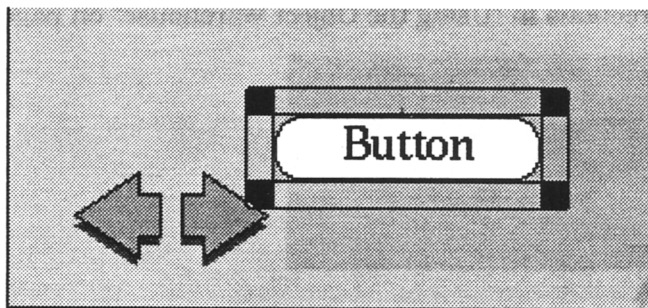
## Creating New Objects

Once you have created your own stack, you can create new objects by selecting an object type from the sub menus of the **New** menu.

These menus give you a choice of HyperLook objects. You can, for example, create a new push button object by selecting **Button** from the **System** sub menu.

*Figure 103*

Adding a button to the Untitled stack.



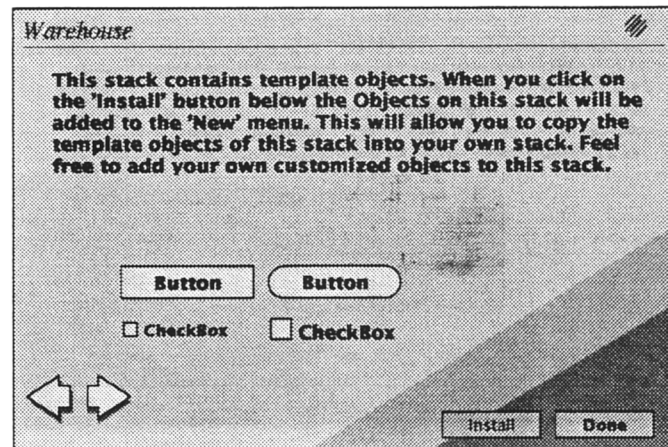
The newly created object is automatically selected. See "Selecting Objects" on page 5-15 for how to select objects.

## Using the Object Warehouse

HyperLook provides an object warehouse. To see the warehouse select **Show Warehouse** from the **New** menu.

Figure 104

The object Warehouse.



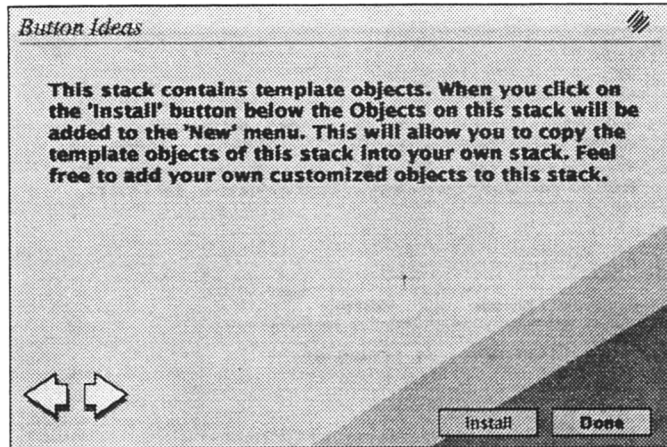
You can copy objects from the Warehouse stack or you can install the **Warehouse** menu by pressing the **Install** button.

After pressing the **Install** button you will find that the **New** menu has a new sub menu called **Warehouse**. This sub menu contains a list of the objects on the Warehouse stack. Selecting an object from this menu creates a new copy of the object from the warehouse.

Another source of objects is the **ButtonIdeas** stack. Use the OpenStack dialog (see “Opening Stacks” on page 3-8) to open the **ButtonIdeas** stack and press **Install**.

Figure 105

The ButtonIdeas stack.



Again you'll see that the **New** menu has a new submenu called **ButtonIdeas**. In particular, the **ButtonIdeas** submenu contains resize corners that may be used when creating a resizable stack.

## Editing Objects

Edit  
cursor



This section explains how to edit objects on a stack.

A grid is active while editing objects. The grid is not visible but it controls how finely you can adjust the position of objects on the stack. See "Stack Editor Properties" on page 5-33 to see how to configure the stack editor to use a different grid size.

## Selecting Objects

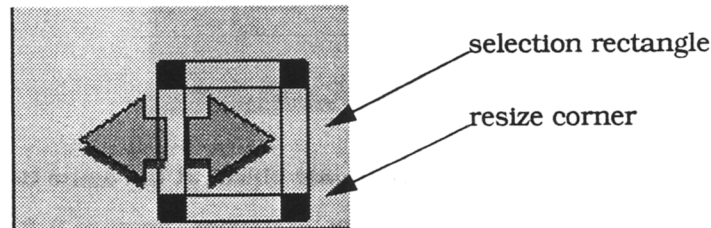
Select  
cursor



A stack can contain lots of objects. To edit an object you must first select it. A double rectangle with resize corners is drawn around the object to show that it is selected.

Figure 106

A selected object.

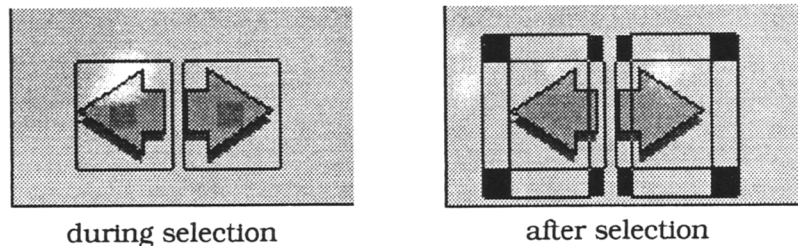


The easiest way to select an object is simply to click on it. If several objects are overlapping, click again to select the object below.

You can select more than one object at a time. Hold down the mouse and drag a rectangle around the center points of the objects that you want to select. While you hold down the mouse button all object rectangles and center points are highlighted.

Figure 107

Selecting multiple  
objects.



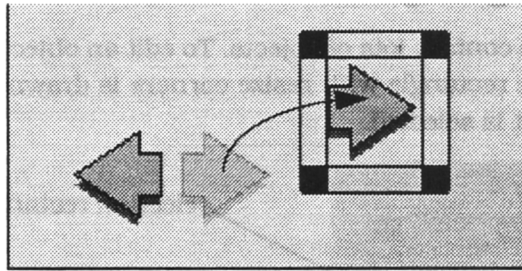
Clicking on an object with the middle mouse button adds or subtracts it from the selection. It is an easy way to select several objects which are far apart.

## Moving Objects

Move  
cursor 

An object (or a set of objects) can be moved to a new position by holding down the mouse inside the object's boundary. While holding the mouse down, drag the object to the desired position and release the mouse.

Figure 108  
Moving an object.



You can move more than one object at the same time in the same way.

See also "Position and Size Properties" on page 6-6 on how to change the position of an object from the object properties stack.

You can also move objects using the arrow keys on the right hand side of keyboard. The selected objects are nudged in the appropriate direction by one grid measure (see "Stack Editor Properties" on page 5-33 on how to change the grid).



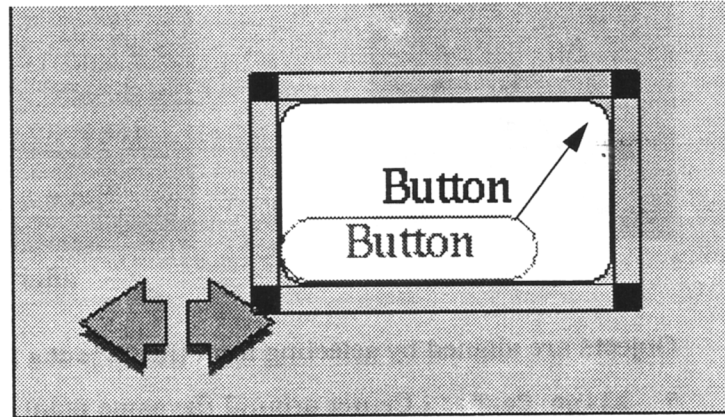
Size  
cursor 

## Sizing Objects

To change the size of an object, hold the mouse down in one of the resize corners of a selected object. While holding down the mouse, change the size by dragging. The object is redrawn at its new size when you release the mouse.

Figure 109

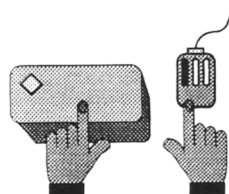
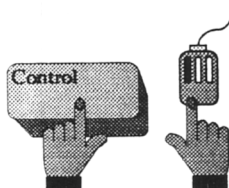
Changing the size  
of an object.



Some objects have a fixed size which does not depend on the object's bounding rectangle. Horizontal scrollbars, for example, have a fixed width.

## Constrained Editing

When you resize or move objects it is often useful to constrain the movement horizontally or vertically. Hold down the Control key while sizing or moving objects for constrained editing.



Another constraint is activated when holding down the Meta key while moving or sizing an object. The mouse will move in tiptoe mode. The movements of the mouse are slowed down to give you more control.

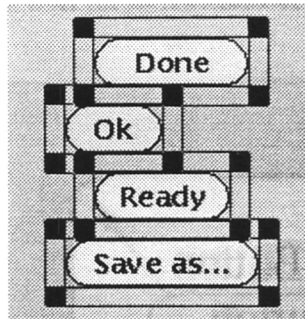


## Aligning Objects

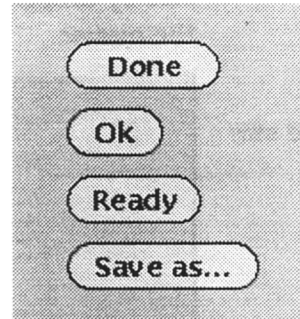
When more than one object is selected, it is possible to arrange them relative to each other.

Figure 110

Aligning objects  
using **Align**  
**Left**.



before



after

Objects are aligned by selecting from the **Objects** menu:

- **Align Center** - Center around the same point.
- **Align Left** - Left side against a vertical line.
- **Align Right** - Right side against a vertical line.
- **Align Top** - Top side against a horizontal line.
- **Align Bottom** - Bottom side against a horizontal line.
- **Align Vertical** - Center along a vertical line.
- **Align Horizontal** - Center along a horizontal line.

The position of the objects is dictated by the first object in the selection. It remains stationary while the other objects are repositioned.

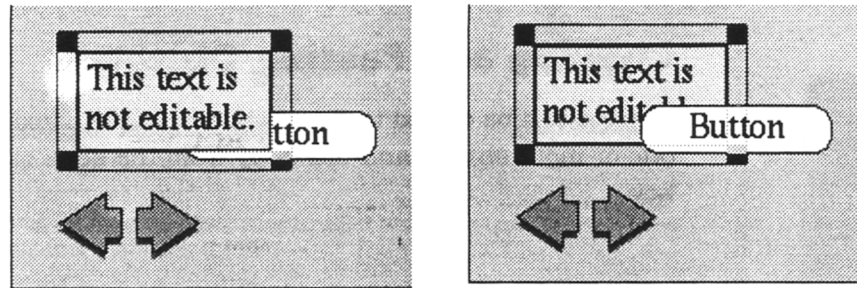
## Front to Back Order

The objects of a stack can overlap. Usually this causes no problems. Problems may occur when an object underneath another object redraws itself. Overlapping objects will be affected.

This means that it is only safe to have static objects (such as graphics and static text) overlapped by other objects. It is not safe to have dynamic objects (like editable text) below other objects, because it may cause the stack to be updated incorrectly.

*Figure 111*

Sending some static text to the back.

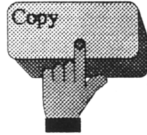


To bring an object to the front, select **To Front** from the **Object** menu. To send an object to the back, select **To Back** from the **Object** menu.

## Using the Clipboard

Before reading this section you should be familiar with the use of the clipboard (see "The Clipboard" on page 3-18).

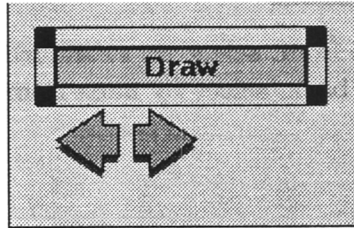
### Copying and Pasting Objects



Objects can be copied to the clipboard just like text and graphics. Select one or more objects and use **Copy** from the **Edit** menu, or use the **Copy** key.

Figure 112

A button pasted into the stack.



You can now paste the object into another stack by selecting **Paste** from the **Edit** menu, or use the **Paste** key. Copying and pasting objects is useful if you want to use objects from other stacks.

In the example above the **Draw** button from the system stack was copied from the system stack and pasted into an untitled stack<sup>1</sup>.

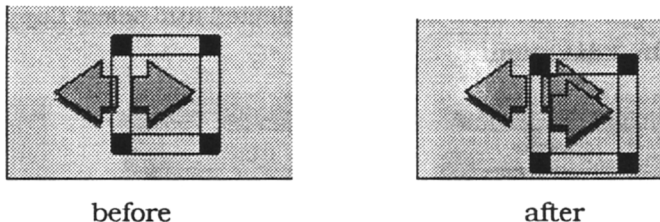
1. It still produces a drawing tool when pressed!

## Duplicating Objects

To create a duplicate of an object, select the original and use **Duplicate** from the **Edit** menu.

*Figure 113*

Duplicating an object.



Duplicating an object creates an identical copy of the original. It is offset by a few pixels. Duplication of objects is useful when you want to create a row of buttons each of the same size.

## Deleting Objects

To delete an object simply hit the **Delete** key while the object is selected. You can also select **Clear** from the **Edit** menu.



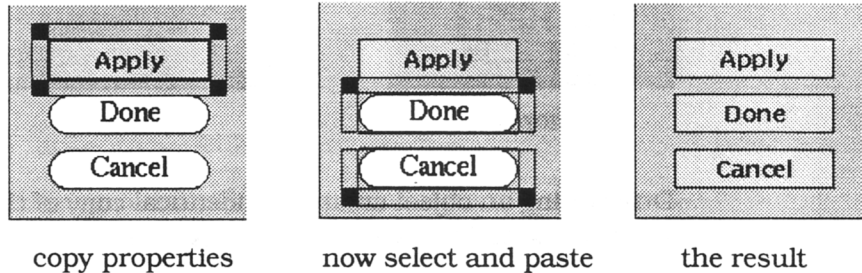
Selecting **Cut** from the **Edit** menu, or using the **Cut** key, copies the object to the clipboard before deleting it.

## Copying and Pasting Object Properties

Often you want to copy the *style* of an object to other objects. It is possible to copy an object's properties to the clipboard. Make sure that the object of the desired style is selected and select **Copy Object Props** from the **Edit** menu.

Figure 114

Copying properties.



Now select one or more other objects and select **Paste** from the **Edit** menu. The properties of the selected object will be set to be identical to the original.

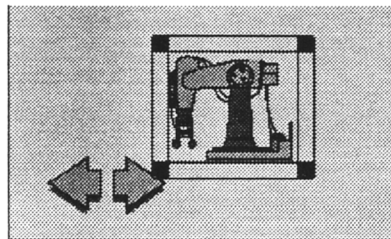
## Pasting Text and Graphics

You can paste text directly into a stack when the stack is in edit mode. The text is inserted either as a field object (if it is a single line of text) or as a text object (if it contains newline characters).

Pasting a drawing into a stack creates a button of the right size to hold the drawing (see "Drawing Buttons" on page 6-10).

Figure 115

Pasting a drawing into a stack.

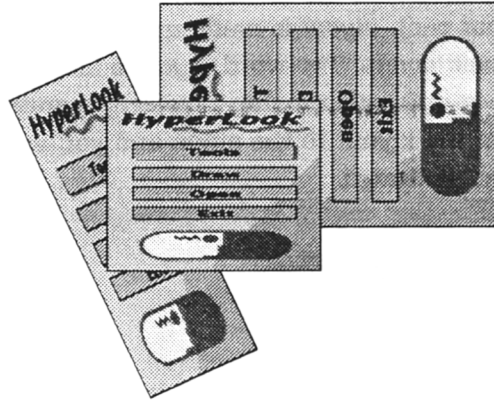


## Copy as Drawing

You can copy an object *as a drawing* to the clipboard by selecting the object and using **Copy Object as Drawing** from the **Edit** menu. An Encapsulated PostScript drawing is generated by drawing the object and capturing the PostScript instructions that are executed.

Figure 116

A stack, after being copied as a drawing, really is a drawing!



You can also copy a whole stack as a drawing. When no object is selected, select **Copy Stack as Drawing** from the **Edit** menu. Most illustrations in this manual were created this way (apart from some screen snap shots).

Due its complex nature, the *copy as drawing* operation may take some time<sup>1</sup>. Keep an eye on the SystemStatus stack (see "The SystemStatus Stack" on page 2-6). It will tell you when the drawing is ready. Then you can paste it into a graphics editor.

1. It can take from a few seconds to a full minute for complex stacks.

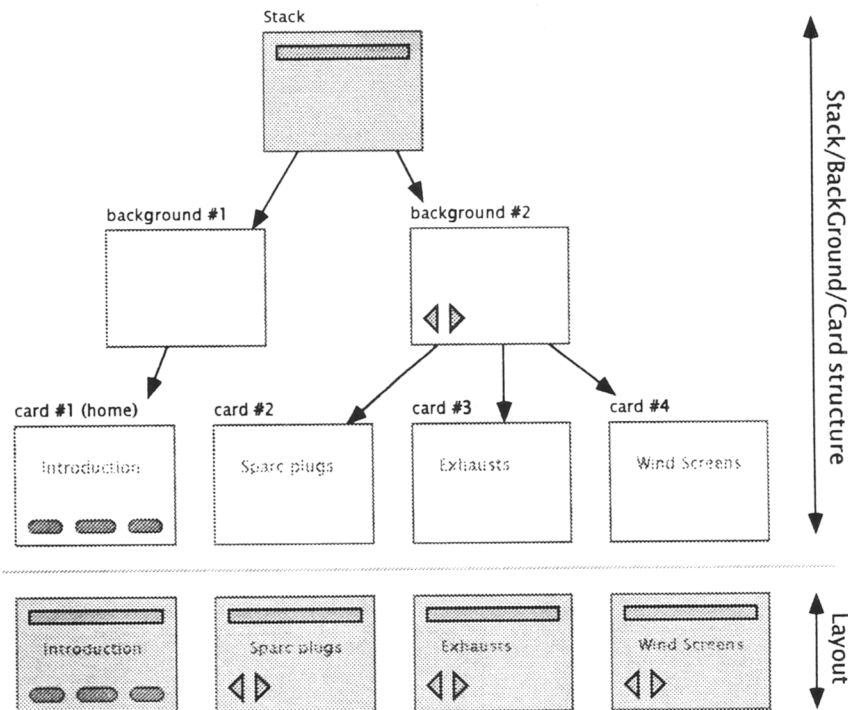
## Cards and BackGrounds

Each stack can have multiple cards and each card has a background which it can share with other cards. See "Using Stacks" on page 3-7 to see how to move between cards in a stack. The stack, background and cards are arranged in a tree structure as shown in Figure 117.

You can see that each *layout* is made up of objects from the card, background and stack layers. The word *layout* is normally dropped, because there is a one-to-one relationship between layouts and cards. Trace a path back from the layout to the stack and you will be able to work out how each layout is drawn.

Figure 117

An example of how cards and backgrounds are organized within a stack.





The objects of a stack can be on one of three layers:

1. *Stack layer.* Objects on this layer appear on every card. It is often used to hold components such as resize corners.
2. *Background layer.* Objects on this layer appear only if the current card has this background. Multiple cards can share the same background. This layer is therefore used to hold objects which should appear on a set of cards.
3. *Card layer.* Objects on this layer appear only if the card is visible.

Objects on the stack layer *always* appear behind objects from the background or card layer. Objects from the background layer always appear behind objects from the card layer but in front of objects from the stack layer. See "Generic Properties" on page 6-3 on how to specify the layer of an object.

## Adding and Deleting Cards

To add a card simply select **New Card** from the **Card** menu. This adds a card just after the current card.

The new card will have the same background as the current card. This means that the stack and background objects of the current card will appear on the new card too. The card itself will be empty.

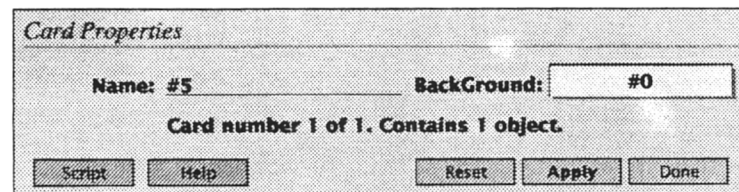
To delete the current card select **Delete card** from the **Card** menu. A stack must contain at least one card.

## Card Properties

Selecting Card Info from the Card menu show the card properties stack.

Figure 118

The properties of a card.



After changing the properties of the card, press the **Apply** button. You can undo the changes made to the properties by pressing **Reset**. When you are finished press **Done**.

Don't worry about the **Script** and **Help** buttons they are explained later.

## Card Properties Explained

The **Name** field lets you specify the name of the card.

The **BackGround** pulldown lets you select either **New BackGround** to give the card a completely new background, or the name of an already existing background. See "Using BackGrounds" later in this section on how backgrounds are used.

## Copying Cards to the Clipboard

You can copy a card and its contents to the clipboard by selecting **Copy Card** from the edit menu.

Pasting the card into a stack (when in edit mode) causes the card to be added after the current card of the stack. The card will have the same background as the current card.

## Using BackGrounds

Backgrounds are useful if you want some objects to appear on a group of cards. Figure 117 on page 5-24 shows an example of an application where the next and previous buttons (the arrows) appear on every card of the stack except the first one.



This arrangement is achieved as follows:

1. Create a new stack.
2. Edit the first card of the stack.
3. Add a new card to the stack, then go to the new card and give the new card a new background (see "Card Properties" explained earlier).
4. Create next and previous buttons and set their layer property to BackGround (see "Generic Properties" on page 6-3).
5. Add two new cards to the stack. They will both use the background with the previous and next buttons.

The advantage of using backgrounds is that the objects on the background are shared between cards<sup>1</sup>. If you make changes to an object on a background these will affect all the cards that share the background<sup>2</sup>.

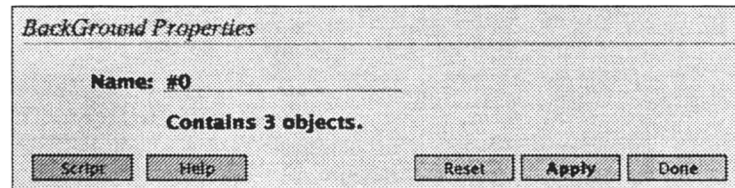
You can assign a new background to the current card by selecting **New Background** from the **Card** menu. A new background can also be assigned from the card properties (see "Card Properties" earlier in this section).

## BackGround Properties

Selecting **Background Info** from the **Card** menu shows the properties of the current background.

Figure 119

The properties of a background.



The only property that you can change for a BackGround is the name. Enter the name in the **Name** field.

---

1. This saves memory!  
2. This saves time!

After changing the properties of the background, press the **Apply** button. You can undo the changes made to the properties by pressing **Reset**. When you are finished press **Done**.

Don't worry about the **Script** and **Help** buttons as they are explained later.

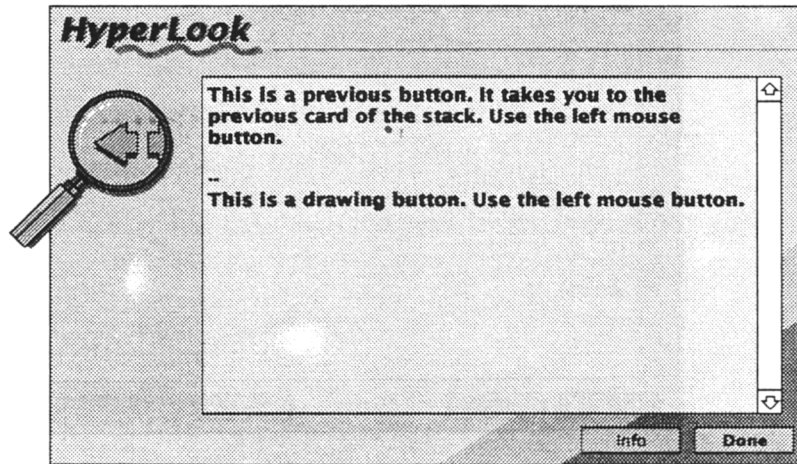
## Defining Help



You can add help text to any HyperLook object. This text is shown when the **Help** key is pressed while the mouse is over the object.

Figure 120

Getting help text on an object.



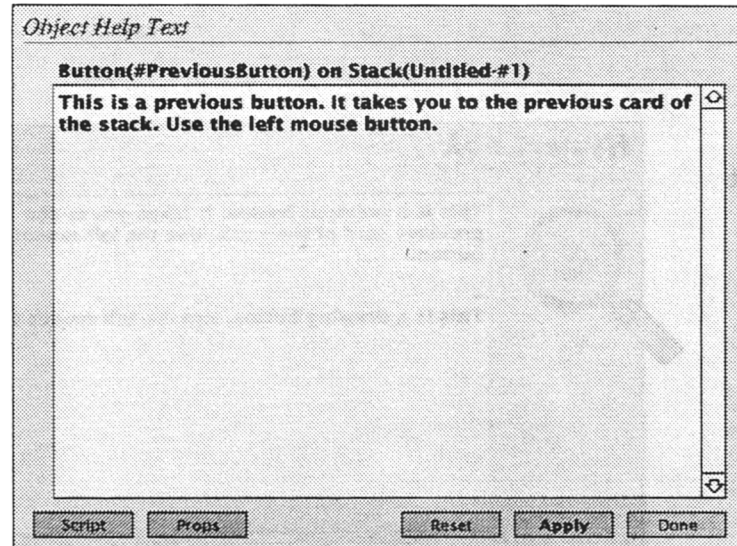
The section “Using Help” on page 3-3 describes how to get help on HyperLook objects while you are in browse mode. In this section, you’ll find out how to change the help text for HyperLook objects. You do this in edit mode, and you don’t need to do any programming!

## Editing Help Text

When you press the **Help** key in *edit* mode, a text editor is shown which lets you edit the help text of the selected object.

Figure 121

Editing the help text of an object.



After editing the help text, press the **Apply** button. Press **Reset** to undo the changes that you have made. When you have finished editing the help text, press **Done**.

You can also edit the help text editor by pressing the **Help** button on the property stack of an object, card, background or stack.

## Looking for Help

Every object, including stacks, cards and backgrounds, can have help text. When the Help key is pressed, the text is located in the following order:

1. The object under the cursor
2. The current card
3. The current background
4. The stack

If no help is found, then some generic help is shown for the object or the current card. If help text is found at more than one level, the first help found is shown.

The way help text is located lets you specify generic help for a stack. If no help text is defined for an object, the current card and the current background, then the stack's help text is shown. It also lets you define help text per card or per background.

To edit the help text of a stack, background or card, press **Help** in the relevant property window. It is really very easy to add help to your application.

## Black and White Stacks

HyperLook stacks that are designed for a color screen may look bad on black and white screens. This is because colors with different hues can have equal intensities. Also, the stipple patterns which are used to represent colors of varying intensities can look bad on low resolution screens.

You can design black and white versions of your stacks, and save them in a sub directory of your resource directory called **mono**. The resource manager will add the **mono** directory to the resource directory list only when HyperLook is running on a black and white screen.

See "The Resource Manager" on page 3-23, which explains how to add and remove resource directories from the resource directory list (see also **hlp<sub>path</sub>(1)** on page C-5).

You don't need to worry about the **mono** directory if you design your application for black and white screens only.

