?

The "?" pulldown menu in the OpenStack dialog lists recently opened stacks. If you select a stack from this menu it will be opened (use the left mouse button). Stacks that have been changed are marked with a "*" character.

While typing the stack name you can type **Tab** to complete the name of the stack if it has been recently loaded.

Press **Cancel** to cancel if you don't want to open a stack after all. Press **New** if you want to create a completely new stack (see "Creating a New Stack" on page 5-5).

So now you can see how easy it is to explore HyperLook. Once you know the name of a system stack you can open it, exactly like a stack of your own.

The Stack Menu

Every stack has a pop up stack menu. This menu provides some basic functions to manipulate the stack. Figure 24 on page 3-5 shows the stack menu.

One word of warning, some objects have their own menu which is shown when holding down the right mouse button inside them. To show the stack menu make sure that you hold down the mouse over an empty region of the stack.
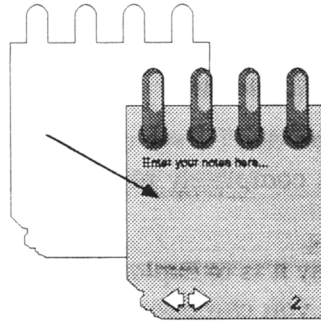
Moving Stacks

Most stacks can be moved to a new position on the screen by holding down the mouse button and dragging the stack to a new position. Go back and reread "Use of the Mouse" on page 3-4 if you are having trouble with the mouse buttons.

To move a stack, hold down the mouse in an unoccupied area of the stack or in a non-active object like the title of the stack. Clicking in an active object usually activates the object, instead of moving the stack.

Figure 29

Moving a stack.

Some stacks can't be moved, so attempts to move them are ignored. Most of HyperLook's dialogs and property stacks can't be moved.

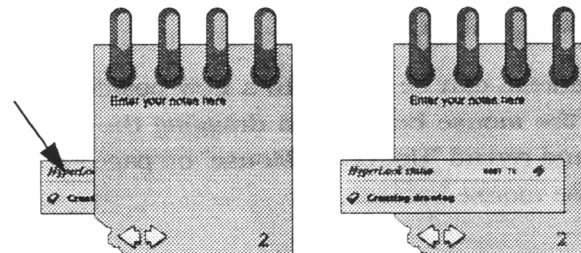## Bringing Stacks to the Front

In a multi-window environment, stacks and window can cover each other, so sometimes you need to change their front to back ordering.

To bring a stack to the front, simply click in an unoccupied area of the stack. You can also bring it to the front, or send it to the back by pressing the **Front** key on the keyboard, while the mouse is anywhere over the stack.

Figure 30

Bringing a stack to the front.

When you press the **Front** key and, the stack is already at the front, it will be sent to the back instead!
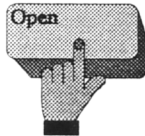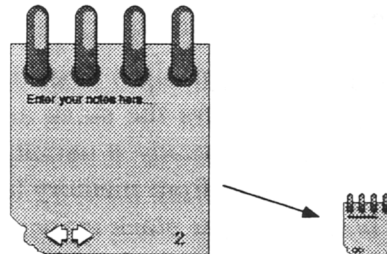
Iconifying Stacks

Stacks can be iconified. A stack icon is a miniature version of the stack, displayed at the bottom of the screen. An iconified stack does not accept any user input until it is de-iconified (opened).
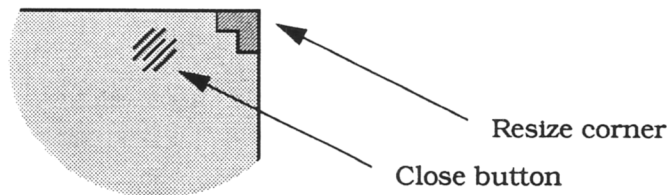
Figure 31

Iconifying a stack.

To iconify a stack, press the **Open** button on the keyboard. This might seem odd to you at first, but you'll soon get used to it. To open an icon you also use the **Open** button or you can double click on the icon.

Figure 32

A close button and resize corner.

Resize corner

Close button

Some stacks also have a close button. When you click on it, it iconifies the stack.

Resizing Stacks

Some stacks, such as the graphics editor, have resize corners. The resize corners lets you change the size of the stack.

Hold down the mouse in one of the resize corners, and drag it until the stack has the desired size.

Redrawing Stacks

Sometimes a stack needs redrawing. The stack can be redrawn by pressing the **Again** key on the keyboard while the mouse is over the stack.

Zapping Stacks

After finishing with a stack, you can zap it from the screen. Select **Zap** from the stack menu. Zapping clears the stack and the icon from the screen and from memory as well. Actually, it usually takes a few minutes before the stack is really removed from memory (see "The Stack Manager" on page 3-22 on how to use the stack manager).

Using HyperLook Components

This section will briefly discuss how to use the most common HyperLook components. Some components such as text and text fields have keyboard accelerators which you will find useful.

Using Buttons

Buttons are very easy to use. Hold the mouse down inside the button and the button will highlight. Releasing the mouse while the button is highlighted executes its action.

Figure 33

Pressing a button.

button   depressed button
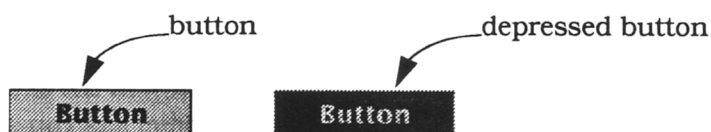
Button   Button

If you change your mind while holding down the mouse, move the mouse out of the button's area until it is no longer highlighted and release. Then the action is not executed.

Using Checkboxes

A checkbox is another type of button. It can be on or off. If the checkbox is crossed it means that it is on.

Figure 34

Examples of checkbox.

☐ **Locked**   Not locked

                               Locked

☒ **Locked**
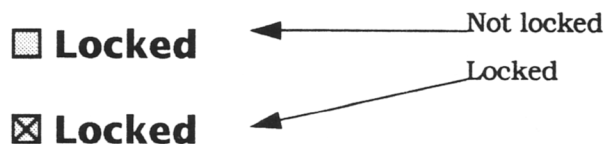
To change the state of the checkbox, click the mouse inside it.

Using Scrollbars

Scrollbars are used in text objects, graphics editors, lists etc. A scroll bar is very simple, it lets you scroll text or graphics in a horizontal or vertical direction.

Figure 35

An active horizontal scrollbar.

nudge left   scroll anywhere   nudge right
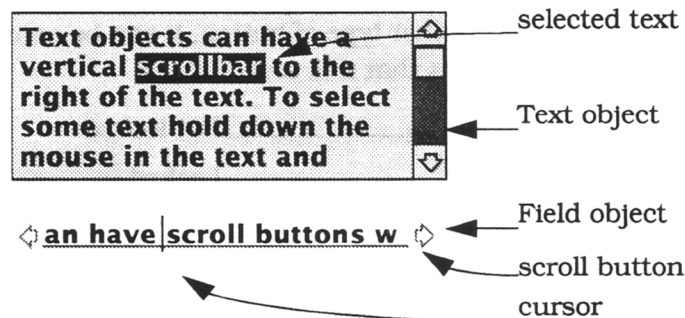
jump left   jump right
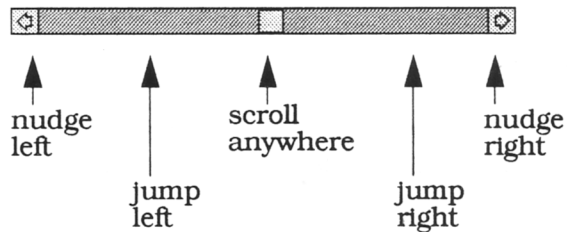
Horizontal and vertical scrollbars behave in the same way. The drag box of a scrollbar (the little box in the middle) lets you scroll to any position. Hold the mouse down in the drag box, drag it to the desired location and release.

Editing Text

Text objects are divided into single line text objects called *Fields* and multi line text objects simply called *Text*.

Figure 36

A text object and a field object.

Text objects can have a vertical scrollbar to the right of the text. To select some text hold down the mouse in the text and

selected text

Text object

Field object

scroll button

cursor

◁ **an have|scroll buttons w** ▷

Text objects can have a vertical scrollbar to the right of the text. Fields can have scroll buttons when the string which you are editing is longer than the field itself.

To select some text hold the mouse down at the beginning and, while holding the mouse down, drag the mouse to the end of the selection and release. The selected text will be highlighted.

See section "The System Properties" on page 3-31 on how to use the clipboard when editing text.

Text objects accept keyboard commands. These commands are listed below. Commands that assume multiple lines of text do not work for Field objects.

- `Control-A` -- go to the beginning of the line
- `Control-B` -- go to the previous character
- `Control-E` -- go to the end of the line
- `Control-F` -- go to the next character
- `Control-G` -- go to the end of the next word
- `Control-N` -- go to the next line
- `Control-P` -- go to the previous line
- `Control-Q` -- go one page up
- `Control-R` -- go to the beginning of the previous word
- `Control-S` -- go to the beginning of the text
- `Control-V` -- go down a page
- `Control-Z` -- go to the end of the text

You can also use the arrow keys (**R8**, **R10**, **R12** and **R14**) to move around in the text.

- `Control-C` -- delete the current line
- `Control-D` -- delete the next character
- `Control-K` -- delete until the end of the line
- `Control-O` -- split the current line
- `Control-U` -- delete until the beginning of the line
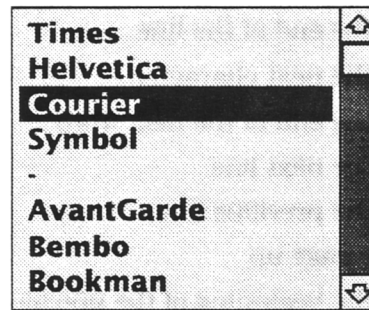- `Control-W` -- delete the previous word

- **Control-L** -- redraw the text
- **Control-T** -- go to the next text field (see also "Controlling the Input Focus" on page 6-13)
- **Esc** -- execute the action of the text

Scrolling Lists

Scrolling lists let you select an item from a list. On the right hand side they have a scrollbar which lets you scroll through the list.

Figure 37

A scrolling list font selector.

```
┌─────────────────────────┬──┐
│ Times                   │▲ │
│ Helvetica               │  │
│ Courier                 │  │
│ Symbol                  │  │
│ -                       │  │
│ AvantGarde              │  │
│ Bembo                   │  │
│ Bookman                 │▼ │
└─────────────────────────┴──┘
```

You can use the arrow keys on the keyboard (**R8** and **R14**) to move the selection up or down. Another useful way of selecting an item in the list is by typing the first letter of the item. If there are more items which start with the same letter, then type the letter again to select the next one.

Some scrolling lists can have multiple items selected (nonexclusive). Others can have only one item selected at a time (exclusive). Double clicking on a selected item usually executes the action of the list.
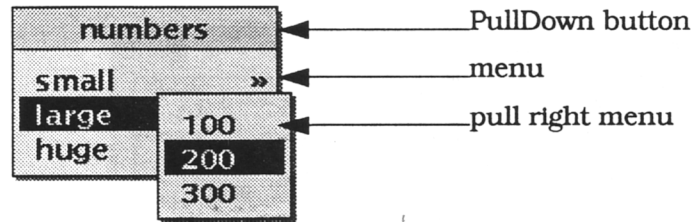
Pulldown Buttons

Pulldown buttons are buttons which have their own pulldown menu. Holding down the mouse in the button shows the menu. You can then drag the mouse over the desired item and release it.

Figure 38

Selecting an item from a PullDown button.

PullDown button

menu

pull right menu

The menu of a pulldown button can also have pull right sub-menus. See "Using Menus" on page 3-5.

Color Selectors

A ColorSelect item lets you select a color from the color pallet. Most property stacks contain ColorSelect items (see Chapter 6, "Object Properties").

Figure 39

Selecting a color using a ColorSelect object.

Stroke color:

Fill color:
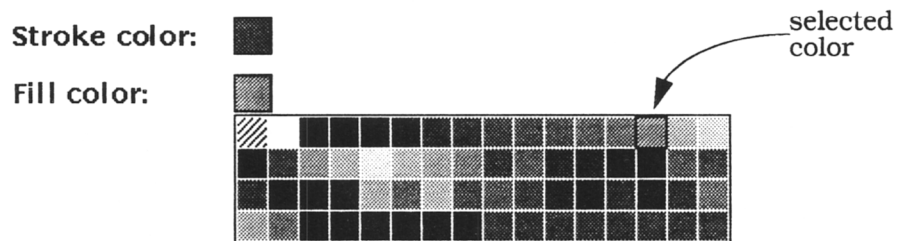
selected color

Holding down the mouse in the ColorSelect button shows pops up a menu containing the same set of colors as the ColorPallet. Drag the mouse to the desired color and release.
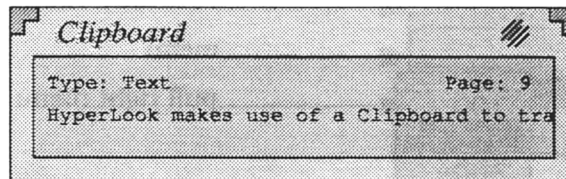
See "The Color Pallet" on page 3-20 to find out how to change the colors on color pallet.

The Clipboard

HyperLook uses a Clipboard to move data between windows or applications. You can show the Clipboard by selecting **Clipboard** from the **Tools** pulldown in the system stack.

Figure 40

The Clipboard stack.

It's possible to *cut* or *copy* some text onto the clipboard, and then *paste* it from the clipboard into another application.

Use the OpenWindows function keys labelled **Cut**, **Copy**, **Paste** for clipboard operations (see "The OpenWindows Function Keys" on page 3-35).

The HyperLook clipboard can hold several types of data. Data types supported by the HyperLook system include text, drawings, HyperLook components, etc.

Artwork, in the form of drawings, can be copied from one graphics editor to another (see Chapter 4, "Graphics Editing"). While the drawing is on the clipboard it will be displayed in the window.

Figure 41

The Clipboard stack containing a drawing.
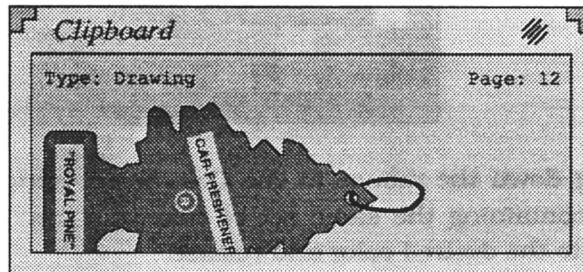
The Clipboard stack has 16 pages. Each time you copy some data onto the Clipboard it is put onto the next page. When all pages are full, the first page will be used again and any data it previously contained before is overwritten.

You can use the **PgDn** and **PgUp** keys on the keyboard to change pages in the Clipboard. Select the page containing the data you want, the paste it into your application.

This makes it easy to copy and paste multiple objects from one application into another. First copy all the objects from the original application, then paste them from the clipboard into the destination. This avoids unnecessary switching between applications or stacks.

The Color Pallet

HyperLook graphics get their colors from a color pallet which you can change using the ColorPallet stack. You can show the ColorPallet stack by selecting **ColorPallet** from the **Tools** pulldown in the system stack.

Figure 42

The ColorPallet stack.
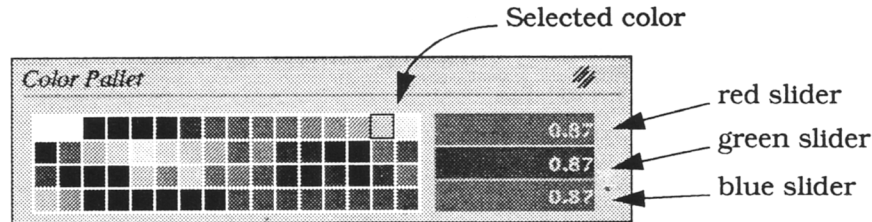
The set of colors that you choose the ColorPallet is used in all the ColorSelect buttons.

On the right the red, green and blue sliders indicate the proportions of red, green and blue in the selected color. The selected color has a little rectangle around it.

The values of the red, green and blue sliders range from 0 to 1 where 0 means the minimum intensity and 1 means maximum intensity.

Figure 43

The pallet of colors.
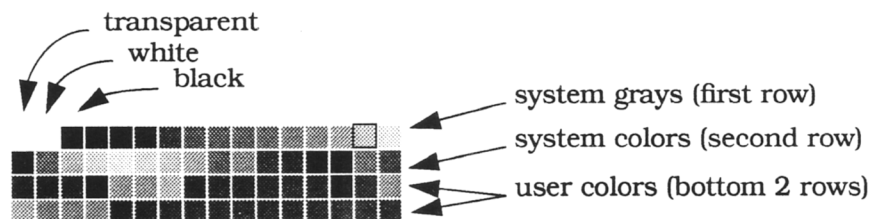
A bright red color is 1.0 for red and 0.0 for green and blue. A pink color is 1.0 red, 0.7 green and 0.7 blue.

The top two rows of the pallet are system colors. You can modify only the user colors (the bottom two rows). Select a user color and change the color sliders to the desired value.
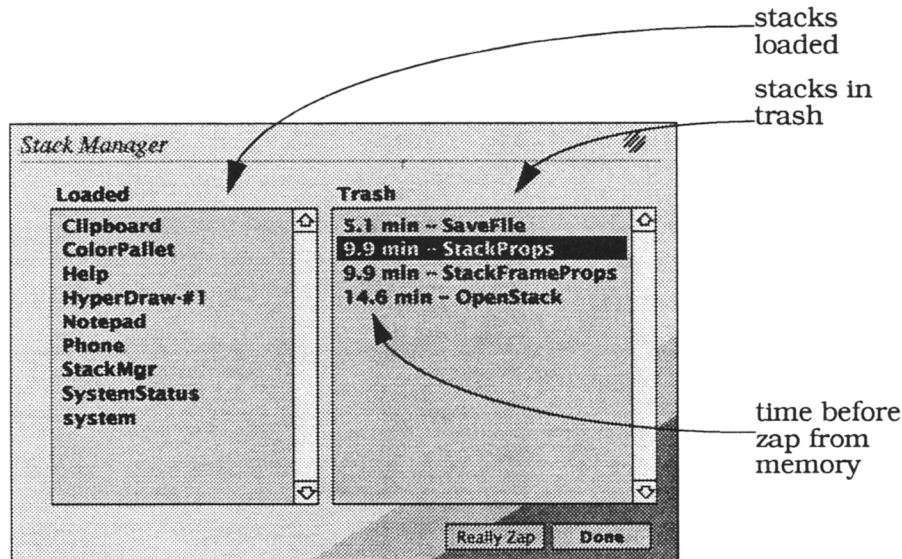
The quality of the colors in the color pallet depends on how you start OpenWindows. The best results are achieved when OpenWindows is started with the **-cubesize large** option (see "HyperLook on Color Screens" on page 2-11).

The Stack Manager

The StackMgr stack is shown by selecting **StackMgr** from the **Tools** pull-down in the system stack. The stack shows two lists, on the left is a list of all the stacks that are currently loaded into the system, on the right is a list of all the stacks in the trash.

Figure 44

The StackMgr stack.

stacks loaded

stacks in trash

Stack Manager	
Loaded	**Trash**
Clipboard	5.1 min -- SaveFile
ColorPallet	9.9 min -- StackProps
Help	9.9 min -- StackFrameProps
HyperDraw-#1	14.6 min -- OpenStack
Notepad	
Phone	
StackMgr	
SystemStatus	
system	

Really Zap   Done

time before zap from memory

When you zap a stack from the screen it is not immediately deleted from memory. It is kept in memory for a preset time which can vary per stack. When this time expires the stack is really zapped from memory.

Stacks are kept in memory for a while because reloading is then much faster. Some stacks are used frequently and loading them from disk each time would be slow.

The remaining time that a stack has to live is listed in the list on the left. This list is called the *trash* because stacks can be deleted from it without further notice. You may zap a stack from memory before the official time is expired by selecting it in the list and then pressing the **Really Zap** button. You might want to do this to free up some memory for other applications.
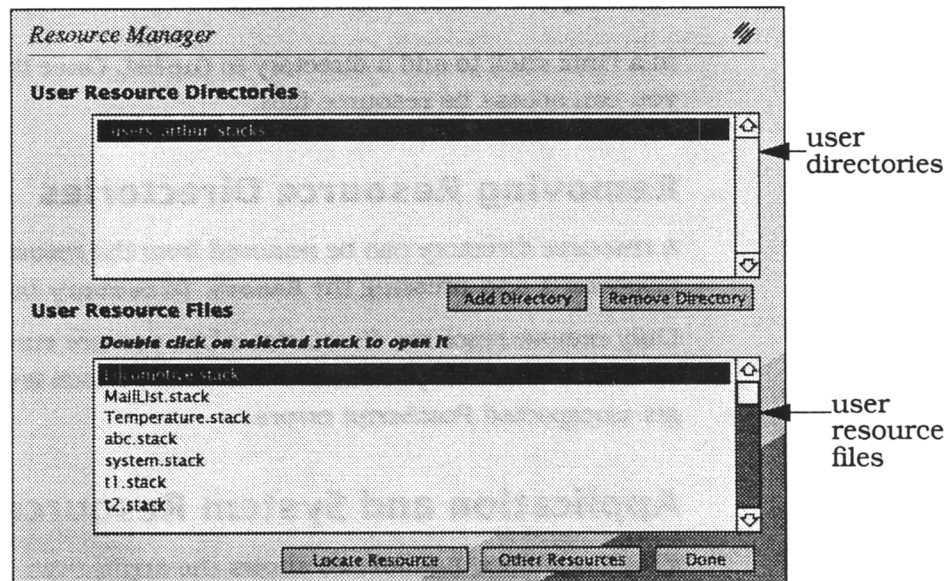
The Resource Manager

HyperLook keeps a lot of your data in files on disk. The resource manager's job is to locate these files. Files containing data such as stacks, drawings, images, sounds etc. are called *resources*. The resource manager's task is to locate these resource files.

To show the ResourceMgr stack select **ResourceMgr** from the **Tools** menu in the system stack.

The resource manager maintains a list of directories which are searched when a resource is needed. For example the **stacks** directory in your home directory is part of this list. It is used to store your own stacks.

Figure 45

The ResourceMgr stack.

User Resources

The ResourceMgr stack contains two lists. The top one is a list of the user resource directories. The bottom list is a list of resource files in the selected resource directory.

Select the appropriate directory in the top list to examine the files in a resource directory. The resource files are then displayed in the bottom list. You can double click on a resource file to open it.

Adding Resource Directories

To access resources from other directories you must add the directory to the resource directory list. Press the **Add Directory** button and select the appropriate directory using the dialog (see "Selecting Directories" on page 3-30).

You can also use the **hlpath** program to add to the resource list. Type:

```
hlpath /usr/src/video/rsrc
```

in a Unix shell to add a directory to the list. Once the directory is added, you can access its resource files.

Removing Resource Directories

A resource directory can be removed from the resource directories list by selecting it and pressing the **Remove Directory** button.

Only remove resource directories when you are sure that no application or stack needs it. If you remove a directory which is still needed, you may get unexpected PostScript errors.

Application and System Resources

Pressing **Other Resources** shows the application and system resource directories. You cannot change this list, only applications can.
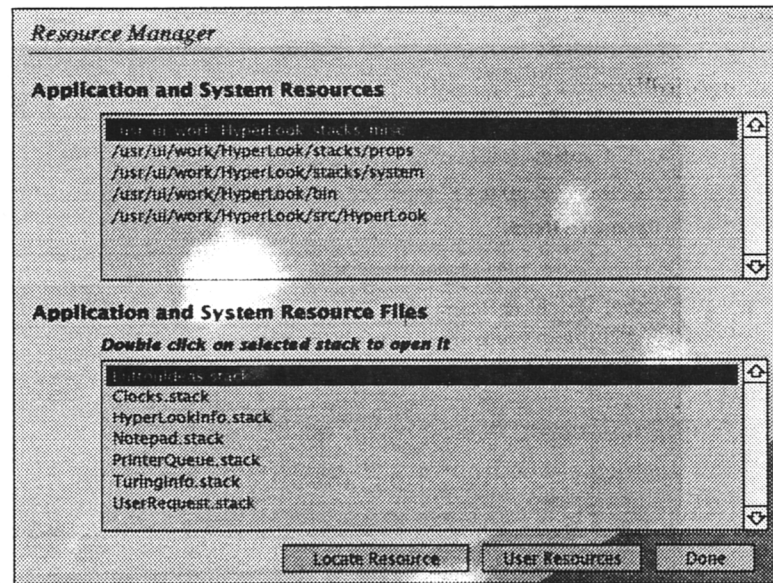
When an application is started, it usually adds its own resource directory to this list.

You can view application resource files or system resource files by selecting the resource directory.

Figure 46

Application and system resources.

To get back to the list of user resources press **User Resources**.

Locating a Resource

The HyperLook system locates resources by searching the resource directories in the following order (each list by itself is searched from top to bottom).

1. user resource directories
2. application resource directories
3. system resource directories

If a resource file occurs in more than one resource directory, the first occurrence is used. This means that user resources can override resources in application or system directories.

Press **Locate Resource** to find out exactly where a resource is located. After pressing the button, enter the name of the resource file and press **Search**. This searches for the resource.

Figure 47

Locating a
resource file.
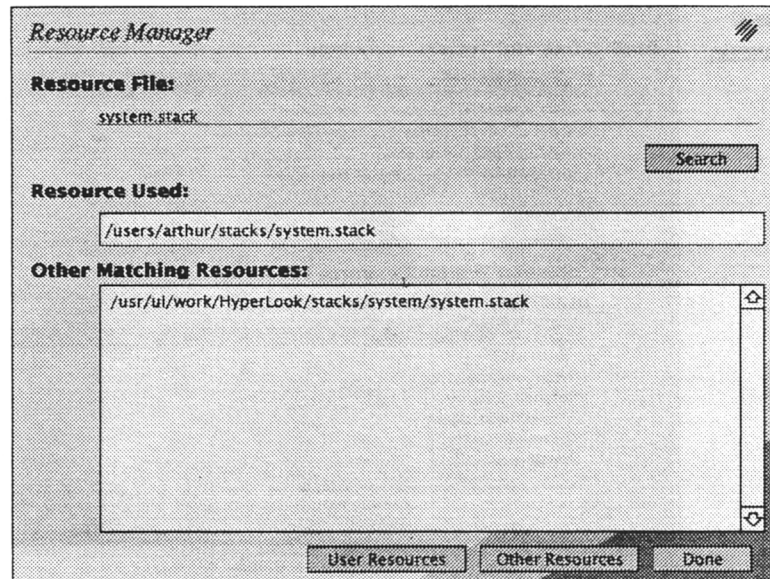
If the resource is found, its file name is shown as well as a list of any other file names matching that resource.

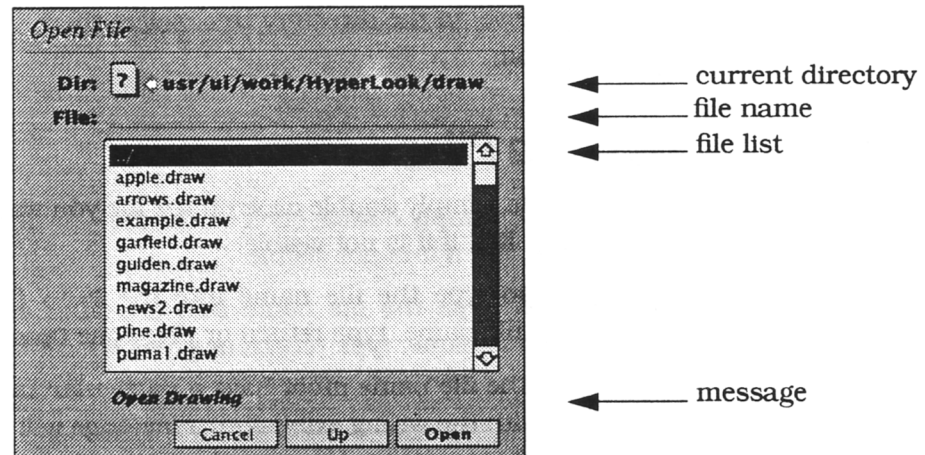Press **User Resources** to get back to the user resources list.

Handling Files

HyperLook provides file dialogs which are used by applications such as the graphics editor to open and save files.

Each dialog is a simple directory browser, which lets you select the appropriate directory, to open or save your file.

Figure 48

The OpenFile dialog.

The HyperDraw graphics editor uses the OpenFile dialog, to open drawing files (see "Loading Drawings" on page 4-6).

When the dialog appears, it displays the message "*reading directory*" while it reads the directory. When it's done reading, the files are displayed alphabetically.

If you want to cancel the whole operation, press the `Cancel` button.

Changing Directories

In the file list, directories are displayed ending in "/".

The easiest way to change to a new directory is to type its name into the `File` field, and type return. Either enter a full path name, or a path name relative to the current directory.

Another way to change to a new directory is to double click on the name of the directory in the file name list.The new directory will be opened and the new list of files displayed.

You can also select a recently used directory from a pull down. Just press the left mouse button down over the "**?**" button, and select a directory name from the list.

To go up a level in the directory tree, select the "**. . /**" directory or press the **Up** button.

Opening Files

To open a file, simply double click on the file you want. Use the scrollbar to scroll the list, if it is not visible.

You can also type the file name into the **File** field. Once you have entered the file name, type return or press the **Open** button.

Sometimes the file name must have a particular extension. If you try to open a file with the wrong extension, a message will be displayed to show you the legal extensions, for example: "*Extension must be .draw*".
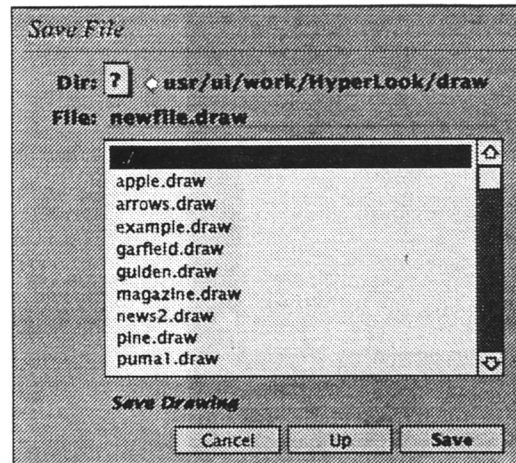
Other error messages are displayed in the message field. For example, a "*cannot read file*" message will be displayed when you don't have read permission for the file.

Saving Files

To save a file the SaveFile dialog is used. This dialog is similar to the OpenFile dialog.

Figure 49

The SaveFile dialog.

The graphics editor uses the SaveFile dialog, to save drawings (see "Saving Drawings" on page 4-6).

Select a directory and enter a file name in the same way as the OpenFile dialog. Once you have entered the correct file name in the file field, type return or press **Save** to save the file.
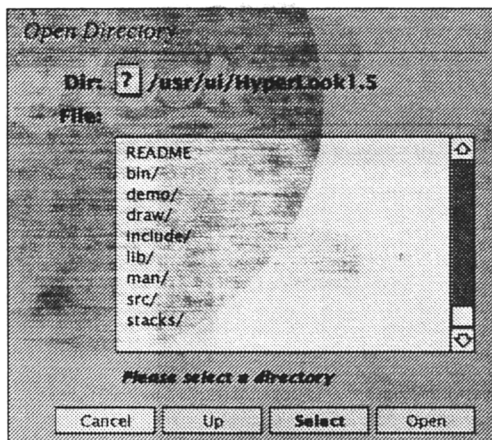
A file can also be selected by double clicking on the file name in the file list.

Selecting Directories

The OpenDir dialog lets you select a directory. It is similar to the OpenFile dialog.

Figure 50

The OpenDir dialog.

You must press the **Select** button to select a directory.

The Resource Manager uses the OpenDir dialog to select resource directories (see "The Resource Manager" on page 3-23).

Short Cuts

The OpenFile, SaveFile and OpenDir dialogs provide some useful short cuts, which can make life a lot easier.

The most useful short cut is file name completion. You enter only the first few character of a file name, then type **Tab**, and the file name will be completed as much as possible.

Another useful feature is using "~" in path names. Typing "~" followed by return takes you to your home directory. You can also type **~/subdir**, to refer to a subdirectory of your home directory. You can easily access directories of other users, by typing **~username**.
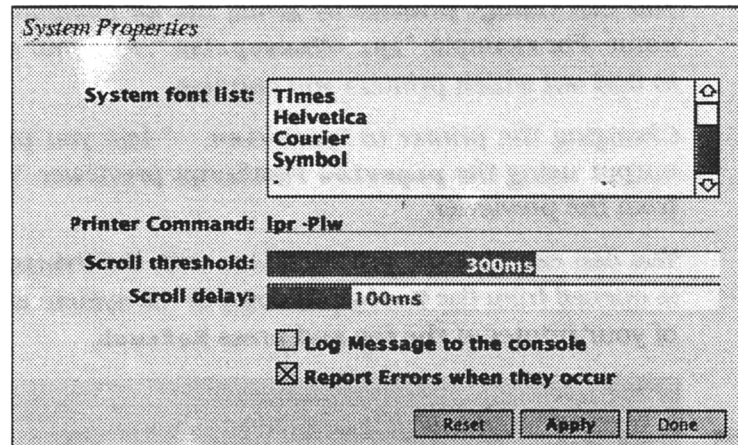
The System Properties

Selecting **SystemProps** from the **Tools** pulldown in the system stack shows the system properties stack. This stack lets you change system properties.

Figure 51

The System Properties stack.

Once you have changed the properties press **Apply**. To hide the window press **Done**. Changes can be undone by pressing **Reset**.

When you press **Apply**, the values which you have entered are saved to a file called **.hyperlook** in your stacks directory. This is a text file which contains some frequently used variables which need saving between sessions.

Changing the System Fonts

The system font list lets you specify which fonts you want to use in menus, pulldowns and selectors. You can change the default list and add fonts that you use most frequently.

When you press **Apply**, undefined fonts are removed from the list. A single "–" character separates groups of fonts.

Specifying a Printer

The default printer command used by tools such as the graphics editor is "**lpr -Plw**". The lpr program prints a file to the printer named by the **-P** option (see the UNIX documentation for the lpr command)[1].

You can change printers by giving the lpr command a different printer name. For example: "**lpr -Pnewsprint**". Ask your system administrator to find out which printers you can use.

Changing the printer to "**pageview -**" lets you preview the generated output using the **pageview** PostScript previewer. You can print the file from the previewer.

You can examine the printer queue with the **PrinterQueue** stack which is opened from the **Tools** pulldown in the system stack. Enter the name of your printer at the top and press **Refresh**.

Figure 52

The PrinterQueue stack.
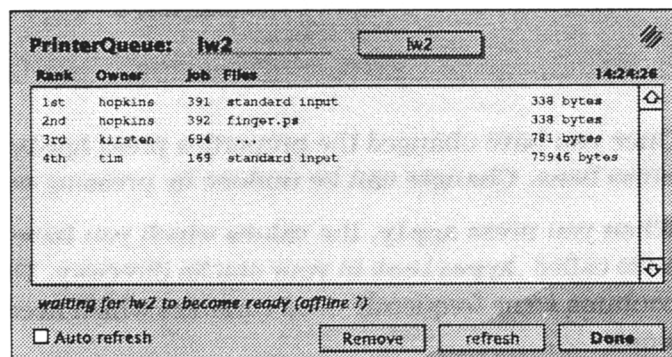
Scrolling Parameters

The System properties stack lets you select the scrolling threshold and scrolling delay times. These affect the speed at which text, scrolling lists and fields scroll.

The **Scroll threshold** is the initial delay in milliseconds between pressing the mouse down and the moment scrolling starts.

---

1. It must be a PostScript printer.

The **Scroll delay** is the time between the scrolling of each line of text. This affects the scrolling speed.

Logging Messages

HyperLook uses messages to pass information around in the system. You can switch logging on to monitor these messages. See Chapter 7, "Scripting" for more information on message passing. If you don't intend to do any scripting, you don't need to worry about logging messages.

Message logging means that messages are printed to the console as they occur. This lets you analyze the message traffic of your application. Here are examples of some messages:

```
from [?] to Stack(system) --> StackOnLeft()
from Stack(system) to Button(#2) --> OnMouse()
from Button(#2) to Button(#2) --> Action(0)
from Button(#2) to Stack(OpenStack) --> InitStack()
```

Before switching logging on, make sure that you have opened a console window. If you haven't, messages will be printed all over the screen.
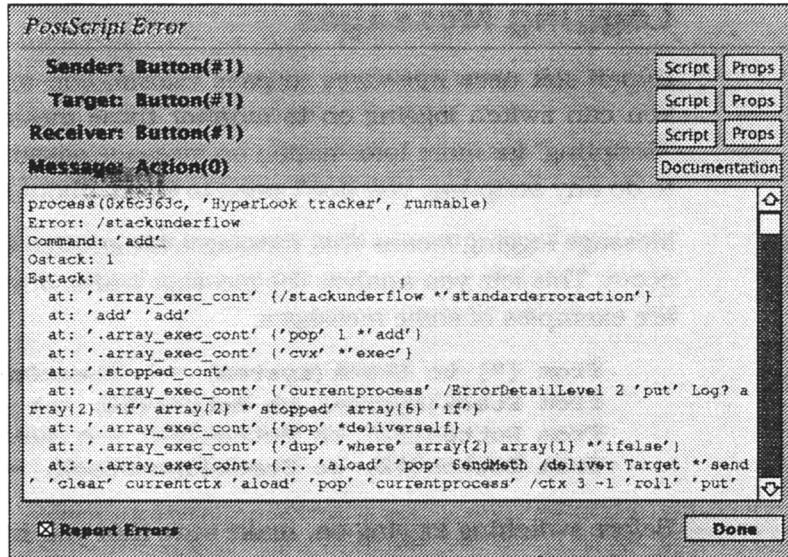
Report Errors

If you are writing your own scripts, you may find that errors are displayed when they occur. When an error occurs the error message is displayed in the **PostScriptError** stack.

It is sometimes useful to disable this feature, especially when an error occurs frequently, or when your error causes more errors. Click on the check box in the system properties stack to turn error reporting off.

Figure 53

The PostScriptError stack.


```
PostScript Error
    Sender: Button(#1)                                        Script  Props
    Target: Button(#1)                                        Script  Props
  Receiver: Button(#1)                                        Script  Props
  Message: Action(0)                                              Documentation

process(0x6c363c, 'HyperLook tracker', runnable)
Error: /stackunderflow
Command: 'add'.
Ostack: 1
Estack:
  at: '.array_exec_cont' {/stackunderflow *'standarderroraction'}
  at: 'add' 'add'
  at: '.array_exec_cont' {'pop' 1 *'add'}
  at: '.array_exec_cont' {'cvx' *'exec'}
  at: '.stopped_cont'
  at: '.array_exec_cont' {'currentprocess' /ErrorDetailLevel 2 'put' Log? a
rray{2} 'if' array{2} *'stopped' array{6} 'if'}
  at: '.array_exec_cont' {'pop' *deliverself}
  at: '.array_exec_cont' {'dup' 'where' array{2} array{1} *'ifelse'}
  at: '.array_exec_cont' {... 'aload' 'pop' SendMeth /deliver Target *'send
' 'clear' currentctx 'aload' 'pop' 'currentprocess' /ctx 3 -1 'roll' 'put'

 ⊠ Report Errors                                                    Done
```

You can also switch error reporting off from the PostScriptError stack. Use the checkbox in the lower left corner. See Chapter 7, "Scripting" for more information on the PostScriptError stack.

The OpenWindows Function Keys

Sun keyboards have some labelled function keys which have a function defined by OpenWindows. The HyperLook functionality for these function keys is the same as, or similar to the OpenWindows functionality:

Again

> Redraw the stack (see "Redrawing Stacks" on page 3-12).

Front

> Bring a stack to the front (see "Bringing Stacks to the Front" on page 3-10), or send it to the back if it's already in front.

Open

> Iconify a stack (see "Iconifying Stacks" on page 3-11), or open it if it is already an icon.

Undo

> Undo the last operation in the graphics editor (see "Using the Clipboard" on page 4-22).

Copy, Paste, Cut

> Clipboard editing operations (see "The Clipboard" on page 3-18).

Help

> Show help (see "Using Help" on page 3-3).

Home, End, PgUp, PgDn

> Move to the first, last, previous or next card of the stack (see "Moving Between Cards of a Stack" on page 3-8).

The Stack Menu

All of the operations that are available on the stack menu are described in other parts of the manual. Here is a complete list of references to the relevant sections.
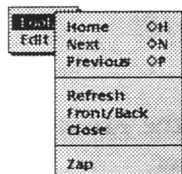
Look

Home

Go to the home card. See "The Home Card" on page 3-7.

Next
Previous

Go to the next or previous card. See "Moving Between Cards of a Stack" on page 3-8.

Refresh

Redraw the stack. See "Redrawing Stacks" on page 3-12.

Front/Back

Send the stack to the front or to the back. See "Bringing Stacks to the Front" on page 3-10.

Close

Iconify the stack. See "Iconifying Stacks" on page 3-11

Zap

Zap the stack from the screen. See "Zapping Stacks" on page 3-12.
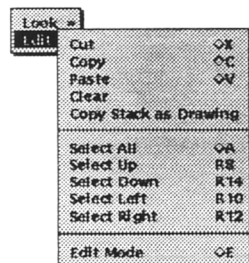
Edit

Cut
Copy
Paste
Clear

Clipboard editing operations. See "The System Properties" on page 3-31.

Copy Stack as Drawing

Copy a stack to the clipboard as a drawing. See "Copy as Drawing" on page 5-23.

Select All
Select Up
Select Down
Select Left
Select Right

Move the cursor. See "Editing Text" on page 3-14.

Edit Mode

Switch to edit mode. See Chapter 5, "Editing Stacks". This changes the stack menus to include editing features (see "Edit Mode Menus" on page 5-36). To get back to browse mode, select **Browse Mode** from the **Edit** menu,

HyperLook

4

Graphics Editing

HyperLook provides a powerful graphics editor which is fully integrated into the HyperLook system. The HyperLook graphics editor is useful because it's just an object like a button or a slider. This makes it very easy to add graphics editing capabilities to your own applications.

The editor is implemented using a graphics editor object called a **DrawTool**. The functions described in this section therefore apply to all the **DrawTool** objects in the system, even those in your own applications.

Figure 54

A PostScript Graphics editor object.
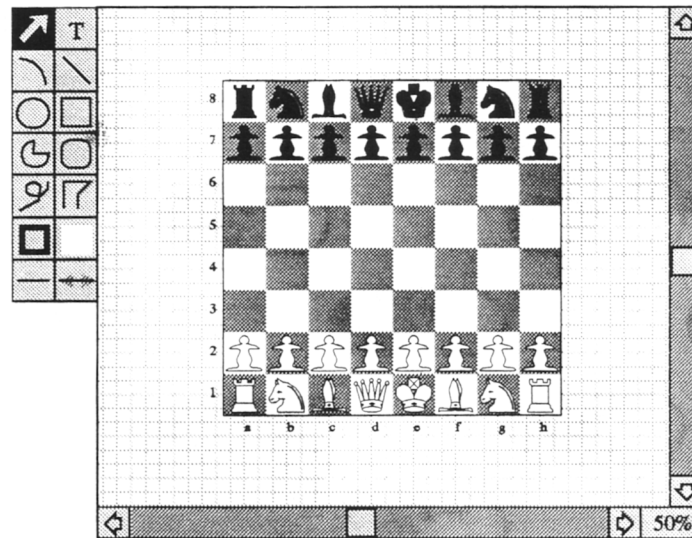
The editor is an *Object Oriented PostScript Graphics Editor*. This means that it edits objects such as rectangles, ovals, lines, and images. This type of editor is particularly useful for creating diagrams and technical drawings.

The fact that the editor uses PostScript graphics means that drawings produced with this tool can be scaled and rotated, and produce very high quality output when printed on a PostScript device.

PostScript is a high level graphical programming language. It is also a standardized page description language. It can produce high quality output on a large range of devices.

Figure 55

A drawing created using the graphics editor.

Using PostScript makes your diagrams very portable. Lots of other applications and printing devices accept PostScript. Most of the diagrams in this manual were produced with the graphics editor and then imported into FrameMaker.

Getting Started

The editor is started by pressing the **Draw** button on the system stack. This will show a HyperDraw stack. Pressing the button again creates another instance of the stack.

Figure 56

The graphics editor stack.
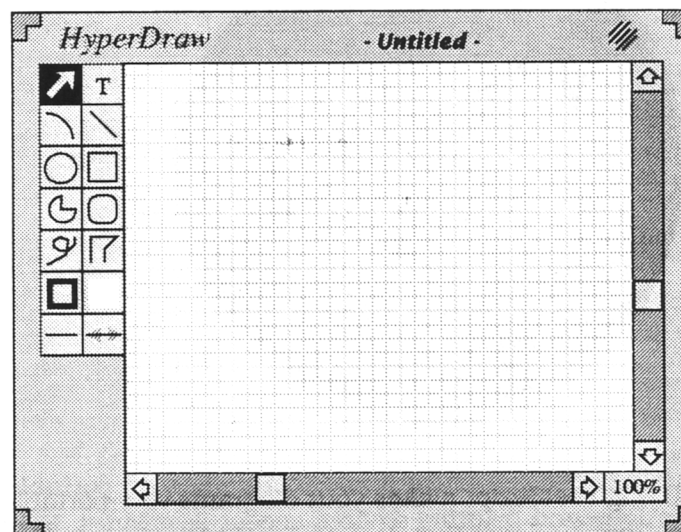
When working with more than one drawing, it is sometimes useful to have several editors active. Drawings or parts of drawings can be copied and pasted between editors.

Figure 57

The **hyperdraw** program icon and the drawing file icon.

hyperdraw   example.draw
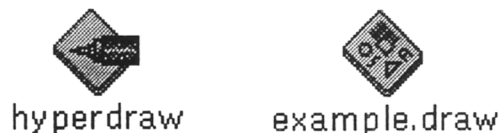
Another way to start the editor is double clicking the **hyperdraw** program icon in the Sun desktop file manager (see "Using the File Manager" on page 2-9 to see how to install the icons in the file manager). If you want to edit a drawing file, double click the drawing file icon.

You can get rid of the editor when you are finished by selecting **Zap** from the stack menu (see "Zapping Stacks" on page 3-12).

The Tool Pallet

Figure 56 on page 4-4 shows the graphics editor stack. On the left hand side it has a tool pallet which lets you choose drawing tool, colors, fill and line styles. The bottom right corner displays the current magnification.

Figure 58

The tool pallet.

pointer/text

drawing tools

line/fill color

line width/style
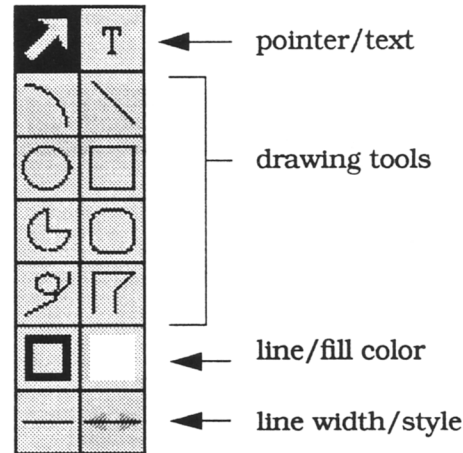
The scrollbars let you move your drawing around in the central portion of the stack, which is called the paper. The stack can be resized using the resize corners ("Resizing Stacks" on page 3-11).

Holding down the right mouse button on the paper shows a popup menu. It has a number of submenus which give you access to the features of the tool. In the following sections you will read instructions like "select **Open** from the **File** menu". This means "select the **Open** option from the **File** sub menu of the popup menu".

If you want an at-a-glance guide to the graphics editor menu functions you should read "The Graphics Editor Menus" on page 4-34. Otherwise read on and you will be taken on a tour of the graphics editor.
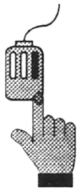
Loading Drawings

Select **Open** from the **File** menu to open a drawing. In the example in Figure 59, the drawing **draw/example.draw** was loaded from the HyperLook directory. See "Opening Files" on page 3-28 on how to use the **OpenFile** dialog. Note that drawing files always have a ".**draw**" file name extension.

Figure 59

After loading
example.draw.
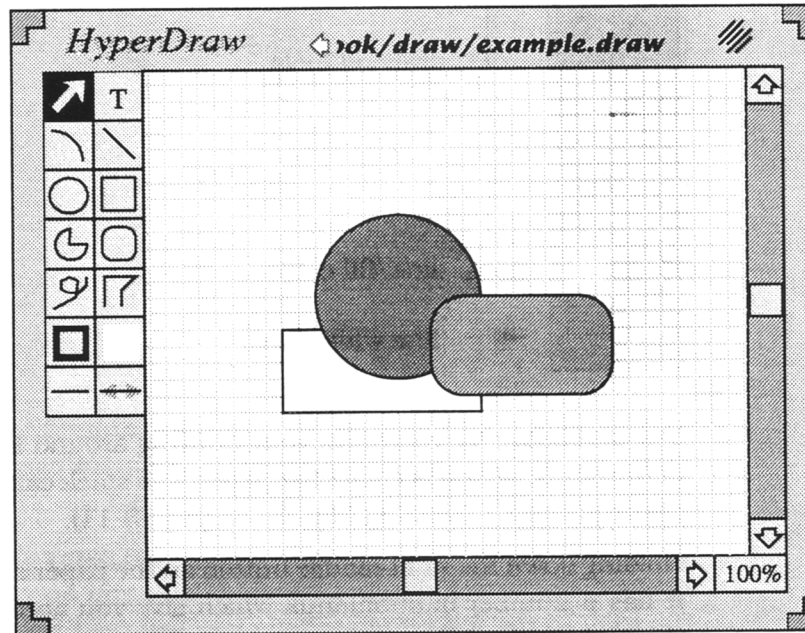
Saving Drawings

To save a drawing select **Save As...** from the **File** menu. You can enter a file name using the SaveFile dialog (See "Saving Files" on page 3-29).

Drawings can also be saved in the file from which they were originally loaded. Use **Save** from the **File** menu to save the drawing in the file from which it was loaded.

You can also save the drawing as *Encapsulated PostScript*. Select **Save EPS..** from the **File** menu to save the drawing in this format. See also "Encapsulated PostScript Objects" on page 4-30.

Saving a drawing as EPS is useful if you want to import the drawing into another application. Many word processing applications can import Encapsulated PostScript graphics into their documents.

Printing Drawings

A drawing is printed by selecting **Print** from the **File** menu. A popup message will appear to show that the drawing is queued for printing. See "Specifying a Printer" on page 3-32 for how to specify the printer on which the drawing is printed.

You can also use the **drawps** program to prepare a drawing for printing on a PostScript printer. It converts a drawing into PostScript format. The program can also be used to generated Encapsulated PostScript.

To print a drawing from a shell use[1]:

```
drawps < example.draw | lpr
```

---

1. Use the **-P** option of the **lpr** command to specify a printer if necessary.

Zooming

After loading a drawing you can view it at different magnifications. To zoom out (make the drawing appear smaller) select **Zoom Out** from the **View** menu.

Figure 60

Zooming out will show the edges of the paper.
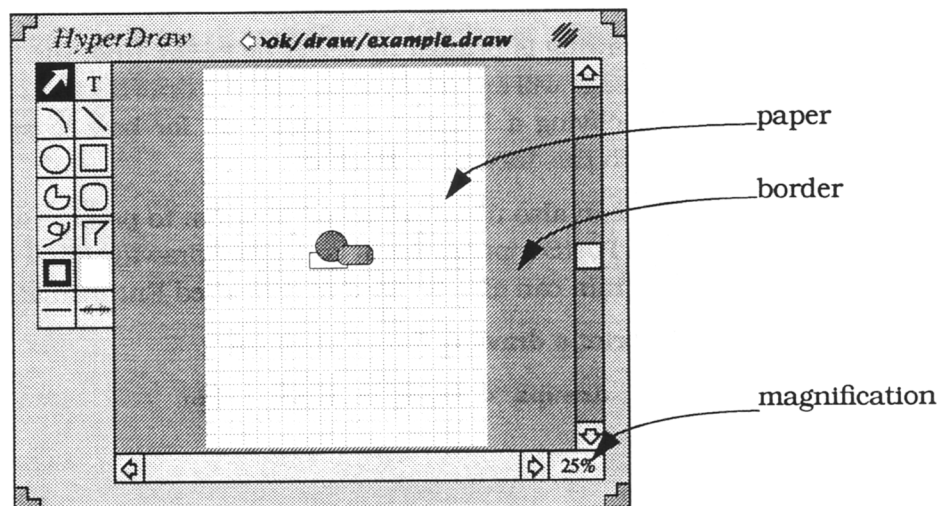
The magnification is displayed in the bottom right hand corner.

As you zoom out a few times, you will start to see the edges of the paper. The paper edges indicate how the drawing fits on the paper when it is printed.

You can zoom back in using the **Zoom In** option of the **View** menu. The magnification can be varied from 12.5% to 800%.

At any time it is possible to zoom back to the default (100%) magnification by selecting **Zoom Normal** from the **View** menu.

Moving Around

The position of the view can be changed using the scrollbars to the right and below the paper. See "Using Scrollbars" on page 3-14 if you're not sure how to use the scrollbars.
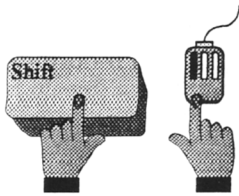
A very useful way to change the position of the view is by holding the **Shift** key down while dragging the left mouse button. This lets you drag the view around.

Selecting Objects

Most drawing operations apply to the currently selected objects. Objects can be selected by moving the mouse over them and clicking the left mouse button. The fact that an object is selected is shown by its marker points, usually at the four corners.

When selecting objects, make sure that the pointer is selected in the tool pallet.

Figure 61

The circle is selected.

marker
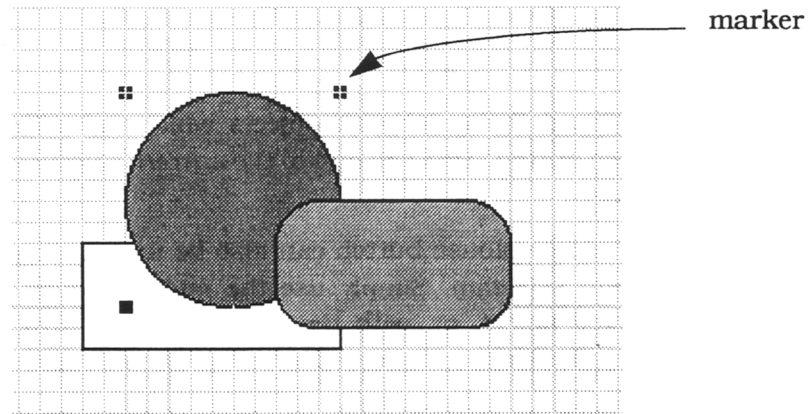
You can also select more than one object at the same time. Hold the mouse down somewhere outside the desired objects and drag a rectangle around them. The objects inside the rectangle are selected
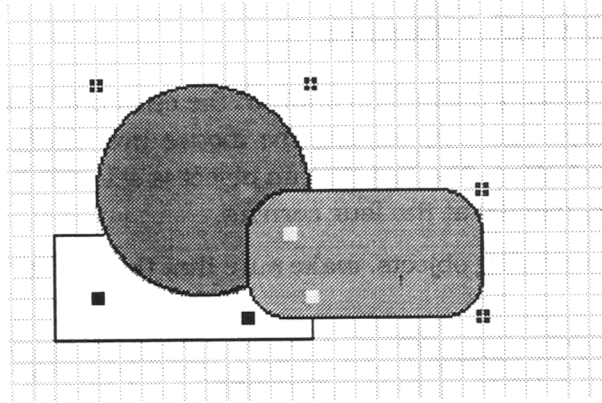
To extend the number of objects which are selected, use the middle mouse button. This will add to the current selection, without deselecting objects.

The middle mouse button can also be used to remove objects from the current selection. Simply use the middle mouse button to click on a selected object, or, with the middle button, drag a box around some selected objects to remove them from the selection.

You have two options when you want to select an object which is behind another object. Either enclose the obscured object by dragging a box around it, or click more than once on the object. Each click will select the object behind the currently selected one.

To select all objects in the drawing choose **Select All** from the **Edit** menu.

Editing Objects

Now you know how to view objects and how to select objects, we will move on to editing objects. Most objects are created and edited in the same way. In order to illustrate the creation and editing of objects we will consider the editing of a rectangle in detail. The methods illustrated can be applied to other object types in the same way.

Creating Objects

Let's start by drawing a new rectangle. First clear the view by selecting all the objects and either pressing the **Delete** key or selecting **Clear** from the **Edit** menu.

The rectangle tool is displayed in the panel on the left. When you click on it will be highlighted, just like in the picture, to indicate that the next thing that you draw will be a rectangle.

To create a rectangle, simply hold down the mouse at the desired location on the paper, and drag until the rectangle is the correct size. When you release the mouse button, the rectangle will be added.
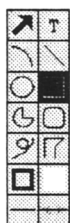
Figure 63

Adding a rectangle.
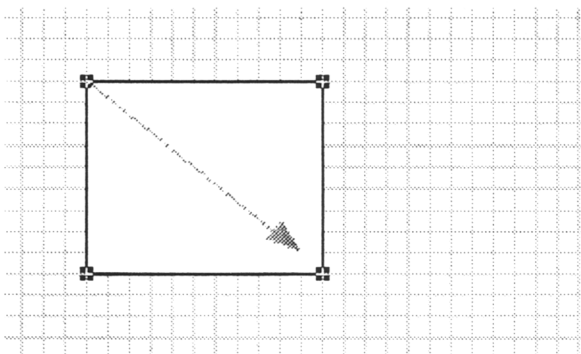
After the rectangle is added the tool is switched back to the pointer automatically.

Creating Multiple Objects

If you double click in the tool pallet, the selected tool will be displayed in gray instead of black. This means that *the tool will not switch back to the pointer when the object is created.* Instead it will stay active until you explicitly click on the pointer. This is useful when you want to add several objects in a sequence.

Figure 64

Creating a single rectangle (left) and creating multiple rectangles (right).
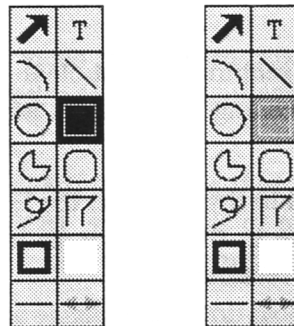
Polygons have a special behavior when the multiple object feature is enabled. See "Polygon and Spline Objects" on page 4-26 for more information.

Moving Objects

The rectangle is moved by holding down the mouse in the area of the object when it is selected, and dragging the object to the desired location.

Figure 65

Moving an object to a new location.
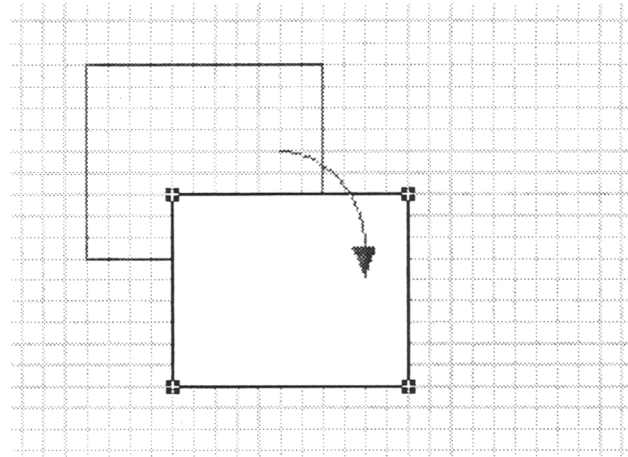
When more than one object is selected, all are moved accordingly.

Changing the Size of Objects

Objects can be edited using their markers. You can change the size of an object by holding the mouse down in a marker, and dragging it until the object has the required size.

Figure 66

Changing the size of an object.
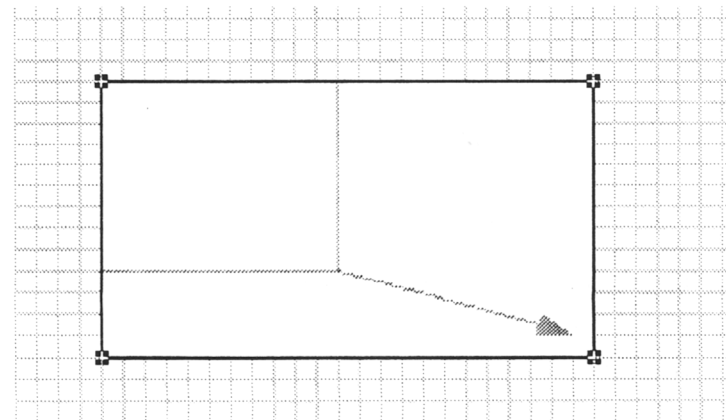
The width and height of the object (in pixels) is displayed near the cursor when you are resizing it.

Another way to scale objects is to select **Scale 50%** or **Scale 200%** from the **Special** menu. This is an easy way to make the selected objects twice or half their size. See also "Constrained Editing" on page 4-15 on how to change the size of an object without changing its width/height ratio.
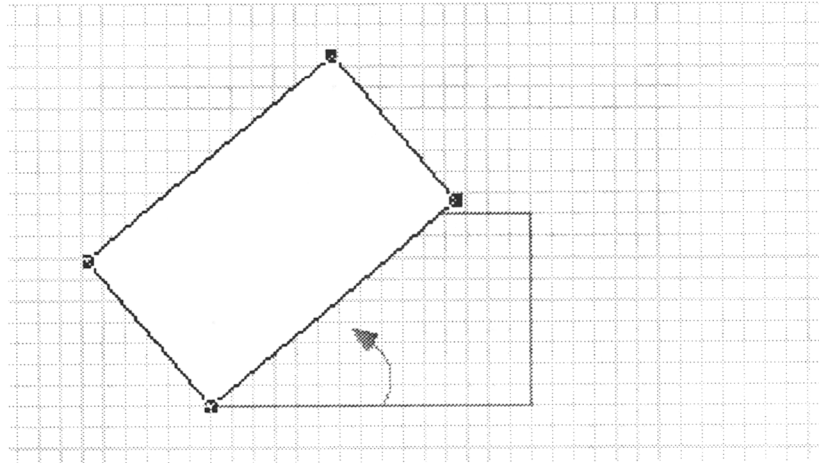
Rotating Objects
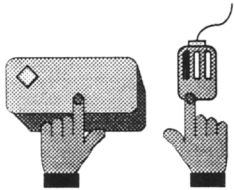
To rotate an object (or a group of objects), hold the mouse button down in a marker point while holding down the **Meta** key.

While the mouse is down you are able to rotate the object around the selected point. When the button is released, the object is displayed in its new orientation.
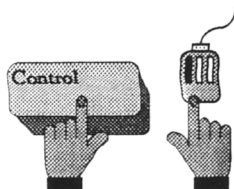
Figure 67

Changing the size of an object.

The degrees of rotation are displayed near the cursor while you are rotation the object.

To undo the rotation, select **Flip to normal** from the **Special** menu.

Constrained Editing

While editing objects, it is possible to apply a constraint. Hold down the **Control** key while dragging an object. It will only move vertically or horizontally.

Similarly, holding down the **Control** key while stretching the corner of an object will restrict its shape to a square or a circle, or it will maintain the image's original width/height ratio.

Rotating an object while holding down the **Control** key will restrict the angle of rotation to multiples of 45 degrees.

Using the Grid

You will notice that all editing operations are constrained to a grid. The size of the grid can be changed from the **Grid** menu.

The default grid size is 8, but smaller and larger sizes can be selected. Grid alignment can be switched off by selecting **None** from the **Grid** menu.

The grid lines are usually displayed in the background of a drawing. They are spaced according to the grid size and the current magnification. If the grid is small, not all grid lines are displayed.

Drawings created using a particular grid size should be edited using that same size or a smaller one. Otherwise, if the grid size is too large, it will be hard to edit the drawing without realigning objects to the new grid.

Aligning Objects

It is sometimes useful to align objects so that certain edges are on the same line.

Figure 68

Aligning some objects to their *right* edge.
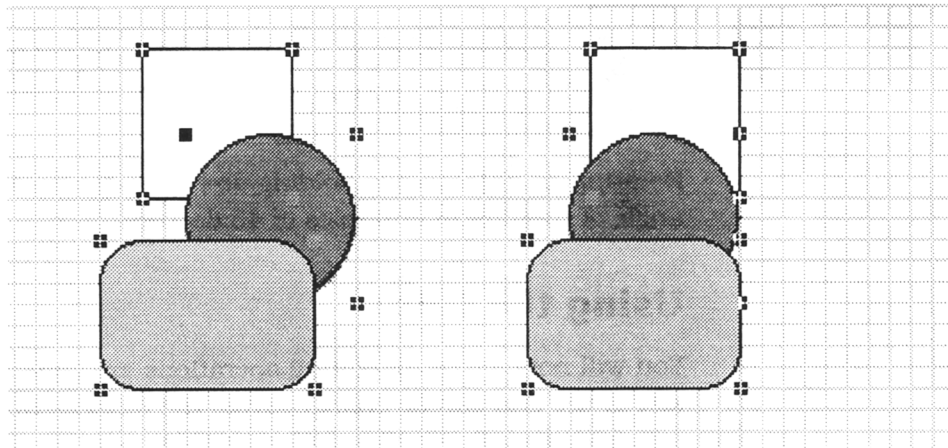
The **Align** menu provides several options. The *top*, *left*, *right*, or *bottom* edge can be aligned. Also, objects can be aligned by their center point, either at one point, along a vertical or horizontal line, or to the grid.

Alignment is always relative to the back most object. This object is not moved, the other objects are aligned to it.

Aligning the center of objects is useful when you want to put a text string in the center of a bounding box.
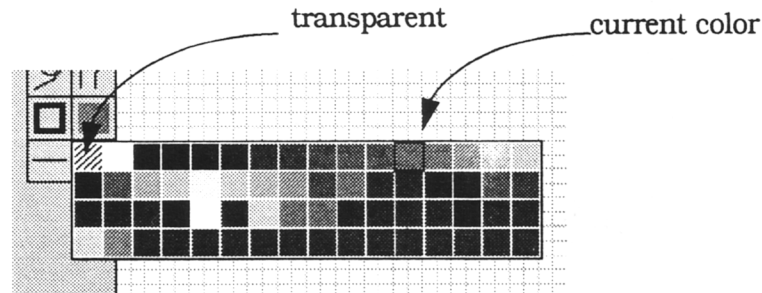
Figure 69

Centering a text string in a box.
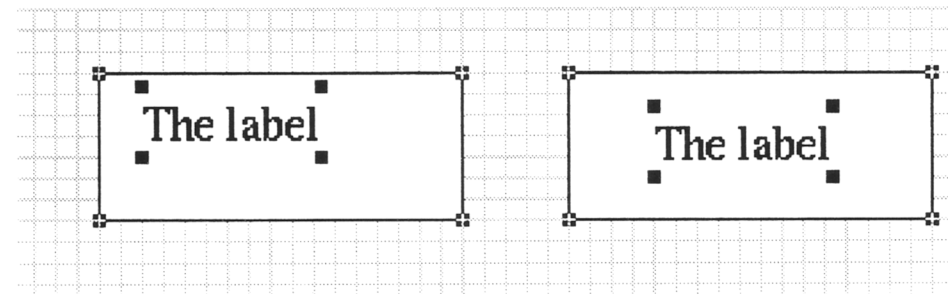
Selecting the Fill and Line Color

Objects are created using the current colors specified in the tool pallet. You can change the fill color of the selected objects by selecting a new color.

Figure 70

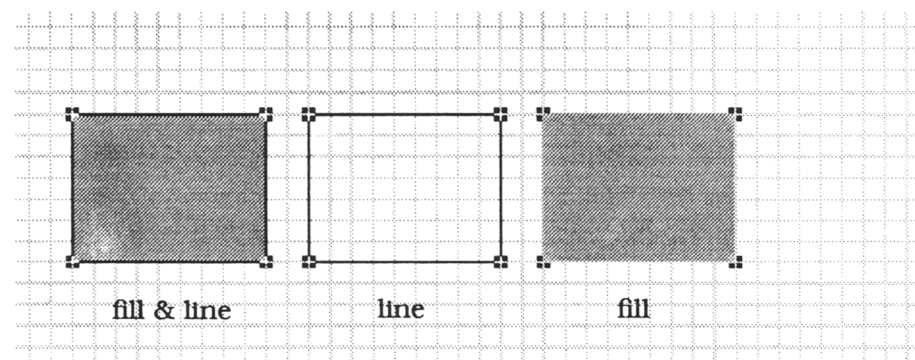Selecting a fill color.

transparent   current color

When you hold down the mouse on the fill color tool (on the right), a pallet of colors is shown. You can point the mouse at the appropriate color. When you release the mouse over a color, it will be applied to the selected objects. See also "Color Selectors" on page 3-17.

The first color in the pallet (in the top left corner) is transparent. If this color is chosen, the object is not filled (objects behind it will be visible).

The line color is chosen in the same way, using the line color tool (on the left). A transparent line color means no line at all[1].

Figure 71

Changing the color of a rectangle.

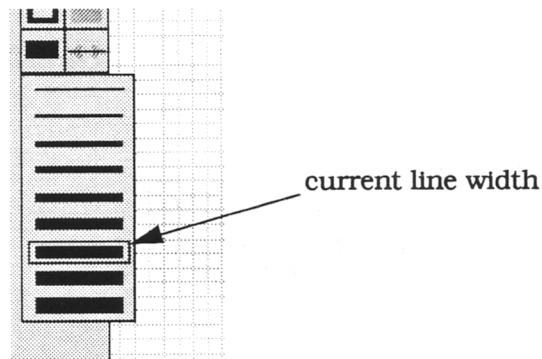fill & line   line   fill

---

1. It is possible to give an object a transparent fill color and a transparent line color. It will be invisible!

Selecting the Line Width

When you hold down the mouse in the line width tool, a panel pops up, from which you can select a new line width.
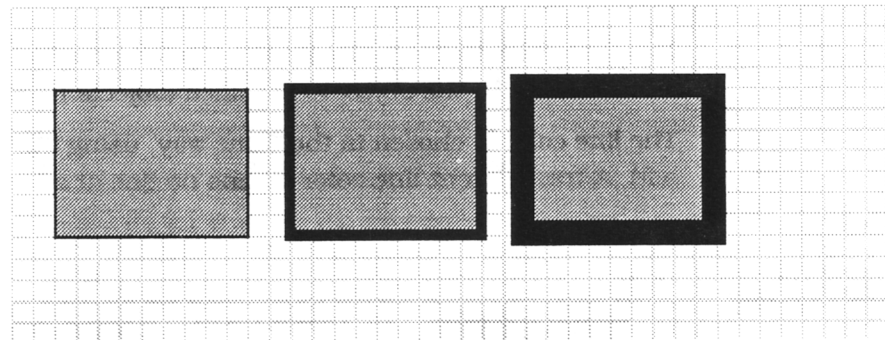
Figure 72

Selecting the line width.

current line width

This applies to the selected objects and all new objects that you create. The figure below shows rectangles with different line widths.

Figure 73
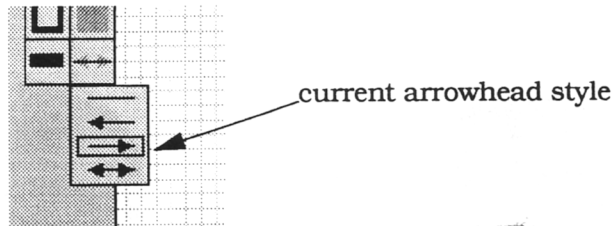
Changing the line width of the rect-angle.

Selecting Arrowheads

Lines and arcs can have arrowheads. To try this out, you must first create a line. Then select an arrowhead style with the arrowhead tool.
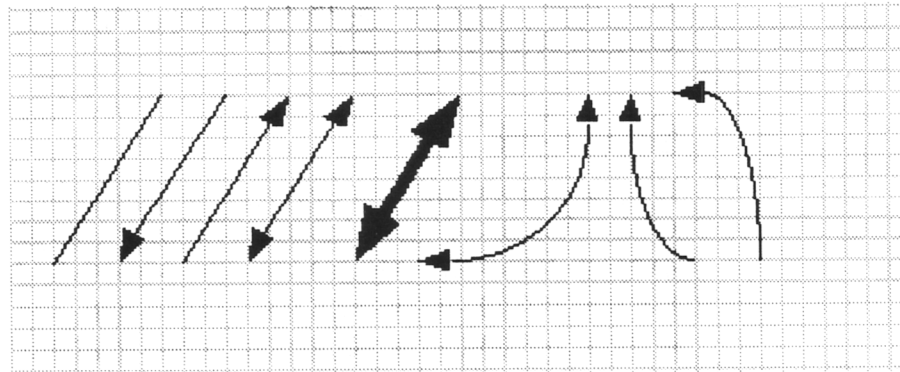
Figure 74

Selecting arrow heads.

current arrowhead style

The arrowhead style applies to the selected lines and curves. Only arcs and lines can have arrowheads. The size of the arrowhead depends on the line width of the line or arc.

Figure 75
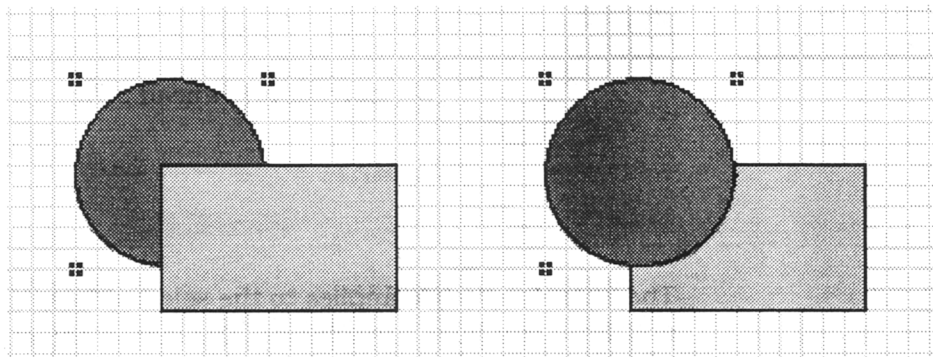
Some lines and arcs with arrow heads.

Front to Back Order

As you create objects, you will notice that they can overlap. If you want to bring an object to the front, select **Front** from the **Arrange** menu.

Figure 76

Bringing an object to the front.

Alternatively you can select **Back** from the **Arrange** menu to send the selected object to the back.

Grouping

It is sometimes useful to treat a set of objects as a single object. This is achieved by grouping. Select several objects, and choose **Group** from the **Arrange** menu. You will see that the markers for the individual objects are replaced by markers for the entire group. The bounding box of the group is just large enough to enclose all the grouped objects.

Figure 77

Grouping two objects together.