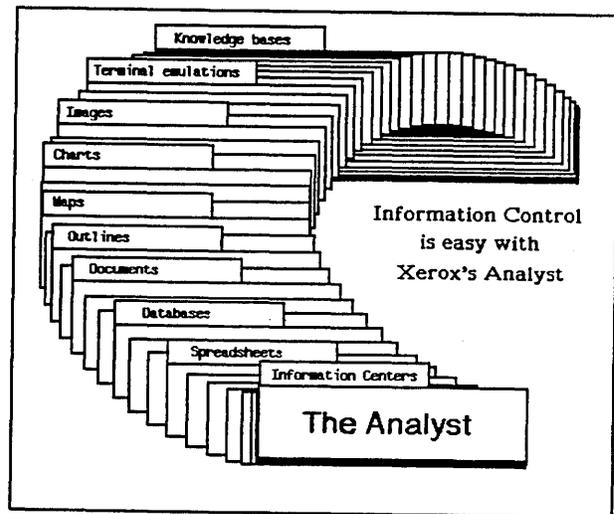


# ***ANALYST™ V1.2t Reference Manual***

***May 1986 (additions July 1987)***



**Xerox Special Information Systems  
Vista Laboratory  
250 North Halstead Street  
P.O. Box 5608  
Pasadena, CA 91107-0608  
(818) 351-2351**



# Table of Contents

	Page
<b>Introduction</b>	1
<b>Section I: Hardware</b>	2
<b>The Xerox Analyst 1108 Workstation</b>	2
<b>Smalltalk – 80: The Language</b>	4
<b>Turning on the Processor</b>	5
<b>Section II: System Interface</b>	6
<b>The Mouse</b>	6
<b>System Cursors</b>	8
<b>The Analyst Windows</b>	10
The Window Pane	10
The Title Tab	10
The Scroll Bar	11
Standard Window Popup Menu	12
<b>Input Forms</b>	14
Confirmers	14
Notifiers	14
Prompters	15
Q – Boxes	15
<b>Section III: How to Use the Analyst</b>	16
<b>Login Window</b>	16
Logging In	16
Logging Out	17
<b>The Popup Menu</b>	18
<b>System Middle Mouse Button Menu</b>	18
<b>System Right Mouse Button Menu</b>	21
<b>The Information Center</b>	24
Classification Scheme	24
Opening an Information Center	25
Description of an Information Center	27
The Folder	28
The Data Item	29
The Icon	29
Contents Pane Middle Mouse Button Popup	30

	Page
<b>Word Processing</b>	46
Selecting Text	48
Empty Selection (the caret)	48
Entity Selection	48
Selection from Start to End Point	48
Implicit Selection	49
Typing Text	49
Special Keys and Key Combinations	49
Text Window Middle Mouse Button Popup	49
Selecting Fonts from the Fonts Submenu	52
Selecting Fonts from the Keyboard	53
<b>Outlines</b>	55
Creating an Outline	56
List Pane Middle Mouse Button Popup	57
Text Pane Middle Mouse Button Popup	60
<b>The Hardcopy Tool</b>	62
Standard Hardcopy Q – Box Items	63
Graphics Q – Box Items	64
Annotated Text	64
Printing Status Window Middle Mouse Button Popup	65
<b>The Sketch Editor</b>	68
Sketch Editor Text Pane	70
Sketch Editor Editing Pane	71
Sketch Editor Button Pane	73
<b>The Chart Editor</b>	80
Chart Editor Text Pane	82
Chart Editor Editing Pane	83
Chart Editor Button Pane	88
<b>The Map Editor</b>	95
Map Editor Text Pane	96
Map Editor Editing Pane	97
Map Editor Button Pane	103
<b>The Preview Window</b>	109
Normal Mode	110
Normal Mode Middle Mouse Button Popup	110
Text Page Break Line	118
Picture and Blank Space	118
Selected Picture Middle Mouse Button Popup	119
Selected Blank Space Middle Mouse Button Popup	121
Picture Layout Mode	122
Picture Layout Mode Middle Mouse Button Popup	122

	<b>Page</b>
<b>The Database Tool</b>	124
Creating a Database	124
Fields Pane	125
Hits Pane	126
Text Pane	128
Queries Pane	130
Reports Pane	132
<b>The Spreadsheet</b>	136
Creating a Spreadsheet	136
Scroll Button	138
Row and Column Indices	138
Cells	138
Value/Rule/Label Button	138
Address Mode Button	138
Update Mode Button	138
Selecting a Cell	139
Cell Middle Mouse Button Popup	139
Changing Row/Column Size	140
Scrolling Around the Sheet	141
Values	141
Numbers	141
Strings	142
Other Values	142
Rules	142
Referencing Other Cells	142
Simple Math	143
More Complex Math Functions	143
String Functions	144
If–Thens	145
Other Interesting Functions	145
Referencing Groups of Cells	146
Group Functions	147
Referencing Cells on Other Sheets	147

	<b>Page</b>
<b>The OIT Text Window</b>	148
Overview	148
Window Pane Layout	148
How to Open the OIT Text Window	149
OIT Text Window States	149
Transmit State	149
Receive State	151
Browse State	151
Full Screen Editing State	153
Edit Function Keys State	153
Editing The OIT Window Access Profile	154
<b>The OIT Graphics Window</b>	156
Overview	156
Window Pane Layout	156
How To Open the Window	156
Window States	156
Transmit State	157
Receive State	158

# INTRODUCTION

The Analyst-85 is a development activity aimed at organizing and enhancing the capabilities of analysts through the use of a flexible, computer-based personal workstation. The features of the current Analyst-85 system have evolved significantly from earlier versions, and many new features have been added.

The Analyst-85 system permits you to view and easily manipulate many forms of data such as text, pictures, and graphics. These data can be created at the workstation itself or obtained electronically from separate databases. The system also permits the remote operation of applications programs on mainframe computers, with the results being presented in such a way that they can be readily manipulated and integrated into other activities on the display.

The Analyst-85 system is especially designed to be easily used by individuals who have no familiarity with computers. The system is dependable, and it is essentially impossible for you to work yourself into a corner. Thus, the easiest way to learn the Analyst-85 software is by actively using it! For a short beginning document that introduces you to its basic software features, read *The Analyst-85 Primer*.

Sections I and II of this document repeat much of the basic material contained in *The Analyst-85 Primer*. However, Section III details all the functions and menus of all the analytical tools that are provided—and with this information you can explore every system capability. The document material has, in general, been arranged in order of the skill necessary to use each feature successfully. By the time you get to the point of using that feature, you will have developed these skills. An on-line Help aid, and this Reference Manual, are also available in text form on the display.

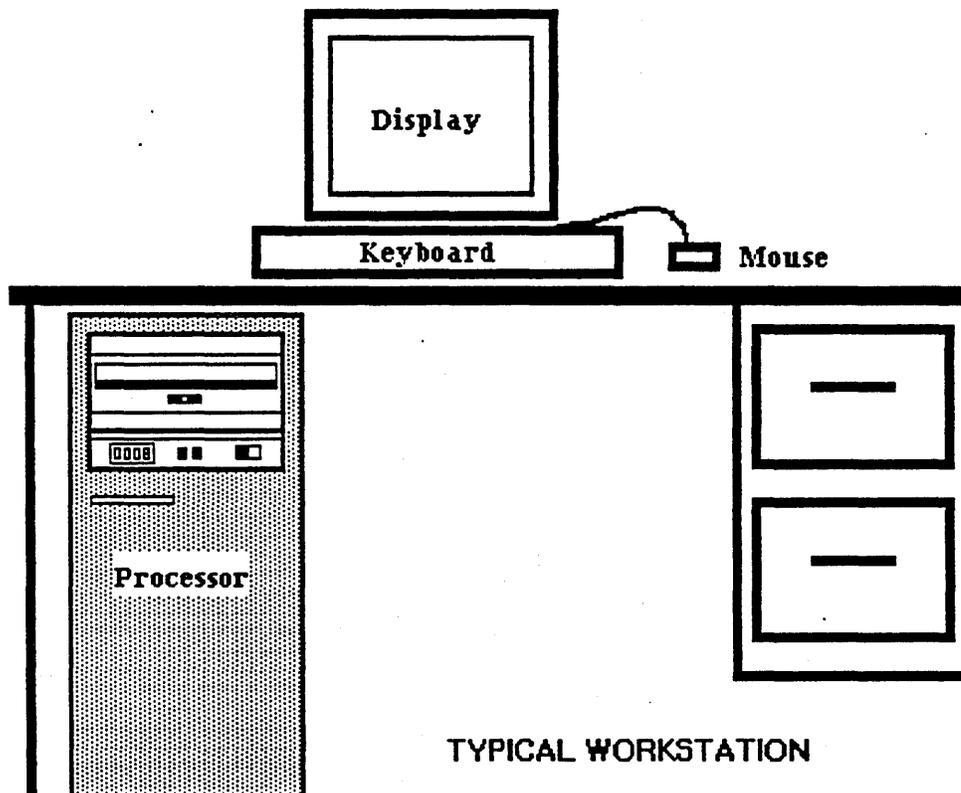
Every effort has been made to make this document as accurate and informative as possible, but activities for the Analyst-85 system are dynamic and changing. Consequently, there is no way to be completely up-to-date. The information contained in this document is based on the best information at Vista Laboratory on the date of publication and may not correspond exactly to the Analyst-85 configuration which you use. However, it should make no difference in your learning how to use the system quickly and efficiently with this documentation.

## SECTION I: HARDWARE

This section discusses the computer hardware, software (language), and how to turn the workstation processor on.

### The Xerox Analyst-85 Workstation

Several pieces of equipment make up your immediate workstation—the display screen, keyboard, and mouse (which is sitting on your desk or table). The workstation's processor contains its disk drive. A special laser xerographic printer (used by other Analyst-85 workstations as well) is available at a nearby location to hardcopy your text and illustrations.



Specifically, the Analyst-85 workstation consists of:

- ~ A two-page-sized *video display screen* that has a 17-inch diagonal; the display at this point will be dark and the Idle Image will be bouncing around on the screen to let you know the system is alive and well.
- ~ A standard typewriter-layout *keyboard* with several special function keys.
- ~ A *processor* that houses a fixed disk (which you will never see or need to change) and a maintenance panel; there is also a small floppy disk drive located above the maintenance panel, but you won't be using it.

~ A *mouse* which is the primary tool for manipulating display activities and the content of displayed information. It is housed in a small, white plastic box with three black elongated buttons on top. The mouse is connected by a wire to the back of the workstation keyboard, and it may be placed either to the right or to the left of the keyboard.

~ ~ ~ ~ ~

Most typical computer workstations have the processor sitting right next to the video display and keyboard. However, your processor may be located in another room nearby. Find the processor so you'll know where it is in case you have to turn it on or off, or reboot it.

## Smalltalk-80: The Language

The Analyst-85 system is implemented in a computer language known as **Smalltalk-80™** (Smalltalk-80 is a trademark of Xerox Corporation). Smalltalk-80 is an object-oriented, high level programming language with a special flexibility for development of user interactive functions. For more detailed information on any functions of Smalltalk-80, you may refer to the books titled *Smalltalk-80: The Interactive Programming Environment* by Adele Goldberg (Addison-Wesley, 1983), or *Smalltalk-80: The Language and its Implementation* by Adele Goldberg and David Robson (Addison-Wesley, 1983).

One of the most apparent characteristics of programs written in the Smalltalk-80 language—and a major source of its power to serve users—is that information of many different types can be displayed on the screen simultaneously. When nothing is on the display, it is a uniform shade of gray. As different types of data are called to the screen, they are displayed in white rectangular areas known as *windows*. Windows can lie on top of each other much as a scattering of pieces of paper can lie atop one another on a desk. These windows are easily changed in size, moved, uncovered, removed, copied, and so on, under the control of the user.

Smalltalk allows you to perform these manipulations easily and, with a minimum of practice, to perform them with little conscious thought, so that your attention can be concentrated on the meaning of the information contained in the windows and not on the operation of the machine.

## Turning on the Processor

Normally, before you start to use your workstation it will be in Idle Image; that is, you will only see a form or icon displayed (and probably moving) against a dark screen. This means your workstation processor is turned on but the Analyst-85 software has not yet been called up for use. To begin using the software, all you need to do is click any mouse button or press and release the space bar. This will bring up the Login window (described later).

If your workstation processor has been completely turned off for some reason, this is how to get it "up and running" again:

- Pull down the cover of the processor maintenance panel, if the cover is closed.

~ There are two buttons there that are labeled "B Reset" (the left boot button) and "Alt B" (the right boot button). We use these buttons to "boot" or start up the processor.

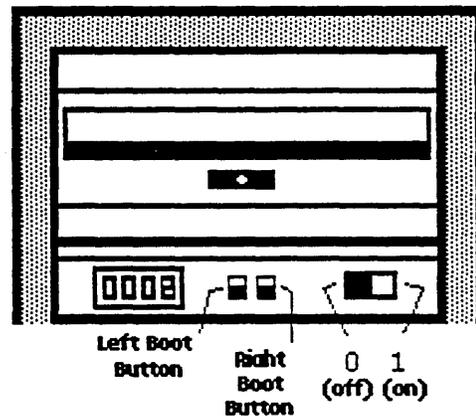
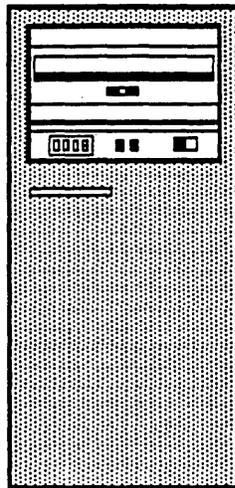
~ To the right of these is a rocker switch with "off" underneath one side and "on" underneath the other. The rocker switch will be in the "off" position.

- Push the rocker switch to the "on" position. Let the processor start up for a few seconds. Notice in the lower lefthand corner of the panel that a red 4 digit number (probably 0000) displays itself.

- Next *boot* the processor this way: simultaneously press both the Left Boot Button (**B RESET**) and Right Boot Button (**ALT B**) with two fingers of one hand.

- Release only the Left Boot Button, and watch the numbers count up from 8888 to 0000.
- Since you are going to boot at 0001, release the Right Boot Button as soon as 0001 appears.
- If you cycle past the number, don't worry. Press both buttons in again, release the Left Boot Button, watch the numbers appear as before, then release the Right Boot Button at 0001.

- It takes several minutes for the system to get itself ready. When it's finished, the first thing you should see is the Idle Image.



Expanded View

~ ~ ~ ~ ~

For a description of how to turn the processor completely off, see the popup menu item called Log Out that is described in the section titled "System Middle Mouse Button Menu."

## SECTION II: SYSTEM INTERFACE

This section discusses the overall user interface. The following interface devices are described:

- ★ The Mouse
- ★ System Cursors
- ★ Windows
- ★ Input Forms (Confirmers, Notifiers, Prompters, and Q-Boxes)

### The Mouse

Become familiar with your *mouse*. Basically, it is a small, rectangular box with three black buttons that are located near the top: there should also be a pad underneath the mouse for smoother movement. A thin cord (the tail) connects the mouse to the keyboard. Southpaws may pick up the mouse and its pad and place it at the left side of the keyboard; it will work just as well.

The object is to press a mouse button with one finger (or two different fingers—usually the index and middle fingers) while holding the sides of the mouse with the thumb and remaining fingers. This makes the mouse easy to maneuver.

The mouse is a primary tool for manipulating windows and menus and the content of displayed information. Pressing the buttons on the top of the mouse invokes different reactions depending upon where the cursor is at the time. Many manipulations can be performed with one hand on the mouse without having to use any keyboard commands. Motion of the mouse on the desk top is replicated by motion of the cursor on the screen. If the mouse reaches the end of its plastic pad, pick up the mouse and move it to the center of the pad. The cursor on the screen will not move.

In general, the left mouse button is used to select items on the screen, the middle mouse button brings up menus associated with specific activities, and the right mouse button brings up menus which deal with the display as a whole.

Before we go any further, here are descriptions of mouse/button interactions that you will need to know as you follow the examples and use your text and graphics software.

~~~~~

- ★ **Left mouse button**
  - The pointing and selecting button on the mouse.
- ★ **Middle mouse button**
  - Brings up menus associated with pane specific activities.
- ★ **Right mouse button**
  - Brings up the menu associated with window activities.
- ★ **To "click" means to**
  - Press the left mouse button down then immediately release it. You will hear an audible "click" from the mouse.

★ To "double click" means to

- Click the left mouse button rapidly twice.

★ To "press and release" the mouse button means to

- Push the button down and release it at some future time by letting the button up. When you *press* a mouse button, press and hold the button down until you are sure of exactly what you want to do before you release it.

★ To "select" something can mean two different things and is done in two slightly different ways:

(1) Place the cursor at your point of interest and click the left mouse button. This accomplishes things like placing the insertion mark at a desired location or highlighting (selecting) text that has to be edited.

(2) Press the middle or right mouse button and hold it down: that will cause a *menu* to appear (menus will be discussed shortly). When you move the cursor down and up through the menu list, each item will highlight, or select. If you release the mouse button while the cursor is currently on a highlighted item, the menu item has then been selected and will start to perform its intended function.

~~~~~

To use the mouse, grasp the long sides lightly between your thumb and last two or last three fingers, with your index finger positioned so that it can easily reach all three of the buttons. Use your index finger, if possible, to perform all of the button pushing.

To cause the cursor to move, use your hand and wrist—some people prefer more of one and less of the other, but it makes little difference. For large movements about the screen, moving your hand is the proper technique. For smaller movements, wrist motion, with your wrist resting on the table, is more precise.

Don't look at the mouse: look at what the the cursor is doing on the display and think about putting the cursor where you want it to go. Like most eye-hand coordination skills of this type, you will soon not think of the mouse at all, but only about the activity you want to perform.

## System Cursors

The *cursor* is the changeable graphical symbol that displays on the workstation screen. The "normal" or most frequently seen cursor shape is a northwest-pointing arrow. As you move the mouse over the mouse pad, the cursor (on the screen) will duplicate the mouse's movements at 2:1 linear magnification.

Only one cursor at a time is controlled by the mouse. The cursor takes on different shapes in order to provide you with visual feedback so you know what the system is currently doing. For example, if the machine is writing to the disk, the cursor changes to the form of a pencil. If the machine is reading data from the disk, the cursor takes on the shape of a pair of glasses. Cursor shapes unique to the Analyst-85 program are listed along with their names and typical use in Table 1, which follows.

### Cursor Shapes Used in the Analyst

★ **Normal** — The one usually displayed: an arrow that points northwest. The point of cursor selection is at the upper left corner, at the tip of the arrowhead.

★ **Origin (top left)** — This cursor, which indicates the upper left corner of a window frame, is used when a window is being moved on the screen or when a window is being framed.

★ **Bottom Left** — Indicates the bottom left corner of a window frame and is used when a window is being moved on the screen.

★ **Corner (bottom right)** — Indicates the bottom right corner of a window frame and is used when a window is being moved on the screen or when a window is being framed.

★ **Top Right** — Indicates the top right corner of a window frame and is used when a window is being moved on the screen.

★ **Mouse** — Looks like the mouse with the middle button darkened. It is used to indicate that pressing the middle mouse button is required to cause some action to take place.

★ **Crosshair** — Looks like a gun site crosshair. It is used whenever the system is requesting the user to identify a point at which information will be given (such as longitude or latitude).

★ **Execute** — A coffee cup that is used when the system is working on something and not paying any attention to the user.

★ **Wait** — An hourglass that is used when the system is working on something and not paying any attention to the user.

★ **Read** — Looks like a pair of glasses. It appears when information is being read from a disk file.

★ **Write** — Looks like a pencil writing on the screen, representing information being written onto an external disk file.

★ **Down Arrow** — A downward-pointing arrow. It is used in the scroll bar to indicate scrolling the text down.

★ **Up Arrow** — An upward-pointing arrow. It is used in the scroll bar to indicate scrolling the text up.

★ **Up Down Arrow** — An up-and-down arrow. It is the shape the row takes when it's "at rest" in the scroll bar.

★ **Marker** — A horizontal arrow pointing to the right. It is used in a scroll bar to indicate the proportional location, in the file, to which you want to jump.

★ **Center Justify** — Looks like two arrows pointing to the center. It is used in the Preview window to indicate that Preview will apply center justification to the selected text.

## The Analyst-85 Cursors



Normal



Wait



Origin (top left)



Read



Bottom Left



Write



Corner (bottom right)



Down Arrow



Top Right



Up Arrow



Mouse



Up Down



Crosshair



Marker



Execute

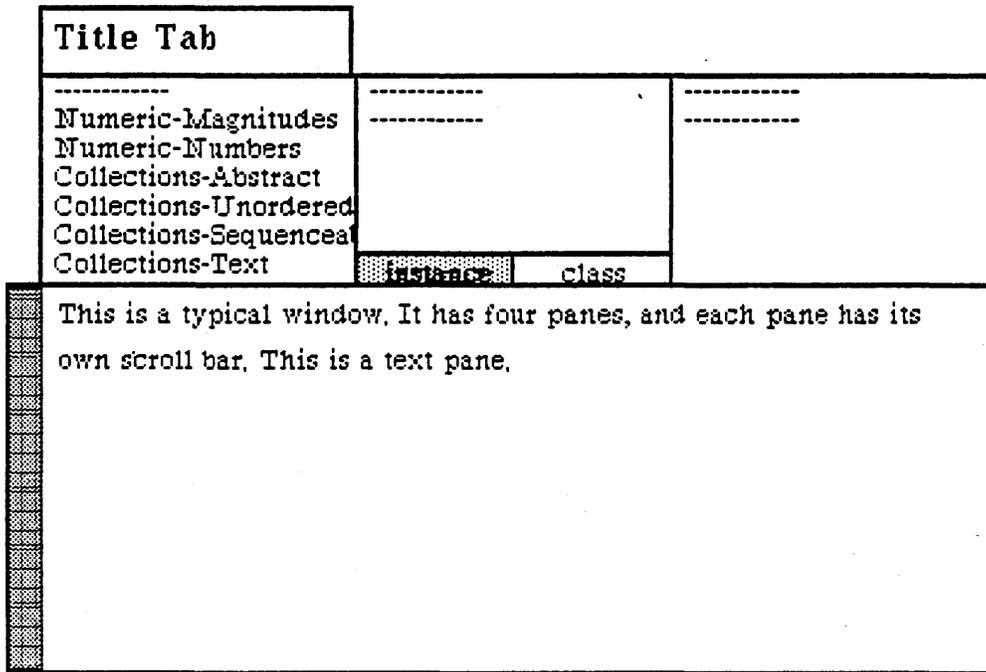


Center Justify

## The Analyst-85 Windows

### OVERVIEW

All of the work in the Analyst-85 system is performed in different kinds of *windows*. A window is a rectangular area containing text and/or pictures. These can be examined, created, edited, stored, and retrieved through the use of mouse and menu interactions within the window. There are usually three main components of an Analyst window:



#### ~ The Window Pane

First, a typical window often consists of two or more *panes*. Windows may have one pane or many panes, depending upon the purpose of the particular window. Also, panes can come in several varieties. These varieties will be discussed as appropriate during the process of learning about the windows themselves.

#### ~ The Title Tab

Second, a window has a *title tab*. A title tab is the small, rectangular area at the upper left of the main window. It contains a title, which is a very short description of what the window is about, or what you have decided to name it. The title tab appears in reverse video (white letters on a black background) when its window is the "active" window. If your display becomes crowded and confusing because of many opened windows you can, if you wish, "collapse" these windows to just their title tabs. Because the title tabs take up much less space and don't overlap as open windows can, it is easier to keep track of all of the windows that are currently being used.

### ~ The Scroll Bar

Third, many windows have a *scroll bar* (although some types of windows never have them). If you have an open window containing a large body of text, you may be able to view only a portion of it at a time. Needed: a device whereby you can move through text from top to bottom and back again, or jump quickly to any part of the text. That device is the scroll bar, which is the narrow rectangular area that is displayed next to the left side of the window (or pane) that it controls. The scroll bar isn't always visible—it appears only when the cursor is inside the appropriate window or pane. As with menus that pop up and then disappear when no longer needed, this feature reduces screen clutter and space is used more effectively.

The length of the scroll bar represents the length of the entire document, and inside of it is a gray area. This gray area is located within the scroll bar at a point relative to the location of the text within the window. In other words, it represents that portion of text currently showing on the screen. If the gray area is at the top of the scroll bar, then the window is showing text at the beginning of the document. If the gray area fills the entire scroll bar, then you can be sure that all of the document is currently displayed.

For more information on how to use the scrolling feature, see "Scroll Bar" in the Word Processing section of this Reference Manual.

### ACTIVE/OPEN WINDOWS

A window is "open" if it has been called into being and has not been "closed" specifically. While theoretically a very large number of windows can be open at one time, as the number increases, they will be overlapped by other windows or even completely covered. Many of these windows will not be contributing to the work being done, and others will be completely forgotten. Furthermore, each window which is open requires machine resources—some a little and some a great deal—because the machine must remember each window and its contents in case you want to see it again. The window manipulations described in this section tell you, among other things, how to close unwanted windows.

While many windows can be open at one time, only one window can be "active." To make any window on the display the active window, place the cursor in any portion of that window which can be seen and click the left mouse button. This will "awaken" that window and bring it to the top of the stack, if there are several overlapping windows on a display.

The standard window popup menu, which appears in most windows (or panes), is brought up by pressing the *right* mouse button while the cursor is inside an active window. Each of these menu options is described below:

**a Window's standard  
right mouse button popup**

help
classification
close others
select and close
find
move
frame
collapse
close self

### **help**

To use the window Help tool, press the right mouse button and release with help selected from the pop-up menu. A window will appear on the screen with a brief explanation of the window's function and a reference to the User Guide, and to where more information about the window may be found.

### **classification**

The classification of any data window may be changed by you to reflect its new status. A "Change Window Classification" Q-Box appears, and you may select the new classification. Select accept at the top and the window classification bars, top and bottom, will change to reflect the selection. If the data item has no classification there are no classification bars.

### **close others**

When a display becomes very crowded with windows after an extended period of work, chances are that most are not being used. To keep the window that you are currently working in, and close all of the others, select close others from the pop-up menu and release the button. If any of the windows selected for closure have contents that require saving, a Confirmer will appear and ask if you are sure you want to close that specific window (yes or no).

### **select and close**

Permits you to select any number of the windows currently on the screen and close them. After this selection has been made, another popup menu will appear that lists the title tabs of all the open windows. Move the cursor over this list and click the middle mouse button over your choice(s), which will select a window for closing, and also cause the actual title for the window to fade in-and-out on the screen at that window's location.

More than one window may be selected with this function. Execution of this command begins when you move the cursor outside of the displayed list and click a mouse button. If any of the windows selected for closure have contents that have not been saved, a Confirmer will appear and ask if you are sure you want to close that specific window.

### **find**

Permits you to transfer control from the window you are in to any other window currently on the screen. The tool works very similarly to select and close above. A popup menu will appear on the screen with the titles of all the open windows. Moving the cursor over this list while pressing the middle mouse button will cause the label of the window selected for finding to be highlighted, and also cause the actual title for the window to fade in-and-out on the screen at the location of that window.

Releasing the middle mouse button while any one of the items is selected (the title in the popup menu is highlighted) will cause the selected window to become the active window.

The find command can be aborted by moving the cursor anywhere outside of the displayed list and clicking the left mouse button.

### **move**

If you do not like where a window is on the screen, you can move it to another location. Place the cursor in the window to be moved and select move on the window popup menu. The action of selecting this tool will cause an outline of the window to be formed, with the cursor grabbing the nearest corner. You can then drag the window frame around by this corner to position it on the screen exactly where you want it.

To dismiss the move tool and open the window where the frame is, click the left mouse button.

### **frame**

Allows you to change the size of a window. When you select **frame** on the window popup menu, the cursor changes into the Origin cursor, which is used to mark the location of the upper left corner of the new window. You can move the Origin cursor around the screen until it is positioned where you want it. Pressing the left mouse button will cause the upper left corner of the window to become anchored, and the cursor changes to a Corner cursor marking the lower right corner of the new window frame. Moving this cursor about will cause the frame of the window to "rubber band." Move it around, using the mouse, until the window is the rectangle of the size and proportion that you want, then release the left mouse button. The contents of the reframed window will re-format themselves, as appropriate, to fill the newly-indicated window space.

Some windows are fixed in size and cannot be framed. In this case, **frame** works just like **move**.

### **collapse/expand**

**Collapse** and **expand** appear in place of each other on the menu—**collapse** is available when a window is open and active; **expand** is available when a window is collapsed.

Selecting **collapse** allows you to compress any active window down to its title tab and place that tab anywhere on the screen. When the left mouse button is released, the selected window will be collapsed to its tab alone and you can move the tab about the screen and place it where you want it. To release the tab at the desired location, click the left mouse button.

Since the tabs make up only a small fraction of the space of the window itself, and because the title in the tab is generally descriptive of the window, a number of open windows can be kept and organized on the screen without the display looking cluttered and confusing.

Selecting **expand** on the right mouse button pop-up menu of a collapsed window will restore the window to its precollapsed size and location.

### **close self**

When you have finished with a window and want to remove it from the group of open windows on the screen, close it by selecting **close self**. The window to be closed must be the active window. Depending on the type of window and what you have been doing with its contents, a Confirmer may appear to ask if you want to close that particular window without saving the contents (yes or no).

It was pointed out earlier that this is the standard right mouse button popup menu for almost all types of Analyst-85 windows (any exceptions won't concern us). Therefore, the popup menu description does not need to be repeated every time that other types of windows and window tools are discussed in the remainder of the Reference Manual. Instead, the user will be referred back to this section.

## Input Forms

The Analyst-85 has a feature known as Input Forms. These forms appear quite often when you are using the software and signal that additional information is required from you in order to complete a task. There are four basic types of input forms:

- (1) Confirmers
- (2) Notifiers
- (3) Prompters
- (4) Q-Boxes

### CONFIRMERS

A Confirmer attempts to keep you from making a mistake, such as trying to close a window full of text without saving the text first. In other words, when you attempt to do an activity that will destroy work you have done, the system will present you with a Confirmer to give you a second chance to consider that choice.

Scratch pad's contents have not been saved. Are you certain that you want to close?	
yes	 no

The top pane of the typical Confirmer presents a brief message explaining the consequences of what you are attempting to do. Below this pane are two additional panes, one labelled **yes** and the other **no**. Regardless of where the insertion mark was before the Confirmer appeared, it is now limiting cursor movement you cannot get the cursor out of the Confirmer area without answering either one or the other of the choices by clicking over it. When you try to move the cursor outside the Confirmer, it will flash to attract your attention. When the cursor is in the **yes** area, it changes into a "thumbs-up" hand. When the cursor is in the **no** area, it changes into a "thumbs-down" hand.

If you select **yes**, you will OK your activity and then quit from it. If you select **no**, the action will be stopped and you will return to where you were.

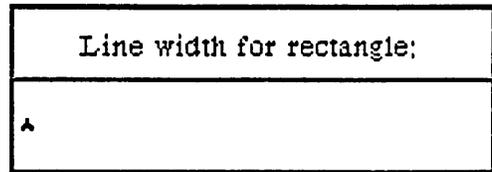
### NOTIFIERS

A Notifier lets you know the status of some action that you have tried to do (perhaps mistakenly). The top pane contains a message explaining current reality, or what's wrong with your intended action. The bottom pane needs the left mouse button clicked there, which has the effect of stopping or sidestepping your action. It's a polite way of not letting you do something that could have unforeseen consequences.

There were no recoverable files of the specified types
click mouse here please

**PROMPTERS**

A Prompter appears when the activity you have selected needs additional information typed in. The top pane of a Prompter asks a question which is pertinent to the activity being performed. The lower pane of the Prompter contains a space for your answer; the insertion mark is automatically located here and can't be moved until the question is answered (but if you change your mind, press the <return> key). When you type in the answer, you can backspace over any errors. Pressing <return> enters the answer.



**Q-BOXES**

A Q-box (the "Q" stands for "question") appears in several varieties:

Fill-in-the-Blank. Requires you to type in information and/or select from among choices (the default choices are already selected and can be changed).

Password. Requires a password in order to proceed to the next action. Passwords are not displayed on the screen but are represented by an asterisk (\*) for each character typed in. Gaining access to other computers, databases, and some applications programs may require additional passwords other than your login password.

Single Select. You must select one item from a displayed list of choices.

Multiple Select. You can select one or several or all items from a displayed list of choices.

**Typical "Multiple Select" Q-Box**

<b>accept</b>	<b>cancel</b>	<b>bailOut</b>
<b>Send to Printer</b>	<b>now</b>	<b>later</b>
<b>File in an info center</b>	<b>yes</b>	<b>no</b>
<b>Number Copies</b>	1	
<b>Starting Page No.</b>	1	
<b>Printer Name</b>	Printer name here	
<b>Mode</b>	<b>normal</b>	<b>landscape</b>
<b>Size</b>	<b>full</b>	<b>half</b>
<b>Border</b>	<b>yes</b>	<b>no</b>
<b>Title</b>		

## SECTION III: HOW TO USE THE ANALYST-85

### Login Window

The first window you will encounter after you've left the Idle Image is the Login window. This window is like a locked gate that you must unlock in order to get to the rest of the Analyst-85 software, and all the files that you have created and stored.

The login procedure is designed to assure that only authorized individuals will have access to data stored on the workstation itself and on the other machines to which the workstation is connected. Furthermore, the procedure will personalize data stored on the machine, because more than one individual can have data on the machine without gaining access to each other's data, unless specific permission is granted.

You must perform the login procedure correctly or the machine will not let you continue any further. The information requested is cross-checked by the machine and its supporting machines, if connected.

### LOGGING IN

If the cursor is not there already, move it into the Login window. Then move it out of the window. When you do this, the window flashes rapidly; this is a reminder that you haven't yet completed the activity associated with the window. There are several other windows and input forms that flash like this, too, as you will see when using the Analyst-85 software on a regular basis.

Three outlined choices are available in the Login window, and you will select:

**Accept** when your user name and password have been typed in correctly.

**Cancel** when you have logged in something incorrectly—all your text will be eliminated and you can start over again.

**bailOut** when you've changed your mind about logging in and want to quit completely from the work session or go back to Idle.

Analyst Log In		
<b>accept</b>	<b>cancel</b>	<b>bailOut</b>
<b>Name:</b>	Haleakala	
<b>Password:</b>	*****	

In a typical login procedure, type in your name (the first highlighted area), then press <return>. After the cursor jumps to the Password line, type your password. For protection, every character in the password will appear as an asterisk (\*). Now you may either select **accept** at the top of the Login window or press <return> again, which will automatically move the cursor up to **accept**.

You should next see an empty, light gray screen with a small white banner at the top that says "Welcome to the Analyst-85 system." However, if your name or password is incorrect, you will be unable to get to the Analyst-85 software. A message to this effect will appear and you will have to log in again.

## LOGGING OUT

It's not necessary to log out if you leave your workstation for only a few minutes. However, if you leave for an extended period of time (more than half an hour) during the workday, you should log out first and put the software back into Idle Image. This is how it's done:

- Select **Log out** from the system middle mouse button popup.
- A **Confirmer** will appear that says "Logging out will close all windows. Are you sure you want to log out?" Select **yes**.
- *Another* **Confirmer** then appears that says "Do you really want to quit The Analyst?" Select **no**.
- After doing this, the **Idle Image** will re-appear on the screen. When you're ready to resume your work, press the space bar or click a mouse button to bring the **Login** window back.

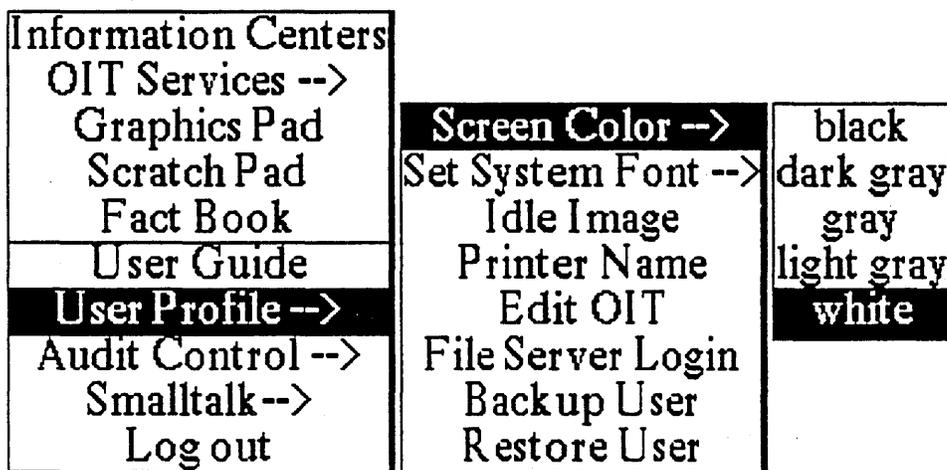
## The Popup Menu

The Analyst-85 system makes extensive use of what is called a *popup menu* (or *popup tree menu* when it displays the --> feature). You make these various menus appear by pressing a mouse button: the specific menu obtained depends on where the cursor is the moment a mouse button is pressed, and which mouse button is pressed.

The *system tree* popups (there are two) are main system menus that will give you initial access to all the Analyst-85 features. They are brought up at any time by pressing the middle or right mouse button while the cursor is located in any non-window (gray) area of the screen.

## System Middle Mouse Button Menu

This is the main system popup menu that is made to appear with the middle mouse button and the cursor in the gray screen (non-window) area. This menu is the access or gateway to major Analyst-85 software features. The menu items are discussed individually below, from first to last:



System Middle Mouse Button Popup Tree Menu

### Information Centers

Brings up a Q-Box that lists all the Information Center names currently stored on the disk. In order to open an existing Information Center, you must select one of the names, then move the cursor over accept and click the left mouse button. Note that:

★ Some Information Centers may require a password in order to be opened up. If an incorrect password is typed in, a Notifier appears that says "Improper password. Access denied." Clicking with the left mouse button in the bottom pane of the Notifier will return you to where you were before the selection.

★ One of the options in the Q-Box is called *addNew*. Select this item when you want to create a brand new Information Center.

★ Another feature is the ability to *scavenge* or look for and identify data items that are no longer listed in an Information Center or trash bin. You may then, among other choices, delete these items completely off your disk or refile them into an Information Center or folder.

★ If you decide not to select anything in the Q-Box, you can dismiss it by moving the cursor into **bailOut** and clicking the left mouse button once.

For a much more detailed description of what the Information Center is and all its functions, see the section titled "Information Center."

### **OIT Services -->**

Allows you to specify to which computer center a terminal emulation window is to be connected. Either a text or graphic terminal emulator may be selected. Moving the cursor to the right with the middle mouse button depressed will bring up the submenu selections for this category:

**Default Delta Data Label**

**Default Tektronix Label**

### **Graphics Pad**

Generates all types of business graphics, such as pie, bar, and line charts, clustered and stacked bar charts, and x-y scatter or linear fit plots. Although many parameters are automatically managed by the software, they are still under full user control.

Selecting this item will open up a Q-Box that says "What sort of Graphics pad?" This Q-Box allows you to define, by various choices, the type of graphics pad (also known as an image editor) you want to create. These choices are explained below:

**Pad Type:** To begin, the graphical object can either be a **Chart** or a **Sketch**.

**Size:** **Standard** is the default size for the chart or sketch, which is 6" x 6".

**FullPage** will open the image editor to a working area the size of an 8-1/2 x 11 inch page, minus the borders.

**Landscape** will open the image editor to a working area the size of an 8-1/2 x 11 inch page, bottom working area has its long dimension horizontal instead of vertical (or portrait).

**InputSize** will allow you to define the size (square or rectangular) of your image editor. A Q-Box appears asking for both the height and width of the image-to-be. The number(s) typed in must be whole numbers and will automatically be in inches.

**FrameSize** will allow you to frame the size of your image with the Origin and Corner cursors, just as you would frame a window when you open it.

**FromScreen** will allow you to frame a section of the screen, complete with its contents. The section can be edited, saved, and stored into any available Information Center.

### **Scratch Pad**

A Scratch Pad is a text item whose contents are treated in a casual manner—that is, a list of meetings for the week, messages in common, reminders, and so forth, can be typed into one. Since it's located on the system middle mouse button popup, it can be selected and opened by anyone currently logged in to the system. The same Scratch Pad window can be used over and over.

Usually, a Scratch Pad is not given a file name and is not stored into an Information Center, as other types of more permanent text are. It is more like a note or memo tacked onto the wall for everyone to read.

In order to remove the contents of a Scratch Pad, the text must be selected and deleted, or the same text will appear every time a Scratch Pad is opened up.

## Fact Book

This is an on-line text version of *The World Factbook*, complete with maps and text entry capability. Text information from other windows can be copied and pasted into the displayed Fact Book window.

## User Guide

This is the on-line text version of the *Analyst-85 Reference Manual*. It contains all three Sections and supporting documentation found in the Manual, but no illustrations.

## User Profile -->

**Screen Color -->** black dark gray gray light gray white

Changes the screen background color from black, through shades of gray to white.

**Set System Font -->**

Makes the system font become whatever font you've selected from the standard, scrollable font menu.

**Idle Image**

Allows you to pick up a graphical object that is stored in a folder or Information Center and have it become the current Idle Image. First, select the graphical object's filename, then select **copy** from the popup menu to put the object into the copy buffer, and finally select **Idle Image**.

**Printer Name**

Allows you to change or reset the default printer name.

**Edit OIT**

Allows you to edit the login sequences for the OIT and specify a user-defined set of function keys.

**File Server Login**

Brings up a "Log in to remote host" Q-Box. Can be used to correct an improperly logged-in password.

**Backup User**

Brings up a "Log in to remote host" Q-Box. Takes all user files, configuration files, user.cm, idle images, etc., and saves them to the file server.

**Restore User**

Brings up a "Log in to remote host" Q-Box. Allows you to return to the original user/password.

## Audit Control -->

Audit Control will not appear on this popup unless the user is a System Administrator or equivalent.

**set up**

Begin the audit control feature, which will monitor screen activity. When this is selected, an "Audit trail set up" Q-Box appears. Next to **Users monitored:** you may select the names to be audited, then select **accept**.

**clean up**

Empties the current audit file and sets it back to where it was before an audit control was set up.

**hardcopy**

Prints an audit log, which lists every on-screen activity performed by the monitored user.

### Smalltalk -->

This menu item contains features that are used by programmers only, and will not be needed by the average Analyst-85 user. Smalltalk will not appear on this popup unless the user is a System Administrator or equivalent.

### Log Out

Selecting **Log out** is the correct way to end a session with the Analyst-85 system. This will shut down all open windows, save all altered Information Centers to the disk, and verify that all connections to OIT are closed before logging the user out.

When you are finished for the day, or during the day if you need to leave your workstation for an extended period of time (more than half an hour), you may want to log out and return the software to Idle Image in the following way:

- Select **Log out** from the popup.
- A confirmer appears that says "Logging out will close all windows. Are you sure you want to log out?"

Select **yes**.

- *Another* confirmer appears that says "Do you really want to quit the Analyst?" Select **no**.
- When you do this, the Idle Image will display itself. When you're ready to resume your work, press the space bar (or click a mouse button) which will bring up the Login window again.
- If you are away for an extended time, when you get the Login window back it will require you to key in your password again.

~~~~~

It may occasionally be necessary to completely power down your workstation processor. Here is the procedure for shutting off the system:

- Select **Log out** from the popup.
- Select **yes** from both the first *and* second Confirmers that appear.
- Shortly, the software will take you into "Tajo" software (you don't need to know what that means).
- Press the middle mouse button in the screen area and select its **ExecOps** menu; select **quit** from the menu.
- Allow a few seconds after the screen goes dark. then flip your processor's rocker switch from "on" back to "off."

## System Right Mouse Button Menu

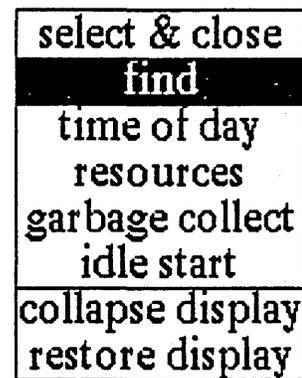
This is the main system popup menu that is made to appear with the right mouse button and the cursor in the gray screen (non-window) area. This popup menu is used for some on-screen window manipulations and display of system information.

### select & close

Usually, when you select one window, the currently-selected window will deselect. This menu item permits you to multiple-select any number of windows currently on the screen and close them. When you use

**select & close**, a submenu will appear that lists the title tabs of all the open windows that are on the screen (including collapsed windows). When you move the cursor over this list and click the left or middle mouse button over your choice(s), the window titles will appear in reverse video, which indicates they have been selected for closure.

If you change your mind and want to deselect a window title, click the right mouse button again over the title to remove the reverse video. Otherwise, moving the cursor out of the submenu and clicking any mouse button will cause the named window(s) to disappear. If any of the windows selected for closure have contents that have not been saved, a Confirmer will appear and ask if you are sure you want to close that specific window.



### **find**

Permits you to transfer control from the window you are in to any other window currently on the screen. The tool works very similarly to **select & close**. A submenu will appear on the screen with the titles of all the open windows. Moving the cursor over this list while pressing the middle mouse button will cause the label of the window selected for finding to be highlighted, and also cause the actual title for the window to fade in-and-out on the screen at the location of that window.

Releasing the middle mouse button while any one of the items is selected (the title in the submenu will be highlighted) will cause the selected window to become the active window.

The **find** command can be aborted by moving the cursor anywhere outside of the submenu list and clicking any mouse button.

### **time of day**

Displays the current time in the upper right-hand area of the screen.

### **resources**

Numerically displays the system's remaining Core (number of words of memory remaining), Oops (amount of remaining space for an object), and Disk Space (free pages) at the top of the screen. This feature is very useful when you are creating and storing a number of files, as it will inform you of the resources you have left to work with. If you see a "Space is low" Notifier, you will know that your available resources are getting too low.

### **garbage collect**

When you select this item, a Confirmer appears that asks "Are you sure you want to garbage collect?" After selecting yes, the system will get rid of "junk" files and clean up unwanted, hidden debris. Its purpose is to open up more disk space.

### **idle start**

Gets you immediately to your display's current Idle Image without logging out first.

**collapse display**

Collapses all opened windows to their title tabs. Each one can be re-opened with **expand**.

**restore display**

After working with and manipulating windows for a period of time, leftover images and pieces of windows tend to collect and clutter the screen. This is used to "clean up" the screen area and restore it to a more recognizable condition. However, it will also eliminate any "time of day" or "resources" information displayed at the top of the screen.

## The Information Center

### OVERVIEW

The Information Center is the hub of the Analyst system and is probably the tool that you will find the most serviceable to a wide variety of needs. It is an *information management* device that places innumerable resources within easy reach of even the most inexperienced user. With the features, or tools, available to you in an Information Center, you can do everything from putting out a one-line memo to creating a comprehensive document involving sophisticated spreadsheets, graphs, maps, and illustrations in practically the time it takes to think through the idea.

Imagine the Information Center as the ideal office:

- ★ In one corner stands the efficiently organized file cabinet, filled with stored raw materials, as well as intermediate and finished work. It is complete with cross-references, item references, keywords, annotations, and almost every other conceivable method of finding and retrieving just the right folder or individual item you might need.

- ★ Against the far wall is the library containing resources such as maps, charts, photographs, and any other relevant material that you have saved for future use.

- ★ A tall cabinet by the door holds tools to create charts, outlines, spreadsheets, databases, and maps at the tip of a finger.

- ★ At every turn you find yourself supplied with a list of alternate actions readily available to you through the use of popup menus.

- ★ Even the trash can is special because it allows you to retrieve incomplete or mistakenly-discarded documents, or remove them from the Information Center completely.

Another special and personal feature of the Information Center is its flexibility. It is as individual as you are: you will manipulate the available tools according to your own work habits, and not have to adjust to a rigid system. You are provided with everything needed to organize and use information in whatever style that best suits you, by calling up, manipulating, and creating items in a manner very close to old-fashioned, hands-on, pen and paper directness, while at the same time utilizing the speed, accuracy, and power of the latest technology—the best of both worlds!

Starting in requires little more than that you be given your password—your “key” to the ideal office—and enter the system. This section, with its menu descriptions and illustrations, should help to make using your Information Center understandable and enjoyable.

First let's describe the classification feature of an Information Center.

### CLASSIFICATION SCHEME

To begin with, the Analyst Information Center implements a full classification scheme (including hierarchical classification) by allowing the definition and use of words that modify the meaning of the classification level. These are called “access words.” One access word may be dependent upon another, so that some words may be unavailable for use unless another word is either used (enabled) or not used (disabled). This capability supports compartmentalized data, which includes copying and pasting from one item to another.

In other words, files that will comprise a typical Information Center, such as reports, folders, illustrations, etc., may be given a classification either when they are first created or at any time after that. In addition, the classification can be upgraded, downgraded, or removed. The Information Center in which classified files are stored will always reflect the highest level of classification represented by its files.

Folders, which are almost identical to Information Centers, will also become classified or unclassified as the files within them are changed.

In later example illustrations, Billy's Information Center (shown unclassified at first) becomes classified to the level of the map file called "Continental US." Notice how all the access words are shown next to the filename.

For more information on this subject, see the description given right after **add map/database links**.

### OPENING AN INFORMATION CENTER

After logging into the Analyst software, the first thing you will probably want to do is open one or several Information Centers to get started with your work.

- To open an Information Center, press the middle mouse button with the cursor in a non-window area to get the *system* middle mouse button menu. When the popup menu appears, select **Information Centers** (the words will go into reverse video) and release the mouse button.

- This action brings up an "Information Centers" Q-Box. In examining the Q-Box, you should notice three distinct options: (1) a *list* of all current Information Centers that can be selected and opened, (2) a *scavenge* ability, and (3) the ability to *add* a new Information Center. Let's take all three in turn.

| Information Centers |        |          |          |              |        |
|---------------------|--------|----------|----------|--------------|--------|
| accept              | cancel | bailOut  |          |              |        |
| info center:        | demo   | fulldemo | scavenge | <b>billy</b> | addNew |
| enter name:         |        |          |          |              |        |
| password:           |        |          |          |              |        |

#### (1) Selecting an existing Information Center

When you've selected an existing Information Center name and then **accept**, the Analyst software will respond by presenting you with an upper left corner (the "origin" cursor). To place the Information Center where you want it to be on the screen, move the cursor to that location, then click the left mouse button. As you click it, notice how the top left cursor changes to a bottom right (or "corner") cursor, and when you let up on the button the Information Center window will immediately appear. If you press but don't yet release the mouse button, you can control (up to a point) how wide or how long the resulting Information Center window will be. By moving the cursor up or down, you can widen and/or lengthen the window outline accordingly. Release the left mouse button when the appropriate location and size have been determined.

#### (2) Adding a new Information Center

The Q-Box feature called **addNew** allows you to add a new Information Center. Your selection of **addNew** will cause the currently gray (inactive) area next to **enter name:** and **password:** to become active and available for you to key in a new Information Center name and password (a password is an optional choice). Selecting **accept** after that will display the origin cursor, which means the Information Center is ready to open.

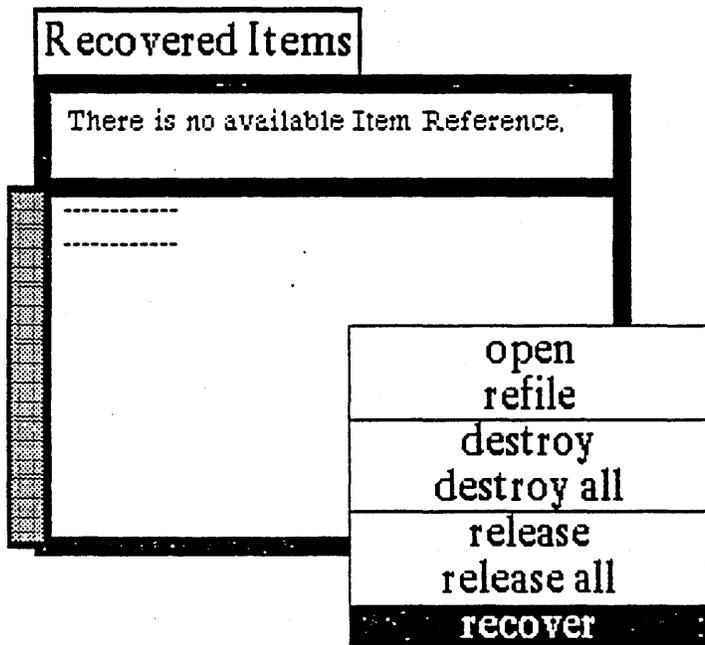
### (3) Scavenging for files

The Q-Box feature called **scavenge** is an active device by which you can—

– Locate and list files that have previously been deleted from folders or Information Centers, then subsequently dumped from the Trash window, or

– Locate and list files that have inadvertently become detached from a folder or Information Center.

When all the files are listed, you may (among other things) re-open (re-establish) them or select and delete them *permanently* off the disk, thereby freeing up some disk space. If you cut a file from an Information Center, then **dump** it from the Trash window, and finally **destroy** it during the scavenge, it will be gone forever, although you've had several chances to get it back. Here is how **scavenge** works:



- When you select **scavenge** from the Q-Box, the corner cursor appears and allows you to open a window titled "Recovered Items." You must next select **recover** from the middle mouse button popup to get the "Select Scavenge Types" Q-Box shown on the next page.

- You may select from one to all of the data items or types (selecting one item will not deselect the previous item), then select **accept**. Immediately, a message will appear in the Reference (upper) pane of the "Recovered Items" window that states \*\*\* I am working \*\*\* and "Checking active data items." When it has finished, you will see a list of all the files the system has managed to locate. Now you can, if you wish, select and open a file, or refile it into an Information Center, or eliminate it. Here are the popup menu options that will accomplish these things:  
**open**

Displays the selected item contents in a window.

#### **refile**

Brings up a Q-Box that allows you to give the selected item a (new) name, any key word(s), and a choice of existing Information Centers to file it into.

#### **destroy**

Deletes the selected item completely off the disk. Selecting **destroy** will cause a Confirmer to appear that asks "Destroy will remove [item] from the disk. Are you sure?" If you then select **yes**, there will be no chance of ever retrieving this item again.

**destroy all**

Deletes all the listed items completely off the disk. Selecting destroy all will cause a Confirmer to appear that asks "Destroy all will remove all these items from the disk. Are you sure?" As above, if you select yes, there will be no chance of ever retrieving these items again.

**release**

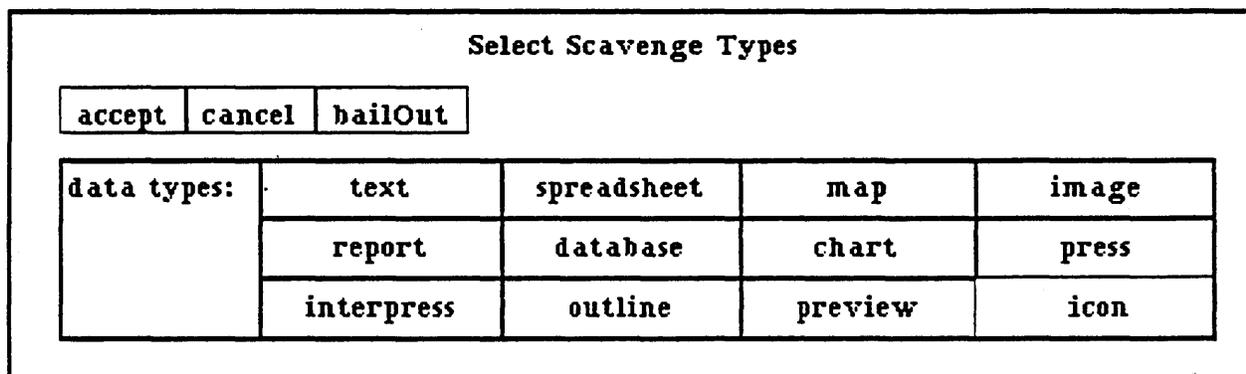
Protects a selected item from a destroy; that is, all other listed items can be destroyed, but an item that's been selected and released first will disappear from the list and appear again when you next do a scavenge.

**release all**

Protects all current items from a potential destroy all; that is, any other listed items can be destroyed, but items that have been released first will disappear from the list and show up again when you next do a scavenge.

**recover**

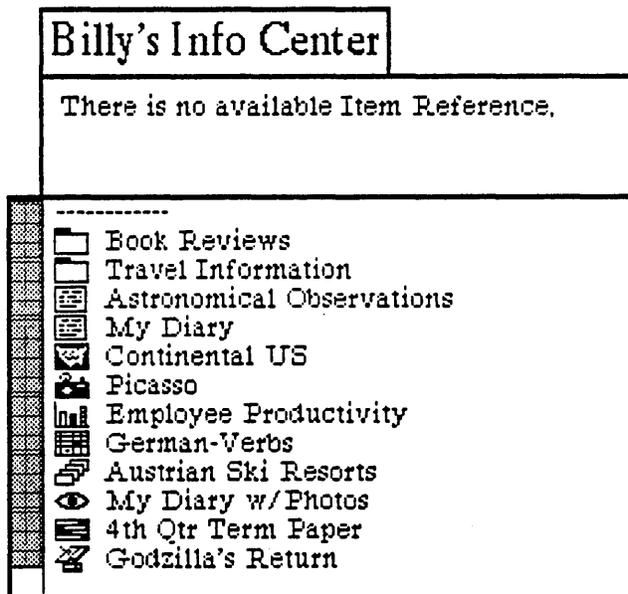
The option that brings up the "Select Scavenge Types" Q-Box.



**DESCRIPTION OF AN INFORMATION CENTER**

We are going to describe an Information Center named Billy. Notice how it resembles a fairly typical window of the Analyst family; it consists of two panes and a title tab. An Information Center's smaller upper pane is called the *Reference* pane, and the lower pane is called the *Contents* pane.

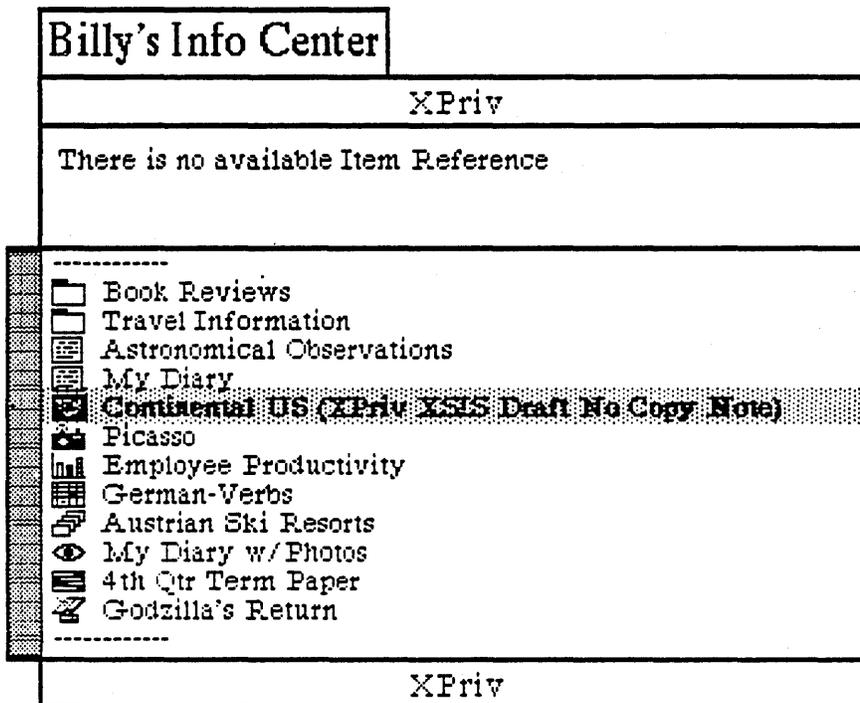
The Reference pane is actually a display area that provides you with information about what the window is doing internally, but you have no direct access to this pane. Often, the Reference pane will state "There is no available Item Reference." However, it is important to know that if a data item has just been duplicated, copied or cut, the data item name will appear in the Reference pane. If there are several Information Centers or folders opened on the screen, the item name will appear in the Reference



pane in every one of them. This is a good way of keeping track of which file or data item has most recently been worked on.

If you wish, you can move into any one or even all of the Information Centers and/or folders, select paste from the Contents pane's middle mouse button popup, and the filename will then be listed in the Contents pane. There, it is selectable and ready to be acted upon with the pane's lengthy middle mouse button popup menu options, just as any other data item listed there. This popup will be described, feature-by-feature, several paragraphs later.

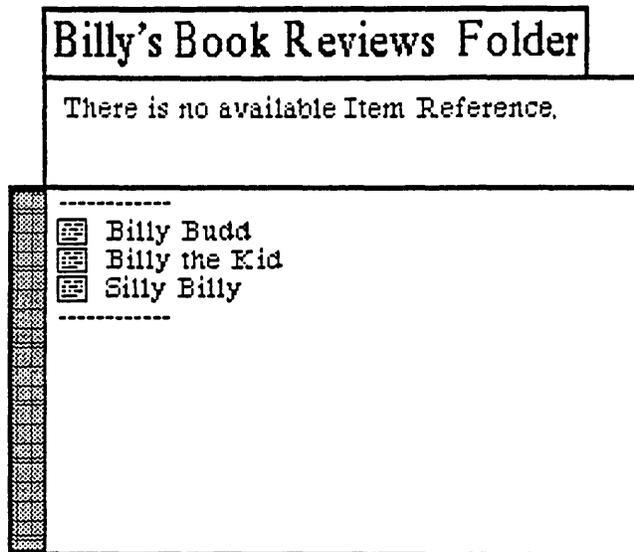
In addition to its listing of data items and its middle mouse button popup menu, the Contents pane also has a scroll bar. If you think a data item is listed in a particular Information Center but you can't find it, often just scrolling will cause it to appear in the list of items.



This illustration shows Billy classified "XPriv." That's because "Continental US" was given that classification, and it made the whole Information Center classified to that level. You may add or remove classification levels and access words for any data item filed in an Information Center.

### The FOLDER

The *folder* makes up a large part of an Information Center's structure. It is the data organizer that helps you file and cross-reference your materials. For instance, many people will place data items concerning the same subject matter into one appropriately-named folder. Another way to look at it is to think of an Information Center as an aggregate of folders; it is the "top level" folder, and as such has no special properties over any other folder. A folder, just like an Information Center, holds other folders and items, and the typical



folder window consists of a title tab, two panes, and a list of data items. In the illustration, we have opened the folder listed in Billy's Info Center titled "Book Reviews." Within this folder are three text files.

A new folder can be created any time you need it from another folder or from an Information Center.

### The DATA ITEM

The *data item* is an item of information that exists in a certain form or structure. Data items filed in an Information Center are listed in the Contents pane, where they can be selected and manipulated extensively by the Contents pane's rich variety of middle mouse button popup menu options. The following are typical data items used in the Analyst: **chart, database, icon, image, map, outline, preview, report, spreadsheet, and text.**

### The ICON

Next to each data item is an *icon*, a visual representation or symbol of what the data item is—folder, chart, map, etc., so you will never be puzzled as to whether, for example, a certain data item is a text file, or is actually the folder that you put it into. As you can readily see in the illustration of Billy's Information Center, "Book Reviews" is a folder, "Employee Productivity" is a chart, and "Austrian Ski Resorts" is a database file. (For practical purposes, most of your Information Centers will probably consist mainly of folders containing files that you have stored there, much as you would file papers into relevant folders placed in an office file cabinet. Billy's Information Center displays a large number of data items not placed in folders in order to illustrate the variety of icons available.)

These icons are carried through into other aspects of Information Centers: they appear in folders, Trash windows, In Boxes, Structure Trees, and all the other interconnecting parts that help to structure and identify the components of your Information Center.

### The INFORMATION CENTER Contents Pane's Middle Mouse Button Popup

This important middle mouse button popup menu is identical for both an Information Center and a folder, and contains many menu and submenu options:

**open**

Displays the selected data item in a window.

**display --> structure tree**

A **structure tree** is an example of a feature that gives you a different way of looking at a data item or group of data items. After using the Analyst software for a time, there might be so many different data items to keep track of that it will become difficult to conceptualize your folder's file hierarchy. A **structure tree** displays all the data items and folders contained within a folder, and how they currently interconnect. Of course, each data item also carries its own icon for easy identification. From this vantage point, you can easily remove connections or add connections between folders. The **structure tree** window has its own popup menu, as shown below:

**open**

Displays the selected data item in a window.

**add connection**

Connects selected items to folders or folders to other folders. For instance, if "Continental US" (a map) is connected to "Travel Information" (a folder), it will now be located in the "Travel Information" folder as well as its original location (the Information Center called "Billy"). However, if you try to connect a folder to an item, or an item to an item, you will only get a Notifier that says "[item] is not a folder; you can't add a connection here."

**remove connection**

Removes the connection that currently exists between an item and a folder, or a folder and a folder.

**redisplay**

Refreshes the structure tree window by removing broken lines, leftover lines, or gaps that were created when adding/removing connections.

**organize**

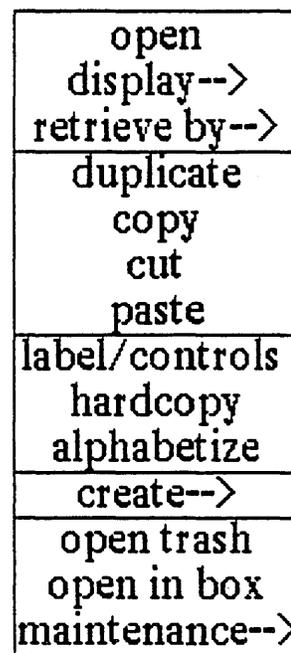
Recomputes and displays the connections in a more efficient way.

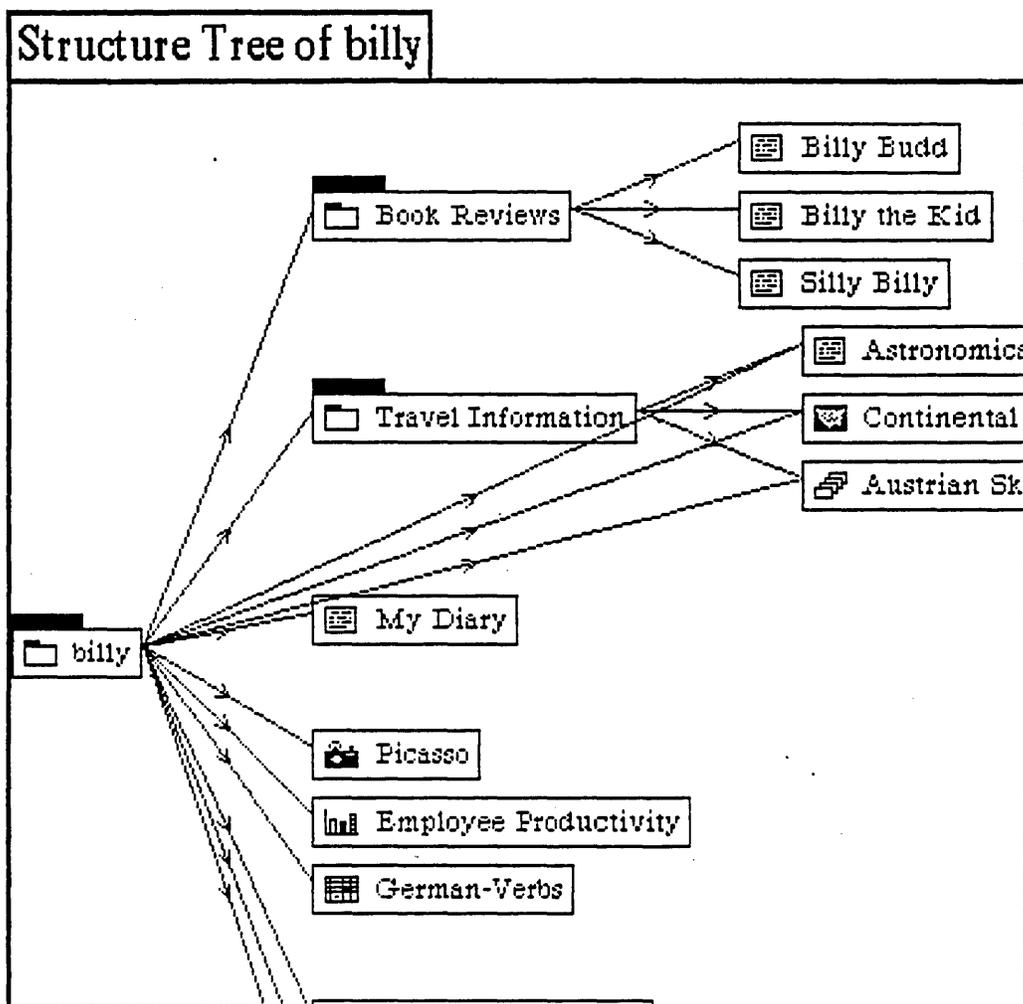
**move**

Allows a selected connection to be moved.

**scroll**

Allows you to display whatever area of the structure tree is currently not visible in the window (remember that you can also re-frame this window to make it longer and/or wider). Selecting **scroll** causes a miniature representation of the entire structure tree to appear, as a subwindow, in the upper left-hand corner of the window. By placing the cursor into the subwindow and pressing and holding down the left mouse button, a movable, rectangular scroll bar will appear. Put the scroll bar over the part of the structure tree currently not visible that you want to see, and release the mouse button. The subwindow will disappear and the structure tree will scroll itself right to that area.





**hardcopy**

Makes a hardcopy of (1) either the currently visible portion of the graphic structure tree (just select **hardcopy** from the popup); or (2) an item in the structure tree itself (map, text item, etc.) by selecting the item name so that it goes into reverse video, then selecting **hardcopy** from the popup.

**display --> structure list**

A filing structure outline that lists all the folders in a folder or Information Center and each item contained within the folder. Again, this is another way of looking at a data item or group of data items. Note also that each data item displays its identifying icon. The structure list's popup contains only two choices:

**open**

Displays the selected data item in a window.

**hardcopy**

Makes a hardcopy of either (1) the outline in the structure list (by just selecting **hardcopy** from the popup) or (2) a data item in the structure list itself (map, chart, etc.) by selecting the item name, then selecting **hardcopy** from the popup.

**display --> cross references**

This identifies all the places where a selected data item exists within the same Information Center. Some data items will appear only once in a folder or Information Center, while others will be filed in many different folders within an Information Center. Attempting to manually open each folder to look for an item could take a great deal of time. As you can see from the illustration on the next page, **display --> cross references** has shown that the text item called "Astronomical Observations" exists in "Billy" (the Information Center) as well as in the folder called "Travel Information" that is also in "Billy." The popup for this window has the following choices:

**open**

Displays the selected item contents in a window.

**duplicate**

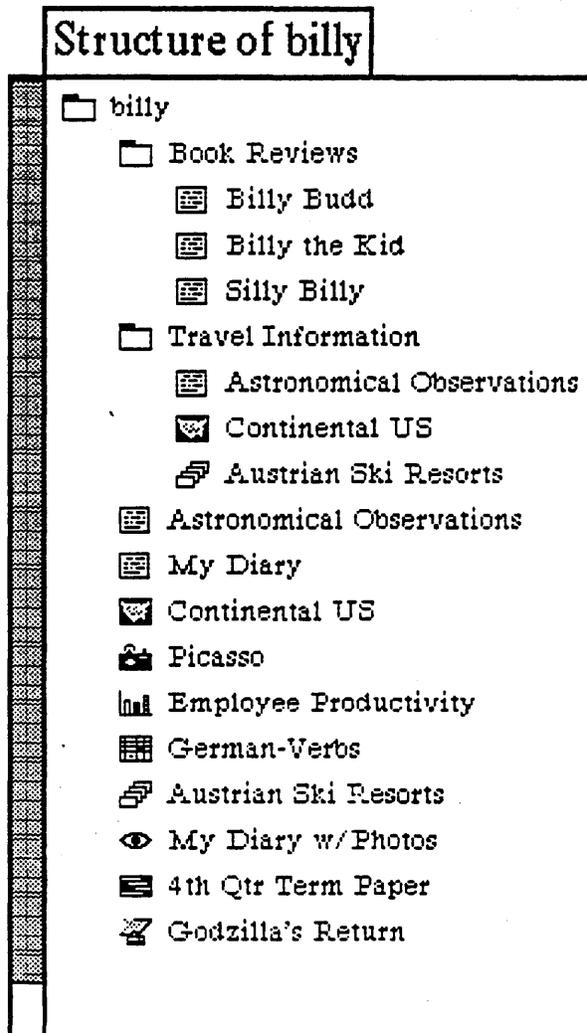
Creates a duplicate file with a new name. Selecting **duplicate** opens a "Duplicate folder's label" Q-Box, where you may type in a new name and any key words. After **accept**, a Notifier appears that asks "Which type of folder copy." Your choices are: "copy only structure" or "structure and contents." The new file name will appear as an item in the Reference pane of the Cross References window. Using **paste** next will place the duplicated file into a folder of your choice.

**copy**

Puts a copy of the file into the copy buffer, where you may next **paste** it into another folder.

**search**

Filters or further refines a key word or title search in a folder or Information Center. You may search by title only, text, or both, and there is a choice of five data types within which to conduct the search. If nothing can be identified, a Notifier will appear that states "There are no items in this folder."



**key words**

Identifies data items that are associated with a particular key word. Selecting this brings up a Prompter that says "Enter query with these keywords." When you go to fill in the desired key word, a different approach is used here to enter the information. Instead of typing in text and numbers or selecting from various boxes, you will utilize the query "template" that appears when you press the middle mouse button. The top

Astronomical Observations is referenced in

There is no available Item Reference.

- Travel Information
- billy

Enter query with these keywords

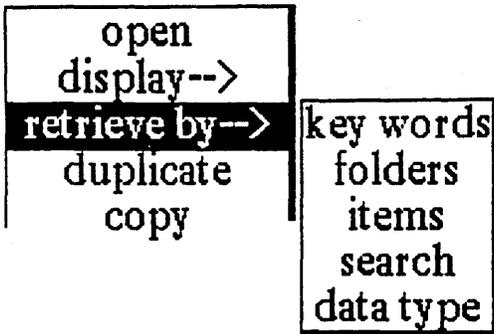
- backspace
- cancel
- ACCEPT
- artist
- chart
- database
- image
- kid
- map
- outline

half has three fixed actions: **backspace** **cancel** or **ACCEPT**. The bottom half contains variable key words. If you select one of the key words and **ACCEPT**, the key word will appear in the Prompter. You may add one or all of the available keywords this way; **backspace** will remove the last word entered and **cancel** will cause the Prompter to disappear, with no action being taken. After all desired information has been entered, a final **ACCEPT** will cause a window to appear that shows in which data items the key word(s) appear.

**make folder**

Creates a new folder. Selecting this item will cause a "New folder label" Q-Box to appear, where you may fill in the new folder name and any desired key words. The new folder name will appear as an item in the Reference pane of the Cross References window. Using **paste** next in another folder or Information Center will cause the folder to be listed there.

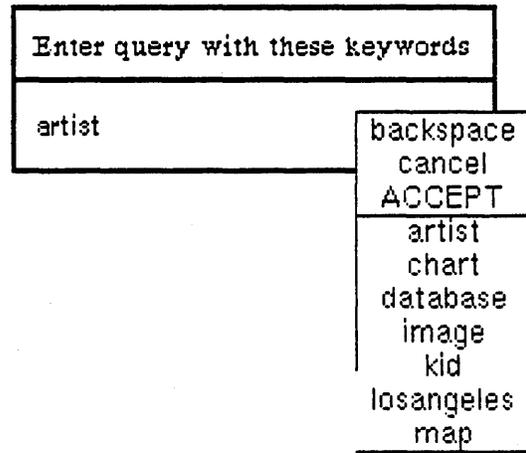
The next series of five popup sub-options are also used to pinpoint or retrieve information or data items by identifiable key words and other references.



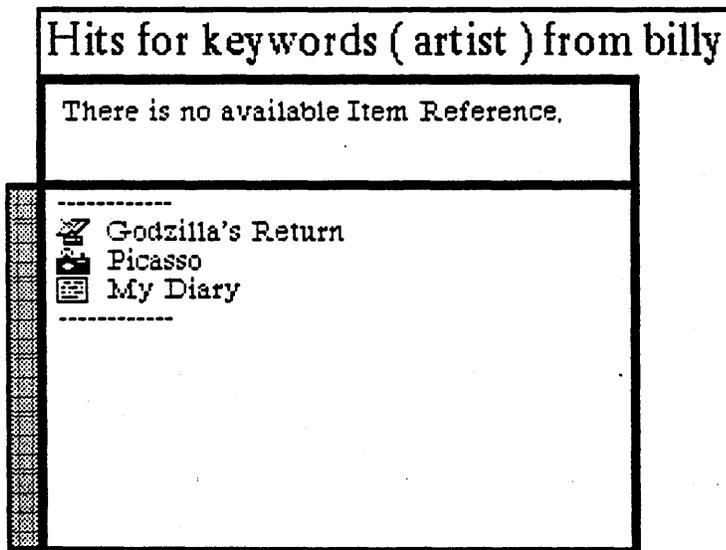
**retrieve by --> key words**

Identifies folders and other data items that are associated with or keyed by a particular key word. This works the same way as the key words option just discussed in display --> cross references. That is, selecting key words brings up a Prompter (see illustration.) When you go to fill in the desired key word, a different approach is used here to enter the information. Instead of typing in text and numbers or selecting from various boxes, you will utilize the query "template" that appears when you press the middle mouse button.

The top half has three fixed actions: **backspace**, **cancel** or **ACCEPT**. The bottom half contains variable key words. If you select one of the key words and **ACCEPT**, that key word will appear in the Prompter. You may add one or all of the available keywords this way: **backspace** will remove the last word entered and **cancel** will cause the Prompter to disappear, with no action being taken. After the desired keyword has been entered (in this case, the word "artist"), a final **ACCEPT** will cause a "Hits" window to appear that shows in which data items the key word "artist" is present.



This window has a popup menu that is identical to that of the display --> cross references window:



**open**

Displays the selected item contents in a window.

**duplicate**

Creates a duplicate file with a new name. Selecting **duplicate** opens a "Duplicate [data item's] label" Q-Box, where you may type in a new name and any key words. After **accept**, using **paste** next in a target folder will place the duplicated file into that folder.

**copy**

Puts a copy of the file into the copy buffer, where you may next **paste** it into another folder.

lters or further refines a key word or title search in a folder or Information Center. You may search by title only, text, or both, and there is a choice of five data types within which to conduct the search. If nothing can be identified, a Notifier will appear that states "There are no items in this folder."

#### **key words**

Identifies data items that are associated with a particular key word. Selecting this brings up a Prompter that says "Enter query with these keywords." When you go to fill in the desired key word, a different approach is used here to enter the information. Instead of typing in text and numbers or selecting from various boxes, you will utilize the query "template" that appears when you press the middle mouse button. The top half has three fixed actions: **backspace** **cancel** or **ACCEPT**. The bottom half contains variable key words. If you select one of the key words and **ACCEPT**, the key word will appear in the Prompter. You may add one or all of the available keywords this way; **backspace** will remove the last word entered and **cancel** will cause the Prompter to disappear, with no action being taken. After all desired information has been entered, a final **ACCEPT** will cause a window to appear that shows in which data items the key word(s) appear.

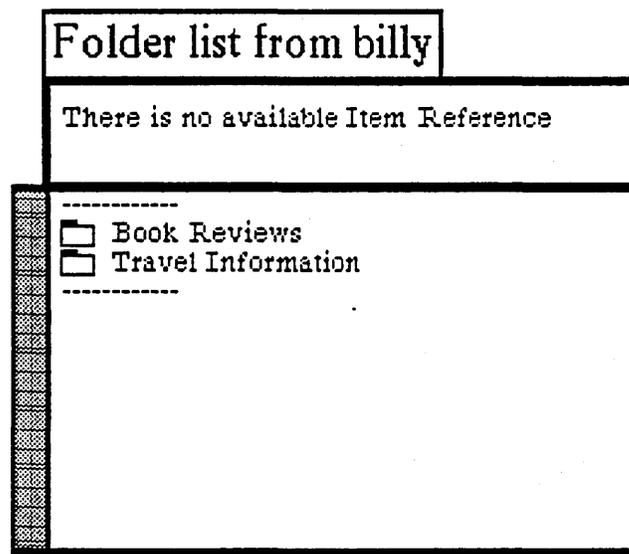
#### **make folder**

Creates a new folder. Selecting this item will cause a "New folder label" Q-Box to appear, where you may fill in the new folder name and any desired key words. The new folder name will appear as an item in the Reference pane of the Hits window. Using **paste** next in a target folder or Information Center will cause the folder to be listed there.

#### **retrieve by --> folders**

Displays a list of all the folders that are contained in the folder or Information Center that you have just selected. The illustration shows that "Book Reviews" and "Travel Information" are both folders contained within "Billy."

The Folder List window has a popup menu exactly the same as that described above under retrieve by --> key words. so it will not be repeated here.

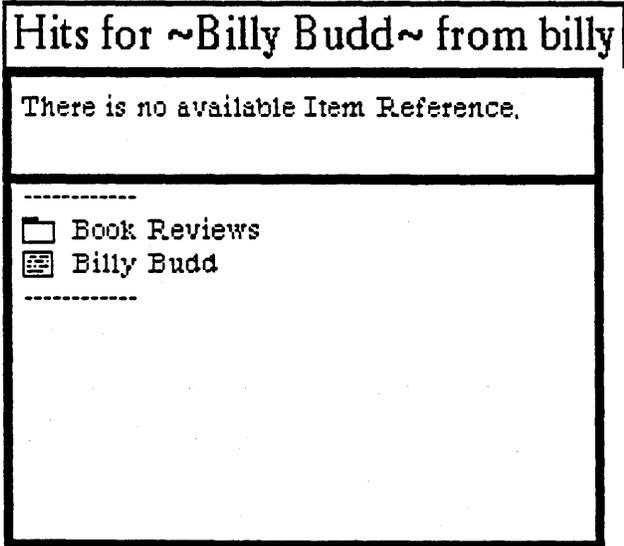
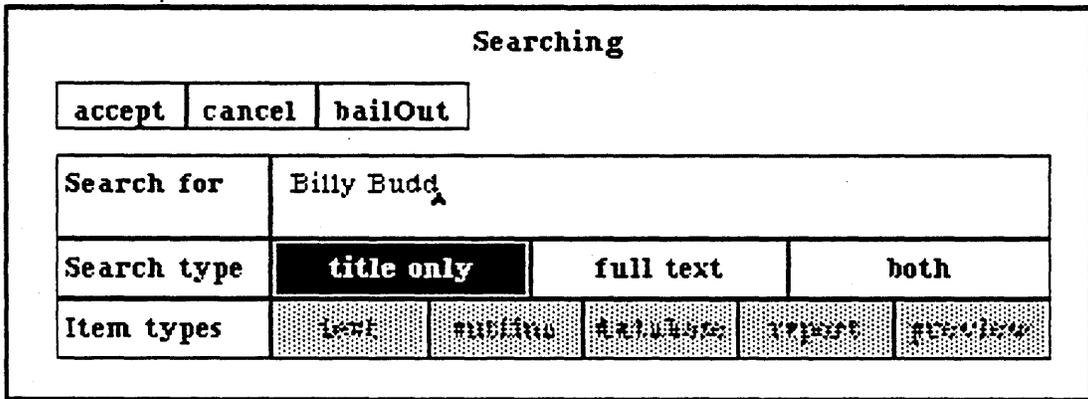
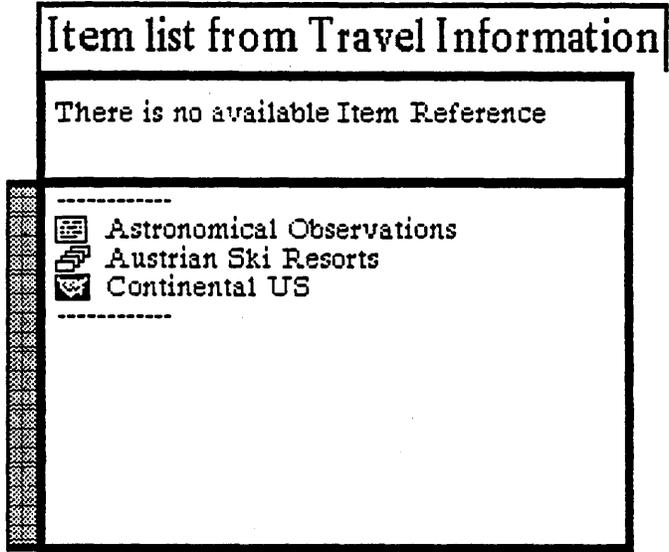


**retrieve by --> items**

Displays a list of all the data items that are contained in a folder. The three data items shown in the illustration are in the folder called "Travel Information." Again, the Item List window's popup is exactly the same as that described in retrieve by --> key words.

**retrieve by --> search**

Further refines a text or title search within an individual folder or an entire Information Center. After selecting search, the resulting Q-Box allows you to designate a search by title only, by full text, or both. Selecting full text and/or both will turn on the list of item types (not shown in the illustration), which are text, outline, database, report, and preview. This lets you search for information among five types of text-related data items.

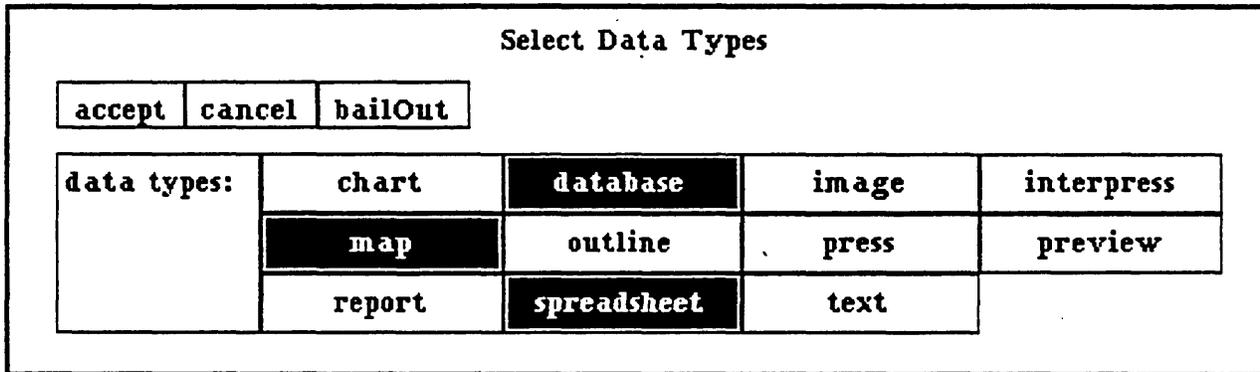


In the example, the title search for "Billy Budd" yielded a window displaying the fact that this title is a text file contained in the "Book Reviews" folder. Notice that if you select any other type of data item for a search, other than a folder or Information Center, a Confirmer will appear that says "Selection is an item. Do you want to view it?" Selecting yes will open the item and display it on the screen. In other words, only folders or Information Centers will contain the data for a search.

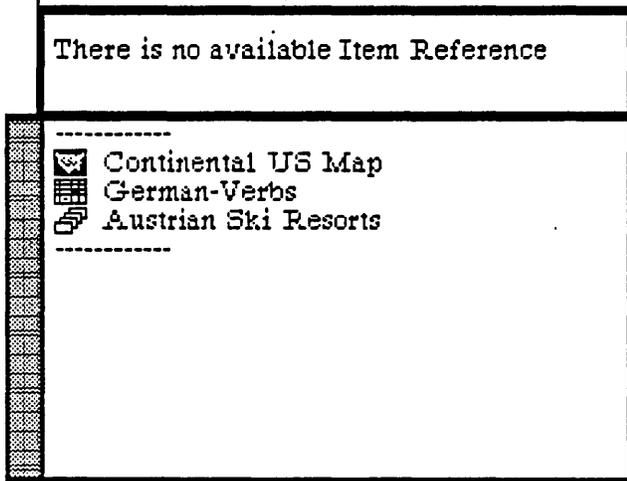
The window's popup is exactly the same as that described in retrieve by --> key words.

**retrieve by --> data type**

Allows you to pinpoint exactly what type of data item(s) you want to see listed in a window. Selecting this causes a Q-Box to appear that displays all the different Analyst data types (in the illustration, we have selected the database, map, and spreadsheet data types). You may select one data type or any number; each will go into



**Data types ( 'database' 'map' 'spreadsheet' ) from billy**



reverse video afterwards. (If you change your mind and want to deselect a data type, merely click over it again to switch it off.) After selecting **accept** in the Q-Box, a window will appear that lists the desired data types. In this case, they turned out to be "Austrian Ski Resorts" (a database); "Continental US Map" (a map); and "German Verbs" (a spreadsheet).

The popup for the Data Types window is the same as that of retrieve by --> key words.

The remainder of the middle mouse button popup options covers a wide range of data item manipulations and Analyst software features:

**duplicate**

Creates a duplicate file with a new name designated by you. Selecting **duplicate** opens a "Duplicate [type of item's] label" Q-Box, where you type in a new name (label), any key words, and the classification. The new file name will appear as an Item Reference in displayed folders. Using **paste** will place the duplicated data item into the folder(s)/Information Center(s) of your choice.

**copy**

Copies a selected data item. When you do this, the item copy is temporarily stored in something called the "copy buffer." Next move the cursor to any other Information Center or folder currently open. The item will be listed in the upper pane as an Item Reference. If you now select **paste** from the middle mouse button popup, the file will be copied to that window. If you **copy** two different files in a row, the copy buffer will lose the first file. You can **paste** only what is currently in the buffer.

**cut**

Removes a data item or moves it to another folder or Information Center without keeping a copy in the current window (as opposed to using **copy**). To remove a file, select it, then select **cut** from the popup (the **cut** item will be automatically dumped into **trash**). To move the item to another window, move the cursor to that window and select **paste**.

If you immediately **cut** another file without pasting the first one, the first file will be lost from the copy buffer. If you accidentally **cut** a file or forget to **paste** it, it can be retrieved from the **trash** (explained below).

**Edit this map's label**

|                       |                |                |       |         |       |  |
|-----------------------|----------------|----------------|-------|---------|-------|--|
| <b>accept</b>         | <b>cancel</b>  | <b>bailOut</b> |       |         |       |  |
| <b>Name</b>           | Continental US |                |       |         |       |  |
| <b>Keywords</b>       | map            |                |       |         |       |  |
| <b>Classification</b> | [blacked out]  | Int            | XPers | XPriv   | XReg  |  |
| <b>Controls</b>       | XSIS           | Vista          | Draft | No Copy | Print |  |

**paste**

Picks up the item currently in the copy buffer and places it into a folder (as you click the middle mouse button). If no item is in the copy buffer the window will flash and the **paste** command is ignored.

**label/controls**

Allows you to edit an item in certain ways. When you select **label/controls**, it brings up an "Edit this [item's] label" Q-Box in which you can change the item's name, keyword(s), and classification. If the item is currently open and displayed on the screen when you change its name, its window title tab name won't change until you close the item and re-open it later, even though the new name will instantly change in the folder.

**hardcopy**

Sends your selected file to be printed. Notice that this allows you to hardcopy a file without opening it first. You may, of course, display the file in a window and select the hardcopy option from there. The result is the same.

Two Q-Boxes appear in succession after you select **hardcopy**: the first Q-Box, called "Select hardcopy method," displays a choice between *Direct* (just send the file to be printed) or *Preview* (don't print the file but put it into a Preview window).

In this case, you would select *Direct*, which will bring up the second printing Q-Box. It needs a printer name (if none is there): you may also designate here how many copies to print and what page to start printing on. After this information is typed in, click over **accept**. While the system is sending the file to be printed, a message to this effect will appear in the upper righthand corner of the screen. After the file has been printed, "done," "finished," or "printing successful" will display there.

|                            |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|--------|----------|---------|---------|------|--------|----------------------------|------------------------|
| open                       | <table border="1"> <tr><td><b>text</b></td></tr> <tr><td>spreadsheet</td></tr> <tr><td>report</td></tr> <tr><td>database</td></tr> <tr><td>outline</td></tr> <tr><td>preview</td></tr> <tr><td>icon</td></tr> <tr><td>folder</td></tr> <tr><td>info center from selection</td></tr> <tr><td>add map/database links</td></tr> </table> | <b>text</b> | spreadsheet | report | database | outline | preview | icon | folder | info center from selection | add map/database links |
| <b>text</b>                |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| spreadsheet                |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| report                     |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| database                   |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| outline                    |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| preview                    |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| icon                       |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| folder                     |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| info center from selection |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| add map/database links     |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| display-->                 |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| retrieve by-->             |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| duplicate                  |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| copy                       |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| cut                        |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| paste                      |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| label/controls             |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| hardcopy                   |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| alphabetize                |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| <b>create--&gt;</b>        |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| open trash                 |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| open in box                |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |
| maintenance-->             |                                                                                                                                                                                                                                                                                                                                       |             |             |        |          |         |         |      |        |                            |                        |

**alphabetize**

Arranges the data items listed in a folder or Information Center alphabetically or numerically (from a to z, lowest number to highest).

**create -->**

Makes a new item and stores it into the folder (you do not need to paste the item into the Contents pane). After the item is created and stored, you can open it by selecting it with the left mouse button, then selecting **open** from the popup menu. Following is the type of data items that can be created this way and a brief description of each:

**text**

A scrollable, single-paned window into which text is entered and edited.

**spreadsheet**

A modeling device or tool that allows you to explore "what-if" scenarios.

**report**

A Report window consists of three panes: an image pane, a contents pane, and a text entering and editing pane.

**database**

A data management tool that allows you to rapidly display data, add to it or change it, create new data, and manipulate the various data according to your particular needs.

**outline**

A method of structuring a document. Once an outline has been constructed, the outline window is capable of taking part or all of the material and producing an organized document from it.

**preview**

Creates a window that can combine text and graphics, and that has numerous editing capabilities.

**icon**

This feature has not been installed yet.

**folder**

The main data organizer that holds all types of items, including other folders.

**info center from selection**

A way of creating a new Information Center from a folder. Selecting this option displays an "Add New Information Center for [your name]" Q-Box, in which you name it and password it (if necessary). The new Information Center will contain the same item(s) as the folder (or item) that was selected when the Information Center was created.

**Create new text**

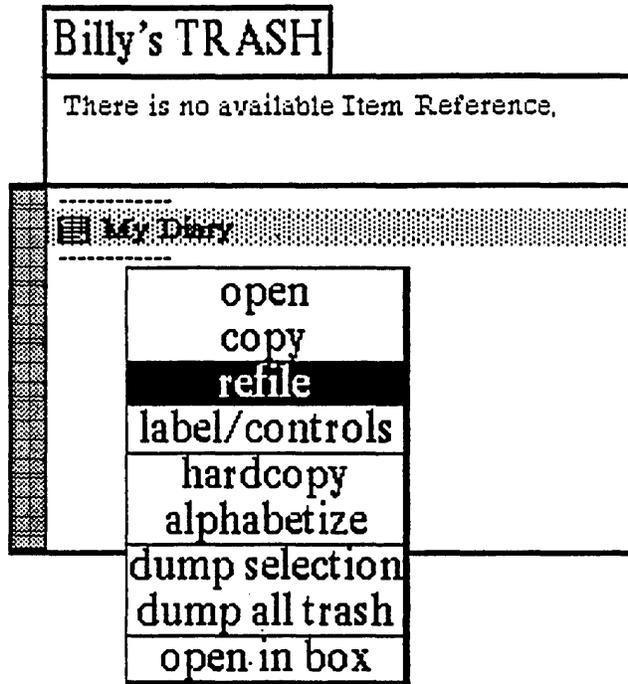
|                       |                                     |                |              |                                     |                                     |
|-----------------------|-------------------------------------|----------------|--------------|-------------------------------------|-------------------------------------|
| <b>accept</b>         | <b>cancel</b>                       | <b>bailOut</b> |              |                                     |                                     |
| <b>Name</b>           | text                                |                |              |                                     |                                     |
| <b>Keywords</b>       |                                     |                |              |                                     |                                     |
| <b>Classification</b> | <input checked="" type="checkbox"/> | <b>Int</b>     | <b>XPers</b> | <b>XPriv</b>                        | <b>XReg</b>                         |
| <b>Controls</b>       | <b>X SIS</b>                        | <b>Vista</b>   | <b>Draft</b> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

**add map/database links**

Permits you to easily add new (or previously unused) database information to a map, or remove a database already linked there. First select the desired map name from its folder or Information Center, than select add map/database links. A "Database connections to [map name]" Q-Box will appear, with all database names that are currently linked displaying in reverse video. These database names will toggle on or off, and thereby become linked or unlinked, by your selecting them with the left mouse button.

Note: Using **create --> text, report, spreadsheet, or database** causes the Q-Box that appears to display an expanded list of classifications with exclusionary and inclusionary access words. At this point, you can give whatever you're working on the correct classification (if any) and select the relevant access word(s). Selecting one access word can include or exclude all or part of another set of words. You should have the correct classifications and access words already pre-set on your disk, so they will appear when needed in the various Q-Boxes.

Giving an item a classification will automatically classify an Information Center (or folder) that was previously unclassified, when the item is stored there. In the same way, you will automatically upgrade (or downgrade) Information Centers from one classification to another as you create or move files and folders from one Information Center to another. The hardcopy version of your file will display the appropriate classification and access word(s) at the top and bottom of every page.



### open trash

A backup feature that stores "unwanted" items, while acting as the folder's "trash bin." When a data item is cut from a folder, it doesn't disappear forever, but instead is moved into the trash window and listed in its Contents pane. You may then do things such as refile the item back into a folder or Information Center, dump it from the trash, or just leave it for awhile as a stored item. These options will be explained more fully via the window's middle mouse button popup menu:

#### open

Displays the contents of a selected data item in a window.

#### copy

Places the file into the copy buffer, allowing you to paste it into a folder or Information Center.

#### refile

Allows you to return the data item into a folder of your choice. This is done when selecting refile displays a window that lists all the folders contained in the Information Center. When you select the desired folder and press the middle mouse button, a message appears in reverse video that states "file in this folder." By releasing the middle mouse button, the item will automatically be filed into the folder. In the example, "My Diary" was selected from the trash and refiled back into "Billy."

#### label/controls

Changes the label, keywords, or classification of the selection.

#### hardcopy

Makes a hardcopy of the selected data item.

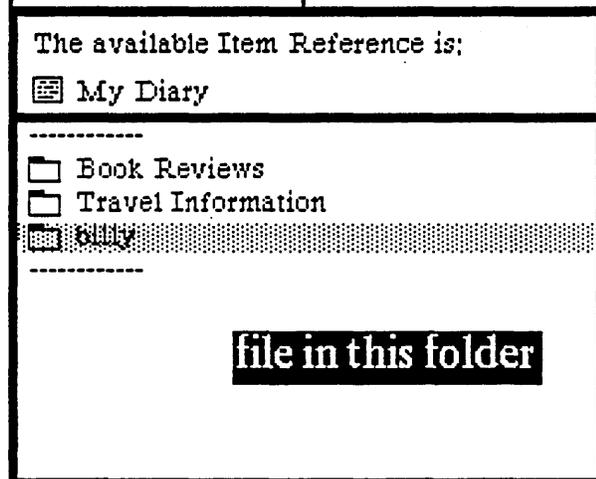
#### alphabetize

Alphabetizes the window's contents.

#### dump selection

Deletes the selected file from the trash bin.

### Folders of billy



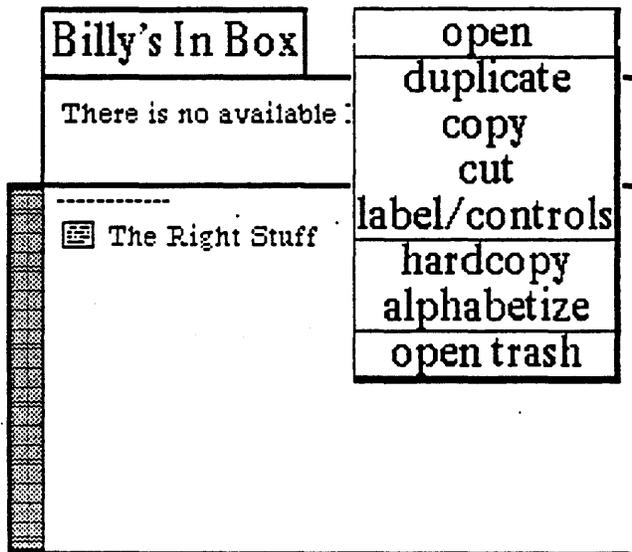
**dump all trash**

Deletes everything from the trash bin. Before this occurs, a Confirmer appears that says "Do you really want to dump the whole trash bin?" (yes or no) to make sure that you really want to delete all the item(s). Notice that when you empty the trash by dumping everything, the Reference pane in all open folders will return to the "There is no available Item Reference" message.

When you dump files from the trash bin, they have only one more place to go, which is the Recovered Items window described at the beginning of this section. Deleting data items from this window will erase them off the disk. Until that time, they are still retrievable and can be opened or refilled.

**open in box**

Displays the folder's in box.



**open in box**

An in box is a folder which receives items with no place else to go. For instance, if you store an item with no key words, or which has key words that don't match those of any existing folder, the item will be placed into the in box for temporary storage. You can select the item later and refile it when you are ready. The popup menu for this folder is as follows:

**open**

Displays the contents of a selected data item in a window.

**duplicate**

Duplicates a selection and puts it into the copy or transfer buffer.

**copy**

Places the file into the copy buffer, allowing you to paste it into a folder or Information Center.

**cut**

Deletes a data item from a folder's contents. When this is done, the data item name will appear in the Reference pane of the folder window. You may now, if you wish, move the item to another folder or Information Center by using paste from the popup.

If you immediately cut another file without pasting the first one, the first file will be lost from the copy/transfer buffer.

**label/controls**

Changes the label, keywords, or classification of the selection.

**hardcopy**

Makes a hardcopy of the selected data item.

**alphabetize**

Alphabetizes the window's contents.

**open trash**

Displays the folder's trash bin.

open trash  
open in box  
maintenance-->

save info center  
restore info center  
close info center  
destroy info center  
rename info center  
change password  
file name list  
lock  
unlock  
backup selection

**maintenance -->**

A organizing tool for saving and restoring Information Centers, changing passwords, identifying files not listed in a window, and so on. The available choices on the menu are:

**save info center**

Saves away the Information Center, with all its structure, to the disk.

**restore info center**

Brings back the previously stored Information Center. This comes in handy if you have, for instance, added items to your Information Center and decided you didn't want them afterwards. By selecting **restore info center**, you'll get the Information Center as it existed before adding the items.

**close info center**

Saves an Information Center, then removes its data structure from memory. This gets some resources (core and oops) back.

**destroy info center**

Removes the Information Center from memory: it kills the Information Center file on the disk, scavenges for all types of data items that were listed in the Information Center, and then gets rid of them. Selecting **destroy info center** brings up a Confirmer that says "This will DESTROY the [name] Information Center. Are you sure?" with a yes or no decision.

|                                                                                                                    |    |
|--------------------------------------------------------------------------------------------------------------------|----|
| This will rename Billy's Information Center.<br>To do so all the windows that refer to it must be closed. Proceed? |    |
| yes                                                                                                                | no |

**rename info center**

Renames the Information Center. As you can see from the illustrations, selecting this option from the Information Center (or folder) to be renamed causes a Confirmer, then a Prompter, to appear. When you have finished keying in the new name, you will be able to display the renamed Information Center on the screen. Thus, the Analyst automatically renames the Information Center and saves it to the disk.

|                              |
|------------------------------|
| New information center name? |
| ^                            |

**change password**

Changes an Information Center's password with the "Change the Information Center Password" Q-Box.

**file name list**

Shows how a data item filename actually appears to the Analyst software. If you need to store or retrieve an Analyst data item, you will need to identify it exactly as the file name listing shows it. Here are some points to observe:

**File name list**

```
4thQtrTermPaper.outline- + 1 4thQtrTermPaper.outline- + 1.txt  
831123-180513.map 831123-180513.map.control  
AstronomicalObserva.text- + 1 AustrianSkiResorts.db- + 1  
AustrianSkiResorts.db- + 1.queries BillyBudd.text- + 1  
BillytheKid.text- + 1 ContinentalUS1.mapData  
ContinentalUS1.mapHints EmployeeProductivit.chart- + 2  
EmployeeProductivit.chart- + 2.dat German-Verbs.ss  
GodzillasReturn.bb- + 1 GodzillasReturn.bb- + 1.lis  
MyDiary.text- + 1 MyDiarywPhotos.pvl- + 1  
MyDiarywPhotos.pvl- + 1.txt Picasso.image- + 1  
RetrieveBySubmenu.image- + 1 SillyBilly.text- + 1
```

- There are no spaces between words.
- Each filename ends with a "- + 1" (or "- + 2" etc.). This is the version number of the file.
- Some filenames will be truncated, because the maximum number of allowable characters in the filename is 19. Thus, the data item called "Astronomical Observations" becomes "AstronomicalObserva."

• The data items are not identified with an icon here. Instead, each item name is appended by what type of item it is—.outline, .text, .db, .map, .chart, etc.

• In other words, if you want to store/retrieve "Astronomical Observations," you must key in the filename as "AstronomicalObserva.text- + 1."

You can, of course, select only one data item or get a list of every data item filename in the folder, by not selecting any individual filenames.

**lock**

Prevents anyone, other than the owner of an Information Center, from viewing the locked file(s).

**unlock**

Releases the file(s) in an Information Center by allowing others besides the owner to view them.

### **backup selection**

Sends a copy of your file(s) directly to a designated remote file server while still in the

Analyst:

- Move the cursor into the Information Center that contains the file(s) to be backed up.
  - ~ If you want to back up one item, select it first
  - ~ If you want to back up everything in a folder, select the folder name
  - ~ If you want to back up the entire Information Center, move the cursor to the top level of the window where the title tab is and don't select anything.

- A Q-Box appears called "Backup Selection to File Server." It's divided into three parts.

**Host:** Here is where you select your server or host. There is probably a default host name already shown.

**Directory:** The directory name and/or file drawer on the remote file server where the files are to be stored. The default current user's name will probably be displayed there.

**Password:** The currently logged-in user must enter his/her correct password here.

- After selecting **accept**, an Origin cursor appears so you can open an "XDE Communication Center" window, which already has the initial command to back up the files. It will show you what it is doing so you can confirm what files are being stored.

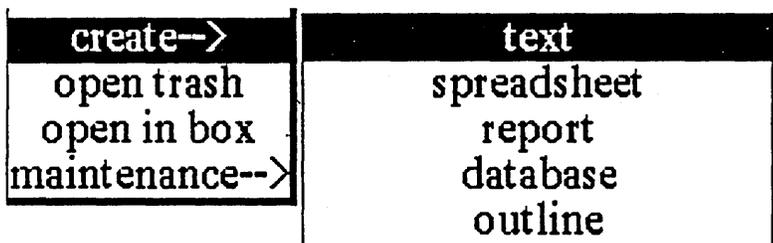
## Word Processing

### OVERVIEW

The ability to quickly and easily create a document—such as a memo, report, summary, procedure—is an integral part of the Analyst-85 software. In fact, this entire *Reference Manual* was keyed in, edited, illustrated, previewed, and hardcopied by using the Analyst-85 word processing and graphics capabilities.

All text entry and editing is done in the *text* pane of a window. Not all windows have text panes, while a simple text window has *only* a text pane; other windows have a combination of text and graphics panes. With the text, you may choose a variety of fonts and styles, annotate words, copy-cut-paste everything from single words to entire text sections, and even compute numbers. All these capabilities are available on a typical text pane popup menu.

### OPENING A NEW TEXT WINDOW



A text window is ideal for word processing and document creation/editing. As shown in the illustration, a new text window is created by pressing the middle mouse button in an Information Center or a Folder, then selecting **create --> text** from its middle mouse button popup. Immediately after that, a "Create new

text" Q-Box will appear, and you must type in the title of your text item after **Name**, plus any **keywords** you may want to list, and the appropriate **classification/controls** for the resulting text file. After selecting **accept**, the new text item name is placed into whatever Information Center or Folder it was created from. Next, select the name with the left mouse button, then select **open** from the middle mouse button popup. When the Origin cursor appears, click the left mouse button in order to place the opened window on the screen. The new text window's name appears in the title tab at the top. An insertion mark, or caret, sits at the upper left corner of the pane. When you start typing text, it will appear exactly at the insertion mark.

| Create new text |        |         |       |           |       |      |
|-----------------|--------|---------|-------|-----------|-------|------|
| accept          | cancel | bailOut |       |           |       |      |
| Name            | text   |         |       |           |       |      |
| Keywords        |        |         |       |           |       |      |
| Classification  |        | Int     | XPers | XPriv     | XReg  |      |
| Controls        | XSIS   | Vista   | Draft | File copy | Print | Info |

Here are some features to become familiar with when you first open a text window:

### SCROLL BAR

An important part of a typical text-editing/word processing window is the *scroll bar*. A scroll bar allows you to move through text from top to bottom and back again, or jump quickly to any part of the text. It is represented by a narrow rectangular area that is displayed next to the left side of the pane that it controls. The scroll bar isn't always visible, and will disappear when no longer needed.

The length of the scroll bar represents the length of the entire document, and inside of it is a gray area. This gray area is located within the scroll bar at a point relative to the location of the text within the window. In other words, it represents that portion of text currently showing on the screen. If the gray area is at the top of the scroll bar, then the window is showing text at the beginning of the document. If the gray area fills the entire scroll bar, then you can be sure that all of the document is currently displayed.

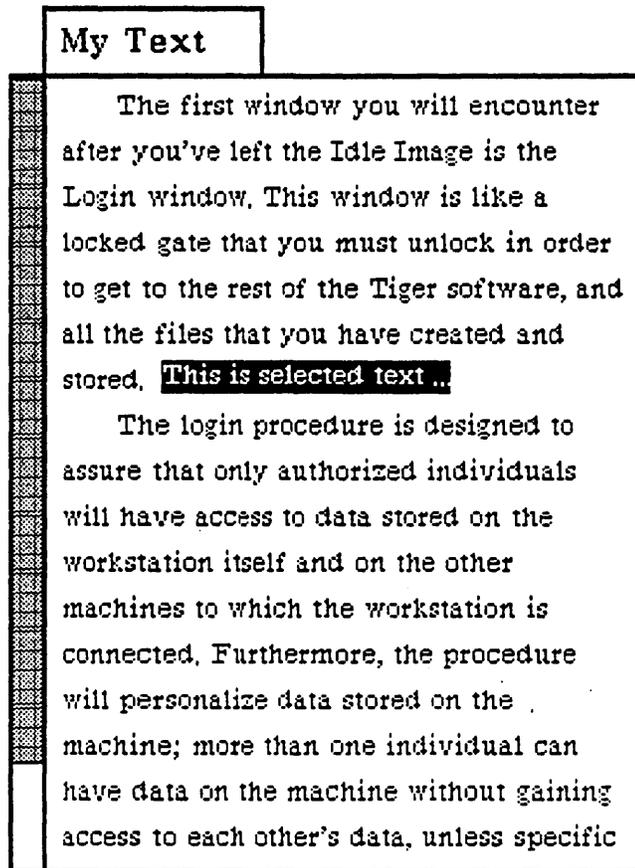
In order to move, or scroll, through a document, the following points should be noted:

- Observe that the arrow "at rest" points both up and down when it resides in the scroll bar area. If you place the cursor toward the top of the scroll bar and click the *left* mouse button, the arrow briefly turns into an "up" arrow and the window text moves from the bottom up as the solid gray area moves downward.

- If you place the cursor at the top of the scroll bar and click the *right* mouse button, the arrow points "down" and text will move from the top down as the gray area moves upward.

- A more rapid way to scroll through text is to press and hold down the *middle* mouse button; you can then move the gray area up or down at will (the arrow will point to the right) and thereby "jump" to certain parts of the text when you release the button.

- You can also press and hold down either the left or right mouse button anywhere within the scroll bar area and make a fast scroll back and forth within the text, instead of one click at a time. Scrolling moves the text that is next to the cursor.



## SELECTING TEXT

Text must first be *selected* in order to perform editing operations on it. Selected text is usually displayed in reverse video; that is, the characters of selected text appear in white on a black background. You select text (characters, words, lines) with the left mouse button in three ways:

**Click ~** The mouse button is pressed and immediately released without moving the cursor. This places the caret (a small arrowhead at the bottom of a line of text, pointing upward between characters) at the location of the cursor. This is an "empty" selection used only to place the caret.

**Double Click ~** The mouse button is clicked twice in succession with the cursor in the same location. This is an "entity" selection.

**Draw Through ~** The mouse button is pressed and held down at the beginning or end of the text to be selected, then the cursor is moved (left to right or right to left) to draw through the relevant letters, words, or paragraphs. The button is released when the draw through is completed. This is a "start-to-end-point" selection.

The results of these types of selections are described next.

### ● EMPTY SELECTION (the caret)

An empty selection is used for inserting text and the caret indicates the location of an empty selection. Placing the caret is done by pointing the cursor at the desired location and clicking the left mouse button. Text that is subsequently keyed in or pasted will begin exactly at the location of the caret.

### ● ENTITY SELECTION

Whole "text entities" can be selected with one action. A text entity is any text between "delimiting" characters. Delimiters are spaces (words), returns (paragraphs), start and end of text (entire document), parentheses, double quotes, square brackets, angle brackets.

~ To select delimited text, double click the left mouse button just after the first delimiter or just before the last delimiter. The entire delimited text (even text not currently displayed) will be selected.

~ To select a single word, double click at the space before or after it.

~ To select a single paragraph (defined here to be text between returns), double click before the first character or just after the last character.

~ To select the entire document, double click in front of the first character in it, or after the very last character in it. (The cursor must be at the very beginning of all the text, not some later portion which has been made visible by scrolling.)

### ● SELECTION FROM START TO END POINT

To select any arbitrary section of text, place the cursor immediately in front of the first character to be selected and press the left mouse button. While continuing to hold the button down, move the cursor to a point just beyond the last character to be selected. To terminate the selection, release the mouse button.

As the cursor is moved, the text being selected is displayed in reverse video. It doesn't matter what is selected while the mouse button is being held down as long as you end up with the desired text selected. Selections can be made in either direction from the start point—forward (moving to the right and down), or backward (moving to the left and up).

If the desired end of the selection is not visible in the window, select the start point and continue to hold down the mouse button while moving the cursor just below the window (or above, if selecting backwards). This makes the text scroll automatically while it is being selected. Once the end point becomes visible, moving the cursor back into the window will terminate the scrolling.

### ● IMPLICIT SELECTION

A final type of selection: when typing text, there is an implicit selection of all the text typed since the last explicit (with the mouse) selection. Implicit selections do not show in reverse video; however, hitting the ESC key will cause any existing implicit selection to be explicitly displayed in reverse video.

### TYPING TEXT

When typing, characters are inserted at the location of the caret. You don't need to type a <return> at the end of every line typed, since the software will take care of the word wrapping itself by automatically basing line endings on the size of the window. If you want to replace text, first select the text to be replaced and then merely type in the new text; it is not necessary to delete the unwanted text first with the BS or DEL key.

### SPECIAL KEYS AND KEY COMBINATIONS

When typing text, there are a few useful keyboard keys and combinations that will perform some simple functions without your having to use the mouse or a popup menu:

- The BS or backspace key will erase the character preceding the caret. If text is explicitly selected (in reverse video), striking the BS key will delete the selection and one character in front of it.
- The DEL key will delete the current selection (either explicit or implicit). This means that if it is struck while typing, everything typed since the last mouse selection will be deleted.
- The ESC key will cause any implicit selection to be displayed in reverse video.
- Holding down the CTRL key in conjunction with typing a certain keyboard number will change the text *font*; CTRL and a keyboard character will change text *style*. Read the section titled Selecting Fonts from the Keyboard for a more complete description.
- Holding down the CTRL key and hitting a "d" will cause the current date to replace any displayed selection.

### TEXT WINDOW MIDDLE MOUSE BUTTON POPUP MENU

This section covers the basic editing functions of the typical text window's middle mouse button tree popup. All of these functions operate as long as you have first selected the desired text. The "copy buffer" (which temporarily holds text) described below facilitates copying and moving text around (including moving between windows, because all windows use the same buffer), recovering from mistakes, and copying the same thing repeatedly.

The text editing functions are:

#### **again**

Used to search for a piece of text or to do a search and replace. It will look for the next occurrence starting from the current selection; if the left shift key is also held down, it will repeat until the end of the text.

To find the next occurrence of a piece of text, copy or cut the text to be looked for (this places it in the copy buffer). Select the place to start looking for it, and then select again. It will either find the text being searched for and select it, or it will flash the window to indicate it couldn't find it.

Use of **again** after replacing a piece of text will cause it to look for the next occurrence of the replaced text and replace it with the same thing. If it doesn't find anything to replace, the window will flash.

|                                           |
|-------------------------------------------|
| again<br>undo                             |
| copy<br>cut<br>paste                      |
| save<br>strip CRs<br>search<br>hardcopy   |
| annotation--><br>fonts--><br>utilities--> |
| file as new item                          |

The **again** function can be repeated over and over by selecting it repeatedly, or it can be automatically repeated by holding down the left-shift key while selecting **again** until it is finished.

**undo**

Attempts to undo or reverse the last action performed. This is particularly useful to get back text that has been mistakenly replaced or deleted. **Undo** will replace the current selection with whatever was the last text to be replaced, copied, or cut.

**copy**

Puts a copy of the current selection into the text copy buffer. Once text is copied into the buffer it can be placed anywhere into any text window (see **paste**), or **again** can be used to find other occurrences of it.

**cut**

Deletes the current selection, and places the deleted text into the text copy buffer. If the next operation is a **paste**, the cut text has essentially been moved. Using **cut** and then **again** will find the next occurrence of the cut text.

**paste**

Replaces the current selection with the contents of the text copy buffer. Thus, if the current selection is empty, **paste** will insert the copy buffer text at the caret.

**Paste** does not affect the contents of the copy buffer, so the same text can be pasted repeatedly. **Again** can be used after **paste** to perform a search and replace operation (see **again**).

**save**

Stores the file and changes onto the disk.

**strip CRs**

Removes unneeded <return>s from text that is received from another data source.

**search**

Looks through an Information Center for any occurrences of your selected text in any of its labels or keywords.

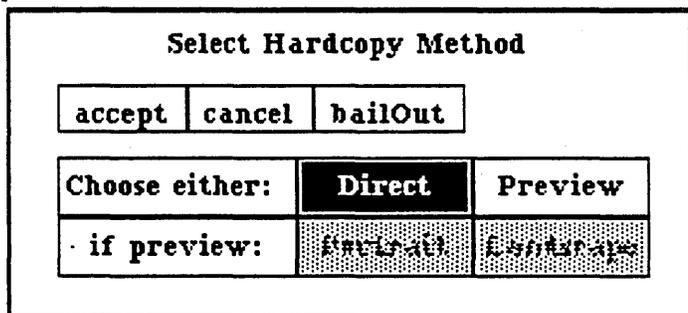
**Hardcopy**

When you are going to hardcopy text files, a special Q-Box appears titled "Select Hardcopy Method." After the label **Choose either:** you have two choices:

**Direct** (the default) means that you want to send the file directly to the printer. If you select this it will, in turn, cause the standard Hardcopy Q-Box to appear next.

**Preview** means that you don't want to hardcopy this file, but instead intend to put it in another type of window into which you can merge graphics with text files. See the section titled "The Preview Window" for a complete description of this feature.

If you select **Preview**, the two words (**Portrait** and **Landscape**) next to **if preview:** "wake up" and become selectable, whereas they are normally obscured when the selected hardcopy method is **Direct**.



Portrait and Landscape refer to the orientation of the image on a standard 8-1/2" x 11" page. Portrait means the text or illustration will orient 11" vertically and 8-1/2" horizontally. Landscape means the text or illustration will orient 8-1/2" vertically and 11" horizontally.

**annotation -->**

Annotations can be thought of as working notes, editorial comments, or footnotes which are kept attached to the text but are not displayed in it. In paper and pencil days, the common practice for adding annotations was to scribble comments in the margins of the paper. Instead, in the Analyst software, a tool called an "annotation marker" is used. Annotation markers are numbers, starting at 100, enclosed within double colons and displayed in a 7-point font. The marker appears right in the text, and it can be selected for display, deletion, or expansion of the annotation. Using this annotation feature is a much more elegant way of electronically scribbling notes in the margins; annotations can even be made on annotations *ad infinitum*.

Every marker number is unique within a document, so if an annotation is copied and pasted elsewhere in the text, it will automatically get a new number.

The text of an annotation (and any annotations in it) is really attached to the annotation marker. This means that if text with the marker in it is copied, cut, or pasted, the annotation travels along with it. Therefore, annotations are deleted by cutting their marker from the text, copied by copying their marker, and can be pasted into text in the same or another window.

If your document has annotations and you want to make a hardcopy, the standard set of items in the "Select Hardcopy Method" Q-Box will contain an additional Print Annotations: yes or no choice. Yes (the default) means the annotation reference numbers will be printed in the text, and a table of the annotations will be printed at the end of the text. No means neither the annotation reference numbers nor their associated text will be printed.

The annotation submenu contains these three options:

**create**

First, type the text that will comprise the contents of the annotation, select this text, then select create. The selected text is replaced by the annotation marker number.

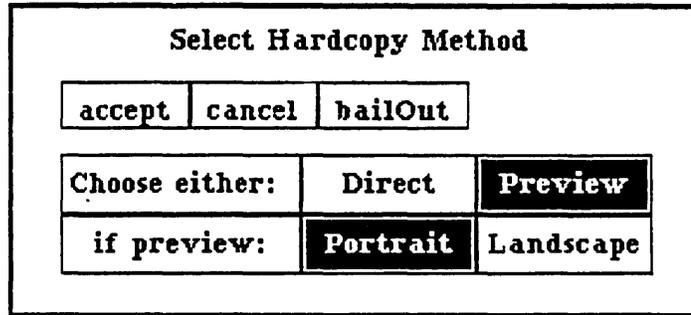
**display**

An annotation is opened up by selecting its marker and then selecting display. If the marker has not been selected correctly, an error message will come up and you must re-try. If it was correctly selected, you will be presented with an Origin cursor to open up the annotation's window.

The annotation window popup menu has fewer items for text editing than the word processing text window popup, but those it does have are identical.

The label of the annotation window indicates exactly which annotation it is and where it came from by displaying the label of the original word processing window, followed by the sequence of annotation markers up to and including itself.

When the annotation window is closed, any annotation windows open on annotations within its text will also close.



**expand**

A selected annotation marker is replaced by the text of the annotation by using **expand**. When an annotation marker is expanded, the annotation ceases to exist. Any annotations within the expanded annotation will not be expanded.

**fonts -->**

Analyst-85 software comes with a variety of fonts that you can select from. The "default" font, and the major type of text used throughout the Analyst-85 Reference Manual, is called "Serif 10 regular." The Table below is a summary of the main types of available fonts and their sizes:

| FONT FAMILIES                                                           | POINT SIZES           |
|-------------------------------------------------------------------------|-----------------------|
| 1. Serif regular, <b>bold</b> , <i>italic</i> , <u>underlined</u>       | 10, 12, 14, <b>18</b> |
| 2. Sans-serif regular, <b>bold</b> , <i>italic</i> , <u>underlined</u>  | 7, 10, 12, 14         |
| 3. Fixed width regular, <b>bold</b> , <i>italic</i> , <u>underlined</u> | 10 only               |

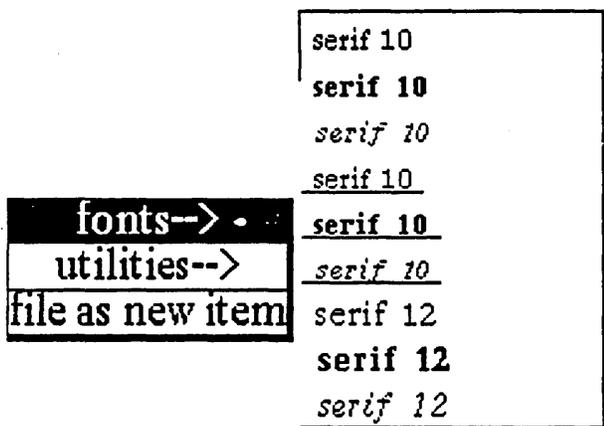
*Serif* refers to the little added widenings in a character, such as those on the ends of the cross bar and foot of the capital T. *Sans-serif* text characters don't have the artistic widenings of serif characters. For comparison, look at the Serif capital "t" and that of the Sans-serif: T and T. Font designers long ago learned that serifs help a person's eyes scan text easily and also permit smaller white space between letters. However, Sans-serif fonts are often better for emphasis, and tend to stand out more when you label documents such as charts, tables, or viewgraphs. In a *fixed width* font, each character takes up the same amount of space or width along a line of text, much like a typewriter font. Tables requiring tabs are easily set up when fixed width characters are used. Serif and Sans-serif fonts are, of course, variable width, because the widths must change from character to character as appropriate.

Fonts will look different on the screen from the way they do in hardcopy output. This is because the system utilizes *screen* fonts and *printer* fonts. This is particularly true of bold and italic fonts, because their screen widths are larger than their printer widths. In general, the hardcopy output will look better than the screen display.

If you prefer to use other fonts besides the default Serif 10 regular, they can be called up by either of two ways: (1) from the **fonts -->** popup menu option or (2) from the keyboard.

**(1) SELECTING FONTS FROM THE fonts --> SUBMENU**

The submenu is a scrollable list of all the fonts that you have available in the software. To change the font of an existing piece of text, first select the text, then select **fonts -->** and slide the cursor to the right. A font list will



appear that scrolls up or down if the cursor is placed at the bottom or top of the list while the middle mouse button is pressed. Select the desired font from this list and release the mouse button.

## (2) SELECTING FONTS FROM THE KEYBOARD

Text fonts may be changed by first selecting the desired text and then using certain keyboard commands, or by using the keyboard commands first, then keying in your text. These various "quick commands" make text regular, bold, *italic*, regular-underlined, bold-underlined, or italic-underlined (but only if the font variant already exists in the system).

The commands require that the control key (marked CTRL and located above or to the left of the left-SHIFT key) be held down while striking the relevant keyboard key. To remove a CTRL command from text, hold down both the CTRL and SHIFT keys while striking the relevant keyboard key.

These quick commands are:

| CTRL     | PURPOSE                          |
|----------|----------------------------------|
| - (dash) | <u>underline</u> selected text   |
| b        | make selected text <b>bold</b>   |
| i        | make selected text <i>italic</i> |

Remember that a CTRL and SHIFT -, b or i will remove the underline, bold or italic look from selected text.

The quick commands for changing fonts during text entry or after selection are done by holding the CTRL key down, then typing a keyboard numeral (0 through 9). The font examples shown below are for illustration only; you will have to experiment to see which keyboard numeral will call up what particular font.

| CTRL | RESULT                 |
|------|------------------------|
| 1    | serif 10 regular       |
| 2    | serif 10 bold          |
| 3    | <i>serif 10 italic</i> |
| 4    | serif 12 regular       |
| etc. |                        |

Now let's continue with the remainder of the options in the word processing window popup menu:

**utilities -->**

Basically, these are functions that are useful but are not used in the mainstream of day-to-day tasks:

**add as key word**

Automatically adds a new selected key word to the label designation of your text item name.

**time stamp**

Causes the current text selection to be replaced with the current date and time, such as ( 4 May 1986 5:53:06 pm).

**restore**

Returns the text to the way it was before the last save was used.

**erase file**

Causes a Confirmer to appear that states "This will erase all the text from the file. Are you sure?" with a yes or no selection. Selecting yes will delete *all* text from the file.

**compute it**

Takes selected text, evaluates it, and displays the numeric result. For example, if you type in "2 + 3" and select it, then select compute it, the number "5" will appear.

**generate table**

Allows you to automatically generate a table from selected text information; this includes designating the number of columns and column widths.

**file as new item**

Files the entire document or only selected text as a new text item. If you're filing only selected text, a Confirmer will appear that says "File only selected text?" to which you must select yes or no. Then a "File request" Q-Box will appear that needs the new item label, keywords, classification, etc. If you're filing the entire document, only the Q-Box will appear.

**RIGHT MOUSE BUTTON TEXT WINDOW POPUP**

The right mouse button brings up the standard window popup menu fully described in Section II of this document, titled "The Analyst-85 Windows."

## Outlines

### OVERVIEW

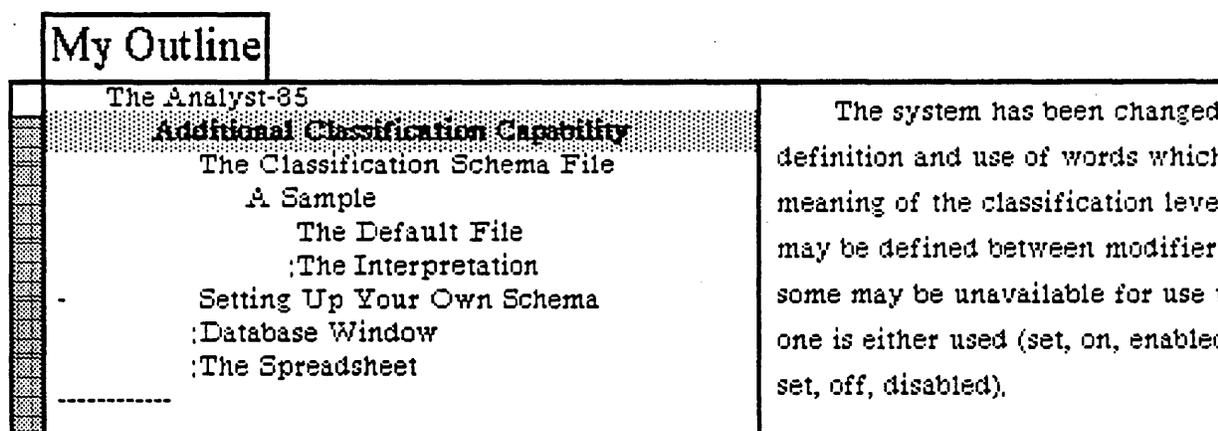
Outlines are a method of producing structure for a report or document. As in the technique taught in school, outlines are used to indicate the principal features or main parts of a topic. The outline method consists of a series of entries, each of which has a name, some place in the organization, and paragraph(s) associated with it. The outline window allows you to move these entries around, organize them, and change the names and paragraphs of each one, if needed.

Outlines are very useful for structuring large documents and reports. Once suitable outlines has been built, the Outline window can take part or all of them and produce an organized document.

### DESCRIPTION

The Outline window is not of a fixed size, and can be made larger vertically or horizontally as you open it. When the window is first opened, it consists of a single pane that displays your topics or entries. If it is a brand new Outline window, all you will see listed is an entry called "Empty Outline" preceded by a ":" (colon). A colon means that particular entry has no text in it. In fact, any entry that currently has no text in it will display the colon.

However, as soon as you select an entry, and then select input/edit from the list pane's popup, another connected pane will appear alongside this one. It is essentially an editing pane and will display the text (if any) that belongs with the entry. It has its own individual scroll bar and popup menu. If you wish this editing pane to disappear, just select input/edit again from the list pane popup menu.



The illustration shows a typical outline window. One entry has been selected (note the gray shading) and its text appears to the right in the text pane. Notice that in the list of entries, three have a colon next to them (no text in them) and one has a "-" (dash) off to the left, which means that there are subentries "hidden" under that entry. (This will be explained when the list pane popup menu options are discussed.)

Some of the entries are more indented than others. The more indented an entry is, the deeper it is in the document's organization.

**CREATING AN OUTLINE**

An Outline window is created by using the create --> outline option from an Information Center or folder popup. Upon opening the new Outline window, you will see one default entry titled ":Empty Outline." Select this entry with the left mouse button, then select change entry from the pane popup. This will bring up a "Rename and Change Classification" Q-Box. Here you will fill in your first topic name, and any necessary classification. Select accept, and ":Empty Outline" will change to the name you just gave it. If you are ready to add text at this point, select input/edit from the popup so the adjoining text pane can open up. When you have finished adding text, select accept from the text pane popup menu. At this point, if you return to the list pane, the colon will disappear from the entry name.

| Rename and Change Classification |                                      |                |              |                |               |               |
|----------------------------------|--------------------------------------|----------------|--------------|----------------|---------------|---------------|
| <b>accept</b>                    | <b>cancel</b>                        | <b>bailOut</b> |              |                |               |               |
| <b>Name</b>                      | Additional Classification Capability |                |              |                |               |               |
| <b>Classification</b>            |                                      | <b>Int</b>     | <b>XPers</b> | <b>XPriv</b>   | <b>XReg</b>   |               |
| <b>Controls</b>                  | <b>XSIS</b>                          | <b>Vista</b>   | <b>Draft</b> | <b>Do Copy</b> | <b>Insert</b> | <b>Delete</b> |

Any subsequent entries must be made by selecting add from the list pane popup menu and utilizing the "Add Entry" Q-Box (see illustration). You may make as many entries as you wish (including the initial one) without adding text to them. In other words, you can create the entire structure of the outline before adding text.

| Add Entry             |               |                |              |                |               |               |
|-----------------------|---------------|----------------|--------------|----------------|---------------|---------------|
| <b>accept</b>         | <b>cancel</b> | <b>bailOut</b> |              |                |               |               |
| <b>Position:</b>      | <b>before</b> | <b>after</b>   | <b>under</b> |                |               |               |
| <b>Name</b>           | A Sample      |                |              |                |               |               |
| <b>Classification</b> |               | <b>Int</b>     | <b>XPers</b> | <b>XPriv</b>   | <b>XReg</b>   |               |
| <b>Controls</b>       | <b>XSIS</b>   | <b>Vista</b>   | <b>Draft</b> | <b>Do Copy</b> | <b>Insert</b> | <b>Delete</b> |

Following is a complete description of popup menu options from both the list pane and the text pane. These options will show you the various ways to enter outline topics and all the available text manipulations.

## OUTLINES LIST PANE MIDDLE MOUSE BUTTON MENU

### add

This will add a new entry to the Outline list pane. First, select the previous entry (or any listed entry), then **add** from the popup, to bring up the "Add Entry" Q-Box. Here you will key in the relevant title, any classification, and whether this entry will go *before*, *after*, or *under* the entry you just selected from the list. See **paste -->** below for a further description.

### copy

First select whatever entry is to be copied. After **copy** is used, the selected entry (along with its subentries, if any) is placed into something called the "transfer buffer," which temporarily holds it. Next, select the entry which will *precede* the copied entry, then use **paste -->** from the popup. The entry will be pasted into its designated place within the list. The original entry will remain where it was.

### cut

First select whatever entry is to be cut. After **cut** is used, the selected entry (along with its subentries, if any) is placed into something called the "transfer buffer," which temporarily holds it. Next, select the entry which will *precede* the cut entry, then use **paste -->** from the popup. The entry will be pasted into its designated place within the list. The original entry will be deleted.

### paste -->

In a typical outline, things are organized in terms of entries and subentries. This appears on the screen as an indentation, with all subentries indented further than the main entry. The following three paste functions are used to specify where to paste entries into the outline:

**before.** Places the entry in the transfer buffer right *before* the selected entry on the same level (no indent).

**after.** Places the entry in the transfer buffer right *after* the selected entry on the same level (no indent).

**under.** Places the entry in the transfer buffer into the outline as the first entry under the selected entry at the *next level* of indentation.

As an example, in the outline

```
Joseph
  Philip
  John
Mary
  Susan
```

Joseph is *before* Mary, Susan is *under* Mary, and John is *after* Philip. Susan is not under Joseph, nor is John before Mary.

### hide

By selecting an entry and using **hide**, you can conceal the (indented) entry or subentries under it that have no immediate interest. After this is done a dash (-) will appear to the left of the entry name. If there are no subentries under a selected entry, **hide** will not work.

### show

Restores a selection's hidden entry to visibility.

|               |
|---------------|
| add           |
| copy          |
| cut           |
| paste -->     |
| hide          |
| show          |
| input/edit    |
| change entry  |
| save          |
| restore       |
| hardcopy      |
| utilities --> |

**input/edit**

Select the entry of choice first; input/edit will open the connecting text pane and display any entry text currently there. The text pane has its own popup menu.

**change entry**

Gives an entry a new name and/or classification via a "Rename and Change Classification" Q-Box (see previous illustration).

**save**

Stores the Outline file entries to the disk.

**restore**

Places a file entry that has just been cut back into the list (in the same place).

**hardcopy**

Makes a copy of either a selected entry or of *all* the entries listed in the list pane, if no specific entry is selected. The "Print Options" Q-Box that appears has several important choices (see illustration below).

Next to **Section Heads**, "numbered" means that the software will automatically make a title of every entry above its corresponding text paragraph and assign a successive number to each, even allowing for subentries.

| Print Options  |          |          |         |       |
|----------------|----------|----------|---------|-------|
| accept         | cancel   | bailOut  |         |       |
| Section Heads  | numbered | name     | none    |       |
| Choose either  | Direct   |          | Preview |       |
| if preview:    | Parttbl  | Language |         |       |
| Classification |          | Int      | XPers   | XPriv |
|                | XReg     |          |         |       |
| Controls       | XSIS     | Vista    | Draft   |       |
|                | Mr Copy  | Menu     | Title   |       |

Thus, the hardcopy for the entries in the illustrated Outline window would look like this:

**1. The Analyst-85**

The Analyst-85 system has undergone ...

**1.1. Additional Classification Capability**

The system has been changed ...

**1.1.1 The Classification Schema File**

The classification schema used ...

**1.1.1.1 A Sample**

As a sample case, here is ...

and so on. Outlines will assign a number and print the entry title, even if there is no text associated with it.

On the other hand, "name" will make a title of every entry but will not assign a numbering system, while "none" will print the corresponding text without any titles or numbers.

Next to Choose either, "Direct" means that you want to send the file(s) directly to the printer. "Preview" means that you don't want to hardcopy the file, but instead intend to put it into a Preview window, where you can do additional text editing and merge graphics with text files. (See the section titled "The Preview Window" for a complete description of this feature.)

If you select "Preview," the two words next to **if preview:** become active and selectable, whereas they are normally obscured if the selected hardcopy method is "Direct." These two words, "Portrait" and "Landscape," refer to the orientation of the image on a standard 8-1/2" x 11" page. With "Portrait," the text or illustration will orient 11" vertically and 8-1/2" horizontally, which is the usual. "Landscape" means the text or illustration will orient 8-1/2" vertically and 11" horizontally.

#### **utilities -->**

##### **produce text item**

There may be several classification levels within an outlined document. This feature allows you to print only the text existing at a lower classification level and exclude from printing all text existing at a higher level. Selecting **utilities --> produce text item** will bring up a "Maximum classification level to print?" Q-Box, wherein you can specify the desired classification level. There are three types of text affected, and the first is **text item**, or regular text. The second is:

##### **produce structure text**

This is the outline hierarchy. The third is:

##### **produce EZPub text**

A differently formatted text file compatible with a VM system.

##### **concat another**

Resembles a copy and paste function. Copies a text or outline file(s) from a folder or Information Center and places it at the end of the Outline list pane entries.

To do this, select the desired text or outline file from the folder, then select **copy** from the popup. Move to the Outline window where you wish to add the file and select **--> concat another** from the popup. A confirmer will appear that says "Concatenate from [filename]" **yes** or **no**. A **yes** will place the copied file(s) at the end of the current list. Afterwards, you may indent or delete individual concatenated files as needed.

##### **compress**

"Cleans up" an outline file after a number of changes or additions have been made to it. Every time changes are made to an outline, extra information is added to the file the outline is saved in. Eventually, this could overburden the file. **Compress** is best used after the outline or an entry has been finished.

##### **repair**

If you have a bad or unworkable outline entry, **repair** will attempt to fix it up, rewrite it, and get as much text back as possible.

## OUTLINES TEXT PANE MIDDLE MOUSE BUTTON MENU

### again

Used to search for a piece of text or to do a search and replace. It will look for the next occurrence starting from the current selection; if the left shift key is also held down, it will repeat until the end of the text.

To find the next occurrence of a piece of text, copy or cut the text to be looked for (this places it in the transfer buffer). Select the place to start looking for it, and then select again. It will either find the text being searched for and select it, or it will flash the window to indicate it couldn't find it.

Use of again after replacing a piece of text will cause it to look for the next occurrence of the replaced text and replace it with the same thing. If it doesn't find anything to replace, the window will flash.

The again function can be repeated over and over by selecting it repeatedly, or it can be automatically repeated by holding down the left-shift key while selecting again until it is finished.

### undo

Attempts to undo or reverse the last action performed. This is particularly useful to get back text that has been mistakenly replaced or deleted. Undo will replace the current selection with whatever was the last text to be replaced, copied, or cut.

### copy

Puts a copy of the current selection into the text copy buffer. Once text is copied into the buffer it can be placed anywhere into any text window (see paste), or again can be used to find other occurrences of it.

### cut

Deletes the current selection, and places the deleted text into the text copy buffer. If the next operation is a paste, the cut text has essentially been moved. Using cut and then again will find the nextthe cut text.

### paste

Replaces the current selection with the contents of the text copy buffer. Thus, if the current selection is empty, paste will insert the copy buffer text at the caret.

Paste does not affect the contents of the copy buffer, so the same text can be pasted repeatedly. Again can be used after paste to perform a search and replace operation (see again).

### accept

Saves a new file or the changes to a file. Until this is used, editing changes will not be remembered. Accept is used in the text pane; if you want to file the text permanently to the disk, you must also select save from the list pane popup.

### cancel

When this is used, the Outline reverts to the state it was in when it was last saved with an accept.

### fonts -->

A scrollable list of all the available Analyst-85 fonts, or typefaces.

|                      |                                                                                |
|----------------------|--------------------------------------------------------------------------------|
| again                | hardcopy<br>file as new item<br>strip CRs<br>spawn<br>time stamp<br>compute it |
| undo                 |                                                                                |
| copy<br>cut<br>paste |                                                                                |
| accept<br>cancel     |                                                                                |
| fonts -->            |                                                                                |
| utilities -->        |                                                                                |

### **utilities -->**

#### **hardcopy**

Makes a copy of the text only. There is no option in the hardcopy Q-Box to include entry titles and/or sequential numbers.

#### **file as new item**

Files the entire document or only selected text as a new text item. If you're filing only selected text, a Confirmer will appear that says "File only selected text?" to which you must select yes or no. Then a Q-Box will appear that needs the new item label, keywords, classification, etc. If you're filing the entire document, only the Q-Box will appear.

#### **strip CRs**

Removes unneeded <return>s from text that is received from another data source.

#### **spawn**

Makes a new text item from the pane text. The new text window will have the same title as the selected Outline entry.

#### **time stamp**

Causes the current text selection to be replaced with the current date and time.

#### **compute it**

Takes selected text, evaluates it, and displays the result. For example, if you type in "2 + 3" and select it, then select compute it, the number "5" will appear.

### **OUTLINES RIGHT MOUSE BUTTON MENU**

The right mouse button brings up the standard window popup menu fully described in Section II of this document, titled "The Analyst-85 Windows."

## The Hardcopy Tool

### OVERVIEW

The ability to easily and quickly make a copy of your work output is a basic feature of the Analyst-85 software. "Output" means not only various types of written documentation—reports, guides, tables, summaries, spreadsheets, etc., but all types of illustrations as well—charts, graphs, images, and maps. In addition, the software provides a way to hardcopy identification helpers such as a folder's structure "tree," its file list, and its cross-references.

Basically, a hardcopy of text or graphics is created and sent to the printer by something called the *hardcopy tool*. This tool is sometimes referred to as "background printing" because once you have specified what to print and how, you can go ahead and work on other things in the Analyst-85 while the hardcopy tool is creating a press file and sending it to the printer. (A press file is a file in a certain format that the printer can understand).

Whenever the hardcopy tool is being used, a *printing status window* appears on the screen (in the upper righthand corner) to give information about what the hardcopy is currently doing, and to allow you access to its list of popup menu options.

### USING THE HARDCOPY COMMAND

Making a hardcopy of your text or graphics is easy, since most of the standard features in the Analyst-85 (folders, text windows, charts, maps, and many more) contain one or more pane popup menus with the command *hardcopy* in it. All you need to do is either select the filename (when you're in a folder), then select *hardcopy* from the pane popup, or select *hardcopy* from the popup when the file itself is opened or displayed.

Once the hardcopy command has been selected, you will be presented with one or more "request forms" (otherwise known as Q-Boxes) to specify what is to be done with the text, graphics, or various possible combinations. When you have finished filling in your request form, a package containing your instructions and a copy of what is to be printed is put on the end of the hardcopy tool's queue (or list). The Printing Status Window then provides the only access to it.

### "SELECT HARDCOPY METHOD" Q-BOX

When you are going to hardcopy text-type files (text, outlines), a special Q-Box appears titled "Select hardcopy method." This Q-Box will *not* appear if you are attempting to print graphics files. After the label *Choose either:* you have two choices:

**Direct** (the default) means that you want to send the file directly to the printer. If you select this it will, in turn, cause the standard Hardcopy Q-Box to appear next, which is described below.

**Preview** means that you don't want to hardcopy this file, but instead intend to put it in another type of window into which you can merge graphics with text files and make numerous editing changes, if necessary. See the section titled "The Preview Window" for a complete description of this feature.

| Select Hardcopy Method |               |           |
|------------------------|---------------|-----------|
| accept                 | cancel        | bailOut   |
| Choose either:         | <b>Direct</b> | Preview   |
| if preview:            | format?       | fontsize? |

If you select Preview, the two words (Portrait and Landscape) next to if preview: "wake up" and become selectable, whereas they are normally obscured if the selected hardcopy method is Direct.

Portrait and Landscape refer to the orientation of the image on a standard 8-1/2" x 11" page. Portrait means the text or illustration will orient 11" vertically and 8-1/2" horizontally. Landscape means the text or illustration will orient 8-1/2" vertically and 11" horizontally.

| Select Hardcopy Method |          |           |
|------------------------|----------|-----------|
| accept                 | cancel   | bailOut   |
| Choose either:         | Direct   | Preview   |
| if preview:            | Portrait | Landscape |

### STANDARD HARDCOPY Q-BOX ITEMS

When you select direct, a hardcopy Q-Box will appear. The options in the Q-Box vary with what kind of data is being hardcopied, but certain standard options always appear. They are:

|                             |                     |           |
|-----------------------------|---------------------|-----------|
| accept    cancel    bailOut |                     |           |
| Send to Printer             | now                 | later     |
| File in an info center      | yes                 | no        |
| Number Copies               | 1                   |           |
| Starting Page No.           | 1                   |           |
| Printer Name                | Printer name here ▲ |           |
| Mode                        | normal              | landscape |
| Size                        | full                | half      |
| Border                      | yes                 | no        |
| Title                       |                     |           |

**Send to Printer:**

**Now.** Sends the press file to the printer as soon as it is created.

**Later.** Makes a press file and files it into the Information Center, but doesn't try to send the file to the printer.

**File in an Info Center:**

**Yes.** If this is selected (along with **later** in the line above), it causes a "File Request" Q-Box to appear that lets you specify how the item being hardcopied should be filed (by Name, Keywords, and Info center).

**No.** If this is selected in combination with **now** in the line above, it causes the file to be returned to standard mode once it has been sent to the printer.

**Number Copies**

Type an integer; the default is 1. This does not need to be filled in if **later** is specified in the top line.

**Starting Page No.**

Type an integer; the default is 1. The page numbering will start with this number.

**Printer Name**

Type in the name of printer here; the default is whatever the last specified printer name was. It is not necessary to fill this in if **later** is specified in the top line.

The hardcopy Q-Box shown in the illustration also includes Q-Box options that are added in whenever some type of image or graphics file is to be hardcopied (these options will *not* appear for a plain text file). The extra options are also important and are described below.

**ADDITIONAL GRAPHICS Q-BOX ITEMS**

For image and graphics data:

**Mode:**

**Normal** is the default, and refers to the orientation of the image on an 8- 1/2" x 11" page. **Normal** means it will orient the image with the 8-1/2" across and the 11" vertically.

**Landscape** is a 90-degree rotation of the normal image. It will orient the image with the 8-1/2" vertically and the 11" across.

**Size:**

**Full** (the default) means print the image at the same size as it appears on the display.

**Half** means print the image scaled to half the displayed size.

**Border:**

**Yes** (the default) causes a 2-screen-unit wide border to be put around the image when it is printed out.

**No** means that no border will be placed around the image when it is printed out.

**Title:**

You may type in a title or caption for the image, or leave it blank. If a title is entered, it will be printed centered beneath the image.

**ANNOTATED TEXT**

For text with annotations, this one item is added to the standard Q-Box. Annotations themselves are described in Section III, "Word Processing."

**Print Annotations:**

**Yes** (the default) means the annotation reference numbers will be printed in the text, and a table of the annotations will be printed at the end of the text.

**No** means neither the annotation reference numbers nor their associated text will be printed.

## HARDCOPY Q-BOX MIDDLE MOUSE BUTTON POPUP

The hardcopy Q-Box even has its own popup menu:

**again**

Repeats the last copy or cut edit that you do.

**undo**

Reverses the effects of the last command. For instance, if you have deleted text, **undo** will put it back in.

**copy**

Puts a copy of the current selected text into the transfer buffer.

**cut**

Deletes the current selected text and puts it into the transfer buffer.

**paste**

Places, at the insertion mark, whatever information is currently in the transfer buffer.

**cancel**

Deletes the material you've filled in and returns the Q-Box to its original (default) state.

## HARDCOPY TOOL EFFECTS ON THE SYSTEM

While a hardcopy is being made, you will notice some lessening in the speed at which the Analyst-85 software reacts to mouse clicks and typing. In order to keep this reaction time as quick as possible, the hardcopy tool uses only small increments of time when needed. While this allows you to do other things while you're waiting for your copy to be made, it slows down the printing considerably. If you want a file printed faster and don't need to utilize other system features at the same time, there is an option called **foreground** in the printing status window popup that tells the printing process to "take over" the system. This is described in the subsection titled "Active State Menu Options."

## THE PRINTING STATUS WINDOW

The Printing Status Window appears automatically during hardcopy creation in the upper righthand portion of your screen. This window lets you know what's going on and gives you the ability to look at and change what the hardcopy process is doing, or is scheduled to do. It is a small, fixed-size window whose title tab tells you which of three possible states the hardcopy process is currently in: **Active**, **Access**, or **ESC for control**.

## PRINTING STATUS WINDOW MIDDLE MOUSE BUTTON POPUP

There are two separate popup menus, depending upon whether you are in the **Active** or **Access** state.

★ **Printing ~ active** in the window label means the hardcopy tool is alive and working, and all is well. The **Active** state is what you will first go into when you hardcopy a file, and the hardcopy process will remain in that state unless you do something to change it. Changes are accomplished by selecting from the three available options listed in the window's popup menu:

**access queue** changes printing from the "Active" to the "Access" state, which contains a different middle mouse button popup that controls such things as moving items around the queue, emptying the queue, and so on. This popup is described shortly.

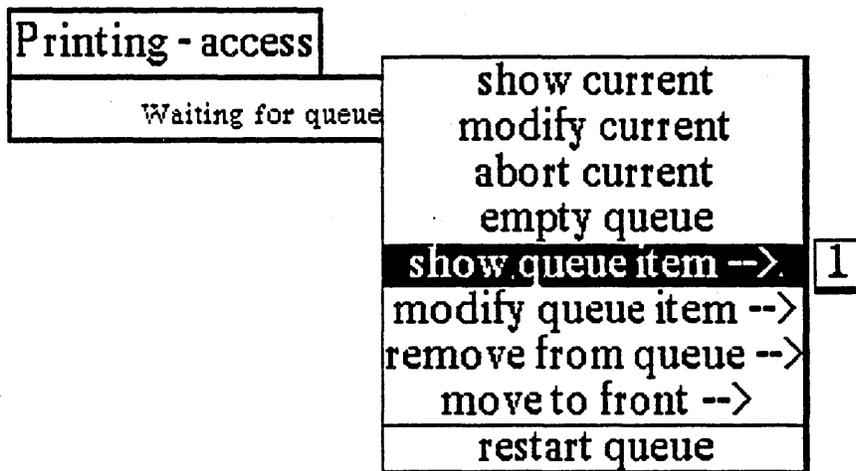
**number waiting** brings up a Notifier giving the number of items currently waiting in the queue.

**foreground** causes printing to take over control of the software so it can finish sooner. If you select this, you cannot work in other areas of the software while the hardcopy tool is working. As soon as you select **foreground**, the message "ESC for control" will appear in the window label. This means that if you wish to

return to the more active state (so you can work on other things while the file is being hardcopied), you must press and release the ESC key to switch back. It may take as long as five seconds to switch. Otherwise, the faster printing will continue and the window will disappear as usual when the printing is completed.

When you change from "Active" to "Access," the Printing Status Window will have a different popup.

★ **Printing ~ access** in the window label means the hardcopy tool will not print the next document after the current one is finished, because you want to modify the process in some way. You reach the **Printing ~ access** state by selecting **access queue** from the **Printing ~ active** middle mouse button popup. The **Access** popup allows you to inspect and modify items in the queue, and it has the following options:



**show current** brings up a Notifier telling what file it is currently working on; and, if it is a complete press file, what printer it is being sent to.

**modify current** brings up the Q-Box to change whether the file currently being worked on is to be sent now or later, which printer to send it to, and the number of copies to send.

**abort current** causes the printing request currently being worked on to be stopped at whatever stage it's in.

**empty queue** causes the queue to be emptied of all entries.

**show queue item -->** Press and move the cursor to the right and select the desired entry in the queue; this brings up a Notifier that describes what file it is; and, if it is a complete press file, what printer it will be sent to.

**modify queue item -->** Press and move the cursor to the right and select the desired entry in the queue; this brings up the Q-Box that will let you change whether the document is to be sent now or later, which printer to send it to, and the number of copies to send.

**remove from queue -->** Press and move the cursor to the right and select the desired entry in the queue; this removes the entry from the queue and deletes the press file that was made.

**move to front -->** Press and move the cursor to the right and select the desired entry in the queue; this moves the entry to the front of the queue and ensures that it will be the next document printed.

**restart queue** returns the hardcopy tool to the Active state.

★ Remember that **ESC for control** appears in the window title tab after you select foreground from the Active state popup. It means that the Hardcopy Status Window has taken over in order to print faster. You will not be able to work in other areas as you normally could while printing is going on, unless you now press and release the keyboard ESC key and wait for the software to return to regular Active mode.

**ESC for control**

Sending Temp.press- + 1. to idaho

#### PRINTING STATUS WINDOW RIGHT MOUSE BUTTON MENU

When in use, Active and Access states each have their own unique middle mouse button popup. However, the right mouse button popup is the same for both states and contains the standard set of window manipulation options, except for close self. For a description of the remaining items in this popup, see the part in Section II titled "The Analyst-85 Windows."

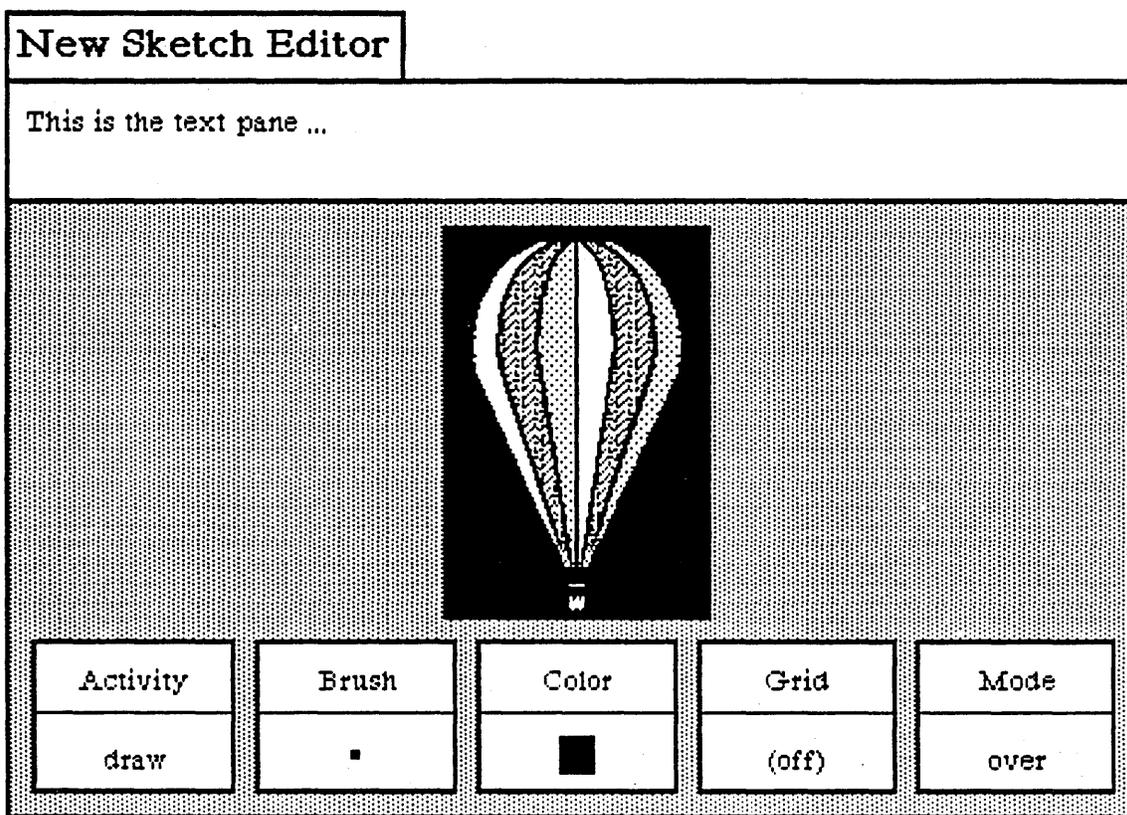
##### **close self**

Stops everything being printed or waiting to be printed. The printing status window will disappear automatically at a convenient time after all the printing requests have been filled.

## The Sketch Editor

### OVERVIEW

A Sketch Editor is a general, all-purpose graphics tool that is used to display, draw, and edit different types of illustrations. These illustrations can range from formalized graphics and scanned-in images to freeform drawings, where the "canvas" is the middle editing pane and the "brush" is the cursor, as it moves around the pane.



The Sketch Editor window consists of three panes: the top pane (with its own popup), is for text creation and editing; the large middle pane is where your illustration appears (this, too has its own popup); and the bottom pane consists of five different "buttons," each containing detailed popups with many rich graphical editing features. The Sketch Editor is very similar in structure and function to that of a Chart Editor, which is described in the next chapter of this document. The Chart Editor has some additional middle pane popup menu options.

A Sketch Editor is unique and versatile because a user may copy and combine illustrations into it from other graphical (Sketch, Chart, Map) windows. For instance, one Sketch Editor illustration can consist of a rainfall chart, part of a map, and the scanned-in image of a harbor. all copied from other sources and pasted into the middle editing pane. Descriptive text or labels are easily created and copied from the text pane above.

### OPENING A SKETCH EDITOR

To open up a Sketch Editor, select Graphics Pad from the middle mouse button system popup. Immediately, a Q-Box request form will appear that states "What sort of Graphics pad?" Here you will have a choice of either a Sketch pad (the default) or a Chart pad. Leave Sketch selected and click over accept.

| What sort of Graphics pad?                                                                                                                                                                                |                 |               |            |        |        |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|------------|--------|--------|---------|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">accept</td> <td style="padding: 2px;">cancel</td> <td style="padding: 2px;">bailOut</td> </tr> </table> |                 |               |            | accept | cancel | bailOut |
| accept                                                                                                                                                                                                    | cancel          | bailOut       |            |        |        |         |
| <b>Pad Type:</b>                                                                                                                                                                                          | Chart           | <b>Sketch</b> |            |        |        |         |
| <b>Size:</b>                                                                                                                                                                                              | <b>Standard</b> | FullPage      | Landscape  |        |        |         |
|                                                                                                                                                                                                           | InputSize       | FrameSize     | FromScreen |        |        |         |

Other choices that you can select from the Q-Box are all related to sketch size:

**Standard** (the default). An approximately 6" x 6" sketch area, which will become the size of the middle editing pane.

**FullPage**. An 8-1/2" x 11" sketch area oriented in "portrait" mode (vertically). Because of the large size of the editing pane, the button pane will appear on the right side instead of below it.

**Landscape**. An 8-1/2" by 11" sketch area oriented in "landscape" mode (horizontally).

**InputSize**. Allows you to set a different height and width (other than standard) for the sketch. Sketch dimensions are always given in inches.

**Frame**. Allows you to define the size of the sketch with the Origin and Corner cursors, the same as you do when you re-size a window with the frame command.

**FromScreen**. Allows you to simultaneously frame an area of the screen as you are opening the sketch. Whatever was framed will appear in the sketch editing (middle) pane.

### SKETCH EDITOR WINDOW DESCRIPTION

When you open a typical Sketch Editor you will see three main areas (or panes) in the window:

- The top or *text pane*, which acts very much like a regular text window, although there are fewer popup options. Here you may enter text or edit it to suit the requirements of the illustration below. Text entries are added to the illustration by placing the typed-in text into the transfer buffer (using copy from the popup) and then using paste from the Brush popup in the button pane. This will make the Brush button cursor take on the shape of the text, and all you need do is move the cursor to the area in the editing pane where you want the text to appear, and click the left mouse button.

- The middle or *sketch editing pane* where the sketch itself is displayed.

- The bottom or *button pane* which has five "buttons" across the window. Each button is represented as a rectangle with an upper half that contains the button title (Activity, Brush, Color, Grid, Mode) and a lower half that displays the currently selected popup menu option.

We shall now describe in detail the three main panes of the Sketch Editor and the interacting popup menu options for each one.

## Sketch Editor Text Pane

The left, middle, and right mouse buttons function within the text (top) pane of the Sketch Editor in the following ways:

### LEFT MOUSE BUTTON

The left mouse button retains its normal operations in the text pane of moving the insertion mark (or caret) around to determine where text entry is to occur and to select blocks of text to be edited.

### MIDDLE MOUSE BUTTON POPUP

The middle mouse button in the text pane brings up a variation of the standard text manipulation popup:

#### **again**

Repeats the last **copy** or **cut** edits that you do.

#### **undo**

Reverses the effects of the last command. For instance, if you have mistakenly deleted text, **undo** will put it back in.

#### **copy**

Puts a copy of the current selected text into the transfer buffer.

#### **cut**

Deletes the current selected text and puts it into the transfer buffer.

#### **paste**

Places, at the insertion mark, whatever information is currently in the transfer buffer.

#### **search**

Searches for selected text in a designated Information Center. First, the "Information Centers" Q-Box appears, then a "Searching" Q-Box, which will search by title or full text, and item type.

#### **compute it**

Takes selected text, evaluates it, and displays the result. For example, if you type in "2 + 3" and select it, then select **compute it**, the number "5" will appear.

#### **time stamp**

Displays the day-month-year and current time in the upper lefthand corner of the text pane.

#### **fonts--> regular or underlined**

Allows you to change selected text to whatever typeface is chosen from the resulting scrollable tree popup menu, including bold, italic, underlined, and different text sizes.

### RIGHT MOUSE BUTTON POPUP

The right mouse button popup displays the standard window popup menu that is described in Section II of this document, titled "The Analyst-85 Windows."

## Sketch Editor Editing Pane

This pane acts as a canvas upon which you create and edit freeform drawings or more formalized graphics and images, all with the help of the popup features exhibited by the five separate "buttons" of the button pane below. A completed sketch or graphic item may be stored as a file for later retrieval; a hardcopy can also be made of it.

The left, middle, and right mouse buttons function within the sketch editing (middle) pane in the following ways:

### LEFT MOUSE BUTTON

If you press and hold down the left mouse button and move the cursor around with the mouse, the cursor becomes a pencil or paintbrush that will draw within the pane whatever movements you make with the cursor; this is much like a "freehand drawing" feature. The width, shape, and color of the lines are determined by the Brush and Color buttons. If you don't want to use the default or current button settings, you need only select the appropriate option from the button popup, and the graphics item will be drawn using that option. The cursor can also change to become whatever shape the current Brush button is. The Brush shape is added to the sketch by clicking (or pressing) the left mouse button. In other words, the exact manner in which the Brush shape is added to the sketch will be determined by the state of the five graphic control "buttons" in the lower button pane. These buttons interact with each other and the editing pane in a variety of ways too numerous to describe here, but you will be able to discover them as you read about the popup options and actively use the Sketch Editor.

### MIDDLE MOUSE BUTTON MENU

The middle mouse button controls a popup menu with the following options:

#### reset

Sets all five buttons in the button pane back to their default settings. Reset does not reset anything in the text or sketch editing panes. The defaults are:

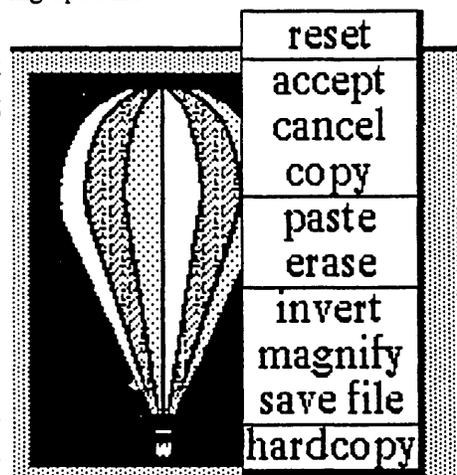
- ★ draw (Activity button)
- ★ a 4-pixel by 4-pixel black square (Brush button)
- ★ black (Color button)
- ★ off (Grid button)
- ★ over (Mode button)

#### accept

Takes a "snapshot" of the sketch you are currently working on. That is, the sketch will be saved, so that if you do a cancel afterwards, you will get this image back. If you are working on a complex sketch, it's a good idea to do an **accept** as you complete each stage of your work.

#### cancel

Returns you to the sketch that existed after the last **accept**. It will undo everything you have done since then. This saves you the trouble of laboriously trying to erase or cover up changes that you find you don't like. If you started with a blank sketch, a **cancel** without any previous **accept** will put you back to a blank sketch creating pane. Therefore, it's wise to do an **accept** whenever you have completed a portion of the sketch that you know you'll want to keep.



### **copy**

Stores the current sketch in the editing pane into a "transfer buffer," so that you may transfer a copy of the sketch to another compatible window or to a Brush. For example, you may **copy** the sketch and then **paste** it into another graphics editor or image-type window. You cannot transfer a sketch into a *text* window.

### **paste**

Places the contents of the transfer buffer into the sketch editing pane. For example, when you use the upper text pane to type in text, first select it, then **copy** it, then select **paste** from the Brush button popup. The brush shape will change to whatever text is in the buffer. You then go to the desired location for the text in the sketch editing pane and click the left mouse button to add the text to the sketch.

### **erase**

Gets rid of all pane contents and the pane is wiped clean. If you accidentally select this option, selecting **cancel** will recover the last sketch saved with an **accept**.

### **invert**

Reverses the bits in the sketch image; that is, all the white bits will be set to black, and all the black bits will be set to white.

### **magnify**

Enlarges a specific area of a sketch so that you can "fine tune" the changes to individual bits that make up a sketch. Individual bits are very small, and using this feature enlarges them so they are more easily worked on. After selecting **magnify**, you specify the area to be magnified by framing a rectangular area in the sketch editing pane (the system will ignore any areas outside of the sketch pane). The amount of magnification that occurs is determined by the size of the area that is framed. Therefore, when displaying the magnified area on the screen, the rule is: the larger the framed area, the smaller the magnification used.

After framing the desired area, a magnified form of it appears. You will then find a suitable screen location and place the magnified form by clicking the left mouse button at that point. Do *not* place the magnified form over the site of the original selected area, as the system has trouble handling this type of overlay.

The cursor takes on the shape of a crosshair. As you edit the magnified form, the changes you are making there are also occurring on the normal-sized sketch form. Each click of the left mouse button will either add one bit where there is none, or delete a bit that is already there. When you have finished editing, select **accept** from the popup (or **cancel** if you change your mind). Move the crosshair cursor out of the magnified form and click the left mouse button once to close the form and return to the sketch.

### **save file**

Stores the sketch onto the disk and into an Information Center (using **paste**) for later retrieval. If this is an already existing file, **save file** will cause a Confirmer to appear that asks if you want to overwrite the existing file (yes or no). If this is a new file, a File Request Q-Box next appears, and here you will specify the name, keyword(s), classification, and target Information Center to store the file in. See the illustration on the next page.

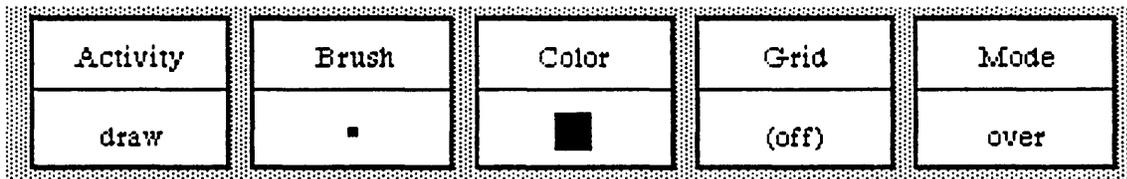
| File request          |                          |               |              |                  |               |
|-----------------------|--------------------------|---------------|--------------|------------------|---------------|
| <b>accept</b>         |                          | <b>cancel</b> |              | <b>bailOut</b>   |               |
| <b>Name:</b>          | <b>New Sketch Editor</b> |               |              |                  |               |
| <b>Keywords:</b>      | <b>image</b>             |               |              |                  |               |
| <b>Info center:</b>   | <b>billy</b>             |               | <b>demo</b>  |                  |               |
|                       | <b>fulldemo</b>          |               |              |                  |               |
|                       | <b>the-real-one</b>      |               |              |                  |               |
| <b>Classification</b> |                          | <b>Int</b>    | <b>XPers</b> | <b>XPriv</b>     | <b>XReg</b>   |
| <b>Controls</b>       | <b>XSYS</b>              | <b>Vista</b>  | <b>Draft</b> | <b>Hard Copy</b> | <b>Return</b> |
|                       | <b>Auto</b>              |               |              |                  |               |
| <b>Filing Method:</b> | <b>manual</b>            |               |              | <b>auto</b>      |               |

**hardcopy**

Causes a hardcopy Q-Box to appear requesting necessary information for printing. Select **accept** at the top of the form when you're finished and the file will be sent on its way to the printer

**Sketch Editor Button Pane**

The button pane at the bottom of the Sketch Editor window contains the tools to manipulate the graphics in the sketch editing pane.



The button pane exhibits five rectangular-shaped buttons, each with two parts: its title at the top and its current popup selection at the bottom. The selection is changed and updated accordingly when a new selection from the button's popup menu is made. These buttons are graphics or image editors.

Since each button has its own unique popup, we will go through every one individually, starting with the Activity Button at the far left and working from there towards the right. The middle mouse button popup menu is the only one described for this pane, since neither the left nor right mouse buttons perform any function in the button pane.

## MIDDLE MOUSE BUTTON MENU

### 1. Activity Button

The Activity Button sets the mode of operation for the Brush. Its popup menu consists of the following options:

#### **draw**

This default setting assures that the cursor will perform like a standard paintbrush. The cursor becomes the brush form currently displayed in the Brush Button, and puts copies (one-at-a-time or continuous) of the form on the editing pane above when the left mouse button is pressed or clicked. If the mouse button is pressed and held down and the brush/cursor moved about inside the editing pane, the brush form will be copied along the path of the brush/cursor.

#### **stamp**

This option is similar to **draw**, except **stamp** will simply produce one copy at a time of the current brush form, even if the left mouse button is held down and moved inside the editing pane. **Stamp** is used to get the cleanest copy of a brush form.

#### **line**

Allows you to draw a line with the brush form between two specified points. To specify the start point, go to the location in the editing pane where you want the line to begin and press the left mouse button. Do not release the mouse button; instead, hold the mouse button down and move the brush to the desired end point. The start and end points will be connected by a "rubberband" line that acts as a visual aid. Move the brush up and down slightly until the line is smooth, with no "stairsteps" showing, then release the button. The line will now connect between the two points. If the line isn't what you wanted, select **cancel** from the editing pane popup.

#### **curve**

Similar to drawing a line; however, it takes an extra point to determine the curved line. To draw a curve, go to your start point, then press and hold the left mouse button. Move the brush to the next point and release the mouse button. There should be a "rubberband" line joining the two points. To specify the curvature of your line, move the brush (which now resembles a crosshair) to another point to define the apex of the curve. You will see a repeated drawing of a curve line as it tries to follow the apex point.

When the desired apex is reached, click the left mouse button. The final curve line will appear and link up the three points.

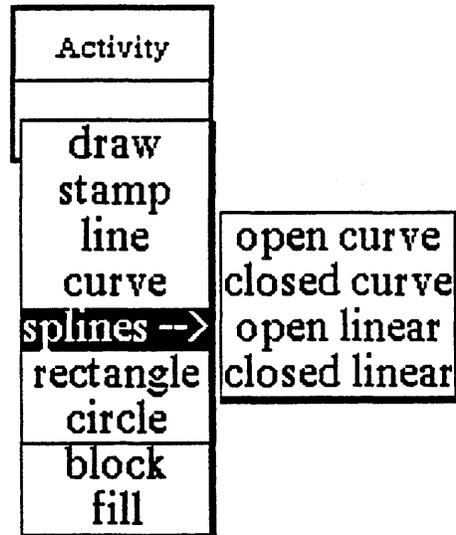
#### **splines-->**

The following four commands will enable you to draw connected, straight, or curved lines of your choice.

**open curve.** Here, a set of points are put in to define the curved line to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will draw the curve. The numbers will disappear and the points will be connected in the order of their entry sequence.

**closed curve.** This is like the **open curve**, except that it will draw a closed, connected curve so that the result is a continuously connected line, with the last point connected back to the first point.



A set of points are put in to define the curved line to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will draw and close the curve. The numbers will disappear and the points will be connected in the order of their entry sequence.

**open linear.** A set of points are put in to define the lines to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will terminate the action. The numbers will disappear and the points will be connected by straight lines in the order of their entry sequence.

**closed linear.** This is like Open Linear, except that it will connect the last point to the first point. A set of points are put in to define the lines to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will terminate the action. The numbers will disappear and the points will be connected by straight lines in the order of their entry sequence, including the connection from the last point to the first point.

#### **rectangle**

When this function is selected, the cursor assumes the shape of the upper left (Origin) cursor as soon as it is moved into the editing pane. You can then frame the size of your rectangle by pressing the left mouse button, just as you can frame certain types of windows when you open them.

#### **circle**

Select this, and when the cursor assumes a crosshair shape in the editing pane, press the left mouse button at the point where you want the center of the circle to be. Move the crosshair away from the center of the circle in any direction and note the "rubberband" line that will indicate the radius of the circle. After you have chosen the appropriate radius, release the mouse button. A circle will draw itself about the center point at the specified radius.

#### **block**

Fills a rectangular area (that you have just defined) with any color or pattern currently in the Color button. The rectangular area is not outlined.

#### **fill**

Fills a rectangular area (that you have defined) with the current color or pattern in the Color Button. There are two steps to filling an area. First, the Origin cursor appears and you define the rectangle (so the fill command will have an outer boundary). After this, the crosshair cursor appears; you now click with the left mouse button to indicate that the area within the rectangle is to be filled.

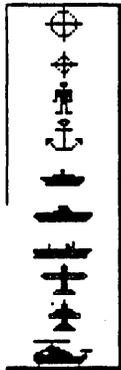
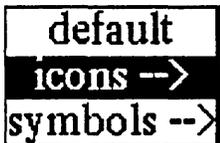
**2. Brush Button**

This button provides all the graphics tools for manipulating the shape of the drawing brush. The Brush Button popup menu contains the following options:

**default**

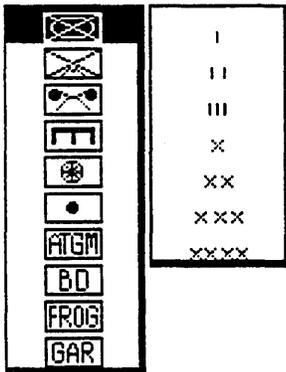
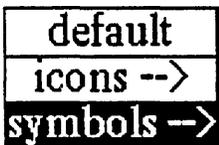
This resets the current brush form to be a 4-pixel by 4-pixel black square.

**icons -->**



Moving the cursor to the right along the arrow will produce a scrollable submenu of all of the available annotation forms or icons. Select the desired icon and the Brush Button will carry its shape. When you move the cursor into the editing pane above, copies of the selected icon may be placed onto the image by clicking the left mouse button.

**symbols -->**



Moving the cursor to the right along the arrow will produce a scrollable submenu of all of the available symbol forms.

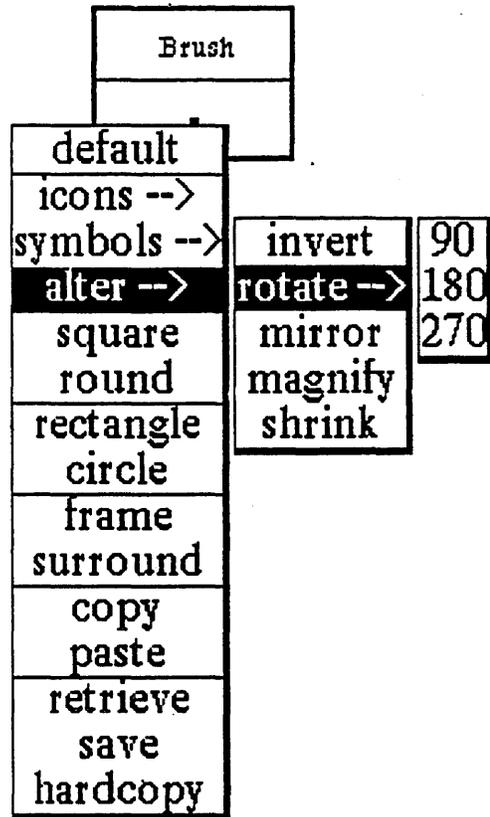
Furthermore, to the right of each of these forms is another submenu (although no --> indicates this). If required, you may go two levels for your selection: once you have selected the desired symbol from the first submenu, move to the right of the selection to the next submenu to further modify the symbol. The resulting form will be displayed in the Brush Button. When you move the cursor into the editing pane above, copies of the selected form may be placed onto the image by clicking the left mouse button.

**alter -->**

This tree popup branches off to five other subfunctions, all of which allow you to manipulate the current brush form:

**invert.** After selecting this, the brush form will be color-reversed: the black bits will become white bits and the white bits will become black bits. This is sometimes referred to as "reverse video."

**rotate -->.** The submenu selections to the right give you the choice of rotating your brush form 90, 180, or 270 degrees. The "brush form," in this case, should be a symbol, an icon, or some sort of framed image; the



the default brush (a 4 by 4 pixel square) would reflect no rotation alterations. The rotation is always clockwise, so that two 90-degree rotations will be equivalent to a 180-degree rotation.

Note that this option, along with the **mirror** option, allows you to generate many combinations of the existing icon or symbol forms.

**mirror.** This "mirror-images" the x-axis of the brush form. For example, if you have a brush form that looks like ">" in the beginning, the brush will look like "<" after **mirror** is used. In order to mirror the y-axis, mirror the x-axis first and then do a **rotate -->180** from the popup.

**magnify.** Enlarges the current brush form, after you have typed the width and height magnification factors (whole numbers only) into the Prompter that appears. The form represented on the Brush Button will immediately reflect the change.

**shrink.** Reduces the current brush form, after you have typed the width and height reduction factors (whole numbers only) into the Prompter that appears. The form represented on the Brush Button will immediately reflect the change.

#### **square**

After selecting this, a Prompter requests you to specify the new size for the square brush. The square brush form of the new specified size will be produced, using the current color or pattern in the Color Button.

#### **round**

Produces a round paint brush (the default is square) with the current color or pattern in the Color Button. A Prompter will request the radius for the round paint brush.

#### **rectangle**

A Prompter will request that you specify the line width (thickness) for the rectangular brush. You will then frame the rectangle to the desired size and it will become the brush form. This allows the rapid generation of many boxes of the same size.

#### **circle**

A Prompter will request you to specify the line width for the circular brush. You will specify the size of the desired circle by placing its center on the pane (by pressing the left mouse button) and "rubberbanding" out to the desired radius. It will promptly become the brush form.

#### **frame**

After selecting this, the Origin cursor appears and you will define a rectangle that encompasses your desired screen material; that is, the particular area of the editing pane that you wish to become the brush form.

#### **surround**

This resembles **frame**, but allows you to pick up irregular images that might be difficult to outline with that function. The normal cursor image is displayed; you will press the left mouse button and use it like a pencil to surround or "rope" the screen image. After releasing the mouse button, the crosshair cursor appears. Next, click with the left mouse button as close as possible to the roped-off image (or even inside the image). The brush form will assume the shape of the surrounded object.

#### **copy**

Takes the image currently in the Brush Button and puts it into the transfer buffer. For example, you may **copy** the Brush Button and **paste** it into the editing pane or into the editing pane of another graphics editor. This gives you the ability to move a sketch from one image-type editor to another.

#### **paste**

Takes the image currently in the Brush Button and replaces it with the image in the transfer buffer. For example, you may **copy** or **cut** a piece of text from the text pane and **paste** it into the Brush Button. This can be done using text or graphics from either this Sketch Editor or another graphics editor.

**retrieve**

Allows you to get a brush image from the Information Center's transfer buffer. The item in the transfer buffer must be an image in order for the operation to work correctly.

**save**

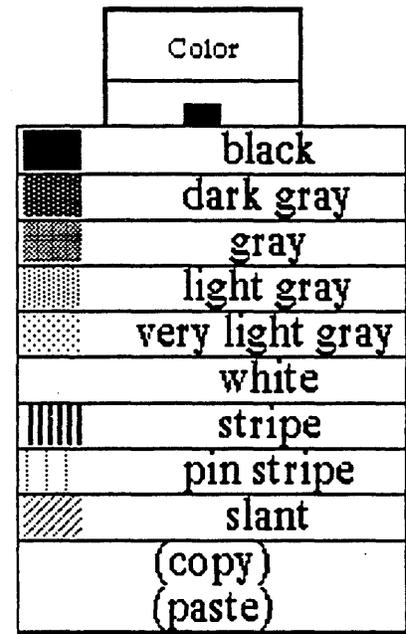
Allows you to store the current brush form into the Information Center of your choice and onto the disk for later retrieval.

**hardcopy**

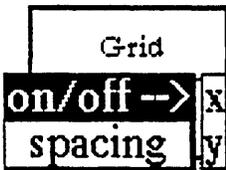
After selection, a hardcopy Q-Box will appear, requesting information such as printer name, number of copies, and so on. After you have typed in this information (or you may wish to leave the default settings), select accept. "Done" or "printing successful" will appear at the top right of the screen later on, when the file has been printed.

**3. Color Button**

The Color Button allows you to change the color or pattern used by the brush form to any of those shown on the popup (see illustration). Besides the colors and patterns that you see on the menu, you may also create your own patterns. One way is to paste a standard pattern into the brush image, then use your imagination and the brush manipulation tools to create a new pattern. Once this pattern is pasted into the Color Button, you will be able to start drawing with it.



**4. Grid Button**



The Grid Button popup options can cause an invisible grid to become part of the editing pane, which will enhance accurate cursor positioning. You may set the spacing of the grid in both x and y axes; moreover, you can turn the grid on or off in either the x or y axis to allow maximum flexibility.

**on/off -->**

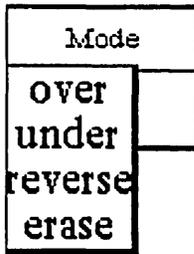
You may select on or off from here in the x or y axis; this feature works like a switch that will "toggle" the gridding on and off accordingly. For example, if your current x axis gridding is on, the command on/off and x will turn the x axis gridding off. If you repeat this procedure, you will find that the x axis gridding will return to off. This is also true, of course, for y axis gridding. The current status will always be displayed in the Grid Button.

**spacing**

Sets the spacing in the horizontal and vertical direction separately. After selection, a Prompter appears requesting the spacing for each direction; enter whole numbers only. If either of the gridding axes is on, its corresponding spacing value will also be shown next to it to help you determine the gridding distance.

## 5. Mode Button

The setting of the Mode Button will determine the method in which the brush form is to be added to the editing pane.



### over

The brush form you draw with will be drawn over the image in the editing pane. The white bits in the brush form are not transparent and will overlay (cover) the image.

### under

The brush form you draw with will be drawn under the image in the editing pane. Only the black bits in the brush form will be set on the screen, because the white parts of the brush image are now transparent.

### reverse

The white bits in your brush will have no effect on the image, which is under the brush. But the black bits in your brush will turn the black bits in the image under the brush white. Similarly, the black bits in your brush will turn the white bits in the image under the brush black.

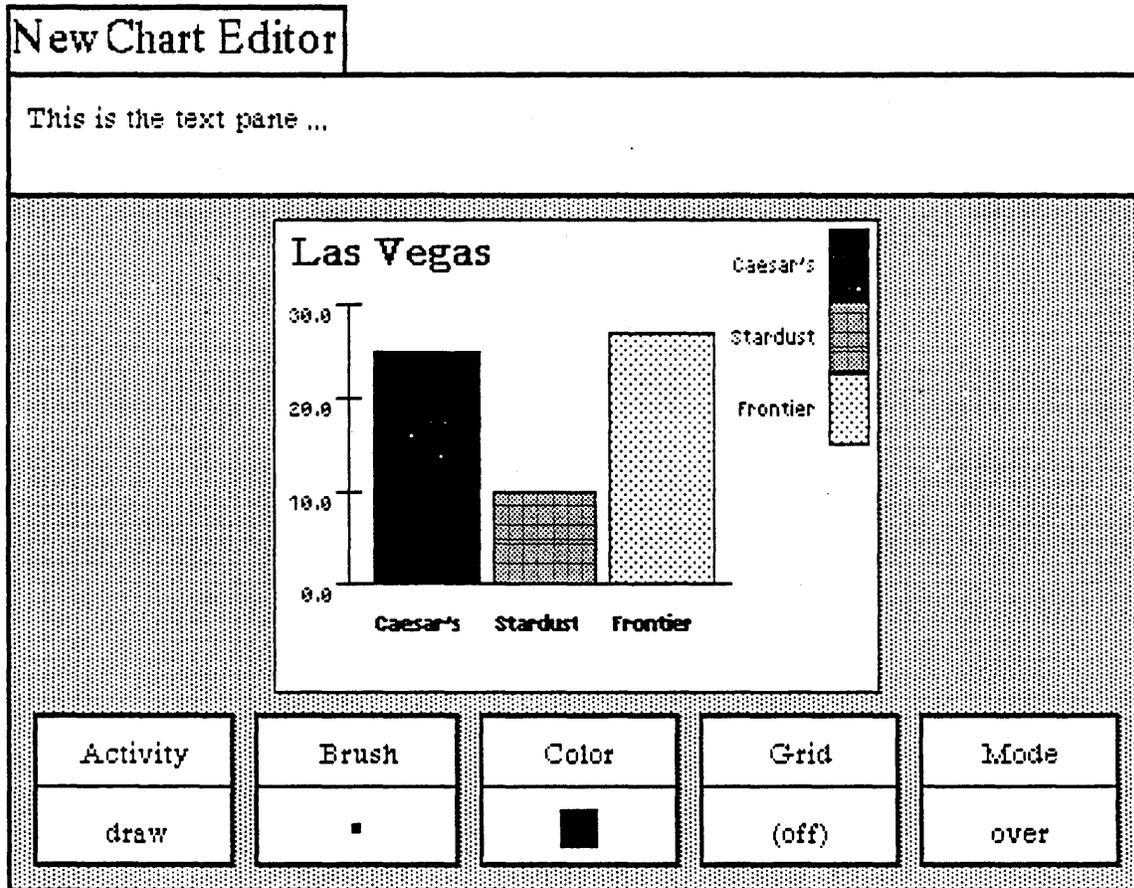
### erase

The black bits in the brush form will set any black bits on the screen to white, thus making the image invisible. The white bits in the brush form will again have no effect on the screen image.

## The Chart Editor

### OVERVIEW

The Chart Editor is a data-driven graphics tool that uses collected data to produce different types of charts. You have a choice of producing pie, bar, or line charts, clustered and stacked bar charts, x-y scatter, or linear fit plots. Information from a database may be used to generate the charts and graphs. In addition, the Chart Editor shares some of the creating features of the Sketch Editor, such as the ability to "freehand" draw within the editing pane.



The Chart Editor window consists of three panes: the top pane (with its own popup), for text creation and editing; a large middle pane where your chart appears (this, too has its own popup); and a bottom pane consisting of five different "buttons," each containing detailed popups with many rich graphical editing features. The Chart Editor is very similar in structure and function to that of a Sketch Editor. Only the options from the middle mouse button popup menu in the chart editing (middle) pane are different.

### OPENING A CHART EDITOR

To open up a Chart Editor, select **Graphics Pad** from the middle mouse button system popup. Immediately, a Q-Box request form will appear that states "What sort of Graphics pad?" Here you will have a choice of either a Sketch pad (the default) or a Chart pad. Select Chart and click over accept.

| What sort of Graphics pad?                                                                                                                                                                                |           |           |            |        |        |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|------------|--------|--------|---------|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">accept</td> <td style="padding: 2px;">cancel</td> <td style="padding: 2px;">bailOut</td> </tr> </table> |           |           |            | accept | cancel | bailOut |
| accept                                                                                                                                                                                                    | cancel    | bailOut   |            |        |        |         |
| Pad Type:                                                                                                                                                                                                 | Chart     | Sketch    |            |        |        |         |
| Size:                                                                                                                                                                                                     | Standard  | FullPage  | Landscape  |        |        |         |
|                                                                                                                                                                                                           | InputSize | FrameSize | Frame/Size |        |        |         |

Other choices that you can select from the Q-Box are all related to chart size:

**Standard** (the default). An approximately 6" x 6" sketch area, which will become the size of the middle editing pane.

**FullPage**. An 8-1/2" x 11" sketch area oriented in "portrait" mode (vertically). Because of the large size of the editing pane, the button pane will appear on the right side instead of below it.

**Landscape**. An 8-1/2" by 11" chart area oriented in "landscape" mode (horizontally).

**InputSize**. Allows you to set a different height and width (other than standard) for the chart. Chart dimensions are always given in inches.

**Frame**. Allows you to define the size of the chart with the Origin and Corner cursors, the same as you do when you re-size a window with the frame command.

### CHART EDITOR WINDOW DESCRIPTION

When you open a typical Chart Editor you will see three main areas (or panes) in the window. Along with this you will automatically get a "Make new chart" Q-Box. Normally, you would fill this in to start creating a new chart. If you're not ready to create a chart, select **bailout**. The "make new chart" feature will be fully described later in the subsection titled "Chart Editor Editing Pane."

- The top or *text pane*, which acts very much like a regular text window, although there are fewer popup options. Here you may enter text or edit it to suit the requirements of the illustration below. Text entries are added to the illustration by placing the typed-in text into the transfer buffer (using **copy** from the popup) and then using **paste** from the Brush popup in the button pane. This will make the Brush button cursor take on the shape of the text, and all you need do is move the cursor to the area in the editing pane where you want the text to appear, and click the left mouse button.

- The middle or *chart editing pane* where the chart itself is displayed.

- The bottom or *button pane* which has five "buttons" across the window. Each button is represented as a rectangle with an upper half that contains the button title (Activity, Brush, Color, Grid, Mode) and a lower half that displays the currently selected popup menu option.

We shall now describe in detail the three main panes of the Chart Editor and the interacting popup menu options for each one.

## Chart Editor Text Pane

The left, middle, and right mouse buttons function within the text (top) pane of the Chart Editor in the following ways:

### LEFT MOUSE BUTTON

The left mouse button retains its normal operations in the text pane of moving the insertion mark (or caret) around to determine where text entry is to occur and to select blocks of text to be edited.

### MIDDLE MOUSE BUTTON POPUP

The middle mouse button in the text pane brings up a variation of the standard text manipulation popup:

#### **again**

Repeats the last **copy** or **cut** edits that you do.

#### **undo**

Reverses the effects of the last command. For instance, if you have mistakenly deleted text, **undo** will put it back in.

#### **copy**

Puts a copy of the current selected text into the transfer buffer.

#### **cut**

Deletes the current selected text and puts it into the transfer buffer.

#### **paste**

Places, at the insertion mark, whatever information is currently in the transfer buffer.

#### **search**

Searches for selected text in a designated Information Center. First, the "Information Centers" Q-Box appears, then a "Searching" Q-Box, which will search by title or full text, and item type.

#### **compute it**

Takes selected text, evaluates it, and displays the result. For example, if you type in "2 + 3" and select it, then select **compute it**, the number "5" will appear.

#### **time stamp**

Displays the day-month-year and current time in the upper lefthand corner of the text pane.

#### **fonts--> regular or underlined**

Allows you to change selected text to whatever typeface is chosen from the resulting scrollable tree popup menu, including bold, italic, underlined, and different text sizes.

### RIGHT MOUSE BUTTON POPUP

The right mouse button popup displays the standard window popup menu that is described in Section II of this document, titled "The Analyst-85 Windows."

## Chart Editor Editing Pane

The Chart Editing pane acts as a canvas upon which you create and edit all types of charts and assorted graphics, even "freehand" drawing, if desired. This is accomplished with the help of the popup features exhibited by the five separate "buttons" of the button pane below. A completed chart or graphic item may be stored as a file for later retrieval; a hardcopy can also be made of it.

The left, middle, and right mouse buttons function within the chart editing (middle) pane in the following ways:

### LEFT MOUSE BUTTON

If you press and hold down the left mouse button and move the cursor around with the mouse, the cursor becomes a pencil or paintbrush that will draw within the pane whatever movements you make with the cursor; this is the "freehand drawing" feature listed before. The width, shape, and color of the lines are determined by the Brush and Color buttons. If you don't want to use the default or current button settings, you need only select the appropriate option from the button popup, and the graphics item will be drawn using that option. The cursor can also change to become whatever shape the current Brush button is. The Brush shape is added to the chart by clicking (or pressing) the left mouse button. In other words, the exact manner in which the Brush shape is added to the chart will be determined by the state of the five graphic control "buttons" in the lower button pane. These buttons interact with each other and the editing pane in a variety of ways too numerous to describe here, but you will be able to discover them as you read about the popup options and actively use the Chart Editor.

### MIDDLE MOUSE BUTTON MENU

The middle mouse button controls a popup menu with the following options:

#### reset

Sets all five buttons in the button pane back to their default settings. Reset does not reset anything in the text or chart editing panes. The defaults are:

- ★ draw (Activity button)
- ★ a 4-pixel by 4-pixel black square (Brush button)
- ★ black (Color button)
- ★ off (Grid button)
- ★ over (Mode button)

#### accept

Takes a "snapshot" of the chart you are currently working on. That is, the chart will be saved, so that if you do a cancel afterwards, you will get this image back. If you are working on a complex chart, it's a good idea to do an accept as you complete each stage of your work.

#### cancel

Returns you to the chart that existed after the last accept. It will undo everything you have done since then. This saves you the trouble of laboriously trying to erase or cover up changes that you find you don't like.

|                        |
|------------------------|
| reset                  |
| accept<br>cancel       |
| copy<br>paste          |
| erase<br>magnify       |
| chart data             |
| change chart-->        |
| change data-->         |
| save chart<br>hardcopy |

|            |
|------------|
| parameters |
| size       |
| add labels |
| add legend |

If you started with a blank chart, a **cancel** without any previous **accept** will put you back to a blank chart editing pane. Therefore, it's wise to do an **accept** whenever you have completed a portion of the chart that you know you'll want to keep.

**copy**

Stores the current chart in the editing pane into a "transfer buffer," so that you may transfer a copy of the chart to another compatible window or to a Brush. For example, you may **copy** the chart and then **paste** it into another graphics editor or image-type window. You cannot transfer a chart into a *text* window.

**paste**

Places the contents of the transfer buffer into the chart editing pane. For example, when you use the upper text pane to type in text, first select it, then **copy** it, then select **paste** from the Brush button popup. The brush shape will change to whatever text is in the buffer. You then go to the desired location for the text in the chart editing pane and click the left mouse button to add the text to the chart.

**erase**

Gets rid of all pane contents and the pane is wiped clean. If you accidentally select this option, selecting **cancel** will recover the last chart saved with an **accept**.

**magnify**

Enlarges a specific area of a chart so that you can "fine tune" the changes to individual bits that make up a chart. Individual bits are very small, and using this feature enlarges them so they are more easily worked on. After selecting **magnify**, you specify the area to be magnified by framing a rectangular area in the chart editing pane (the system will ignore any areas outside of the chart pane). The amount of magnification that occurs is determined by the size of the area that is framed. Therefore, when displaying the magnified area on the screen, the rule is: the larger the framed area, the smaller the magnification used.

After framing the desired area, a magnified form of it appears. You will then find a suitable screen location and place the magnified form by clicking the left mouse button at that point. Do *not* place the magnified form over the site of the original selected area, as the system has trouble handling this type of overlay.

The cursor takes on the shape of a crosshair. As you edit the magnified form, the changes you are making there are also occurring on the normal-sized chart form. Each click of the left mouse button will either add one bit where there is none, or delete a bit that is already there. When you have finished editing, select **accept** from the popup (or **cancel** if you change your mind). Move the crosshair cursor out of the magnified form and click the left mouse button once to close the form and return to the chart.

**chart data**

Returns the displayed chart to the version currently stored in memory.

**change chart -->**

Allows you to change the physical characteristics of the chart by using the following options:

parameters. Selecting this will cause a "Change set up" Q-Box to appear, which will allow you to change the chart type (pie, bar); chart title; whether to include/not include a label, legend, fill, label by percent, or automatic scaling; and label text size (four available).

| Change set up                                                                                                                                                                                             |             |              |               |        |        |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|---------------|--------|--------|---------|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">accept</td> <td style="padding: 2px;">cancel</td> <td style="padding: 2px;">bailOut</td> </tr> </table> |             |              |               | accept | cancel | bailOut |
| accept                                                                                                                                                                                                    | cancel      | bailOut      |               |        |        |         |
| Chart Type                                                                                                                                                                                                | <b>Bar</b>  | Cluster      | Line          |        |        |         |
|                                                                                                                                                                                                           | Pie         | XY           |               |        |        |         |
| Title :                                                                                                                                                                                                   | ss          |              |               |        |        |         |
| Label :                                                                                                                                                                                                   | true        | <b>false</b> |               |        |        |         |
| Legend :                                                                                                                                                                                                  | true        | <b>false</b> |               |        |        |         |
| Fill :                                                                                                                                                                                                    | <b>true</b> | false        |               |        |        |         |
| Label by Percent                                                                                                                                                                                          | true        | <b>false</b> |               |        |        |         |
| Automatic Scaling                                                                                                                                                                                         | <b>true</b> | false        |               |        |        |         |
| Label size                                                                                                                                                                                                | tiny        | small        | <b>medium</b> |        |        |         |
|                                                                                                                                                                                                           | large       |              |               |        |        |         |

size. Allows you to frame your chart to a larger or smaller size. The original chart also remains on the screen. You can keep it or close it.

add labels. Adds relevant labels at the bottom of the chart (if they are not already there). This is also an option in the "Change set up" Q-Box.

add legend. Adds a relevant legend at the top right of the chart. This is also an option in the "Change set up" Q-Box.

**change data -->**

Allows you to modify existing chart data or create new chart data by using the following options:

new data. Selecting this will bring up a "Make new chart" Q-Box. Here you can put in completely new information for the chart by changing its title, data type, and/or type of chart. After selecting accept in the Q-Box, a "Making new chart data" form next appears, waiting for you to key in appropriate material. This form's middle mouse button popup has several text editing options:

**Make new chart**

|                      |                |                |
|----------------------|----------------|----------------|
| <b>accept</b>        | <b>cancel</b>  | <b>done</b>    |
| <b>Title:</b>        | Title          |                |
| <b>Data type :</b>   | <b>single</b>  | <b>stacked</b> |
| <b>Type of chart</b> | <b>Bar</b>     | <b>xyPlot</b>  |
|                      | <b>Cluster</b> | <b>Line</b>    |
|                      | <b>Pie</b>     | <b>XY</b>      |

**Making new chart data**

Las Vegas

|               |    |
|---------------|----|
| Caesar's      | 25 |
| Stardust      | 10 |
| Circus Circus | 15 |
| Frontier      | 27 |

copy  
cut  
paste  
enter data  
edit data  
chart data

**copy.** Places a selected item into the transfer buffer.

**cut.** Removes a selected item and places it into the transfer buffer.

**paste.** Places the item currently in the transfer buffer to another location.

**enter data.** Brings up an "Enter data" Q-Box. This allows you to fill in your data name or label and the numerical value attached to the label; values must be entered as integers, not fractions or decimals. After you select **accept**, another "Enter data" Q-Box appears. Enter additional data as needed and select **done** when you have finished. The Q-Box will re-appear every time you select **accept**; **cancel** will cancel to the last accepted value; **done** will make the Q-Box disappear and the data will be listed in the form.

**edit data.** With the left mouse button, select the data item to be edited, then **edit data** from the popup, which brings up an "Edit data" Q-Box. This allows you to change the Label or Value for that particular item. You must select **accept** to complete the edit; **cancel** will cancel typed

changes to the last accepted values; **baIlOut** causes the Q-Box to disappear, with no changes having been made. If you now select **chart data** (see description below), the newly-edited data will replace whatever is currently in the Chart Editor window,

**chart data.** Causes the information that has been entered into the "Enter data" or "Edit data" Q-Box to be displayed (in chart form) in the New Chart Editor window, according to the chart's previously-determined parameters.

**modify data.** Selecting this brings up an "Editing chart data" form. The current data labels and values are listed in the form. You will be able to alter the information by using the options from the form's middle mouse button popup:

**copy.** Places a selected item into the transfer buffer.

**cut.** Removes a selected item and places it into the transfer buffer.

**paste.** Places the item currently in the transfer buffer to another location.

**enter data.** Brings up an "Enter data" Q-Box. This allows you to fill in your data name or label and the numerical value attached to the label; values must be entered as integers, not fractions or decimals. After you select **accept**, another "Enter data" Q-Box appears. Enter additional data as needed and select **done** when you have finished. The Q-Box will re-appear every time you select **accept**; **cancel** will cancel to the last accepted value; **done** will make the Q-Box disappear and the data will be listed in the form.

**edit data.** With the left mouse button, select the data item to be edited, then **edit data** from the popup, which brings up an "Edit data" Q-Box. This allows you to change the Label or Value for that particular item. You must select

### Editing Chart Data

Las Vegas

---

|          |    |
|----------|----|
| Caesar's | 25 |
| Stardust | 10 |
| Frontier | 27 |

---

copy  
cut  
paste

---

enter data  
edit data  
chart data

#### Enter Data

|        |        |      |
|--------|--------|------|
| accept | cancel | done |
|--------|--------|------|

|        |          |
|--------|----------|
| Label: | theLabel |
| Value: | 0        |

#### Edit Data

|        |        |         |
|--------|--------|---------|
| accept | cancel | bailOut |
|--------|--------|---------|

|        |          |
|--------|----------|
| Label: | Stardust |
| Value: | 10       |

**accept** to complete the edit; **cancel** will cancel typed changes to the last accepted values; **bailOut** causes the Q-Box to disappear, with no changes having been made. If you now select **chart data** (see description below), the newly-edited data will replace whatever is currently in the Chart Editor window.

**chart data.** Causes the information that has been entered into the "Enter data" or "Edit data" Q-Box to be displayed (in chart form) in the New Chart Editor window, according to the chart's previously-determined parameters.

**compress data**

This is a computational device that groups or puts together like items. For instance, if you have a label entry for "Jones" with a value of "20", and later on there is another label entry of "Jones" with a value of "10," **compress data** will combine the two entries into a single label "Jones" with a value of "30."

**save chart**

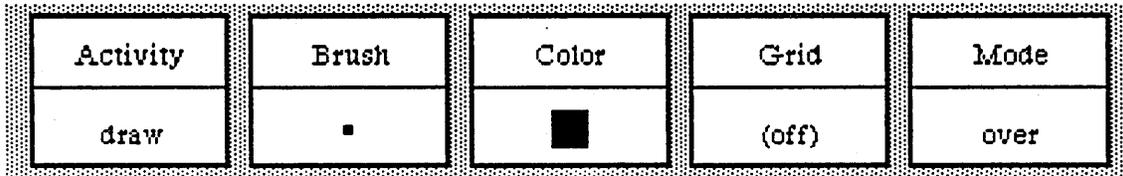
Stores the chart onto the disk and into an Information Center (using **paste**) for later retrieval. If this is an already existing file, **save chart** will cause a Confirmer to appear that asks if you want to overwrite the existing file (yes or no). If this is a new file, a File Request Q-Box next appears, and here you will specify the name, keyword(s), classification, and target Information Center to store the file in.

**hardcopy**

Causes a hardcopy Q-Box to appear requesting necessary information for printing. Select **accept** at the top of the form when you're finished and the file will be sent on its way to the printer.

### Chart Editor Button Pane

The button pane at the bottom of the Chart Editor window contains the tools to manipulate the graphics in the chart editing pane.



The button pane exhibits five rectangular-shaped buttons, each with two parts: its title at the top and its current popup selection at the bottom. The selection is changed and updated accordingly when a new selection from the button's popup menu is made. These buttons are graphics or image editors.

Since each button has its own unique popup, we will go through every one individually, starting with the Activity Button at the far left and working from there towards the right. The middle mouse button popup menu is the only one described for this pane, since neither the left nor right mouse buttons perform any function in the button pane.

## MIDDLE MOUSE BUTTON MENU

### 1. Activity Button

The Activity Button sets the mode of operation for the Brush. Its popup menu consists of the following options:

#### draw

This default setting assures that the cursor will perform like a standard paintbrush. The cursor becomes the brush form currently displayed in the Brush Button, and puts copies (one-at-a-time or continuous) of the form on the editing pane above when the left mouse button is pressed or clicked. If the mouse button is pressed and held down and the brush/cursor moved about inside the editing pane, the brush form will be copied along the path of the brush/cursor.

#### stamp

This option is similar to draw, except stamp will simply produce one copy at a time of the current brush form, even if the left mouse button is held down and moved inside the editing pane. Stamp is used to get the cleanest copy of a brush form.

#### line

Allows you to draw a line with the brush form between two specified points. To specify the start point, go to the location in the editing pane where you want the line to begin and press the left mouse button. Do not release the mouse button; instead, hold the mouse button down and move the brush to the desired end point. The start and end points will be connected by a "rubberband" line that acts as a visual aid. Move the brush up and down slightly until the line is smooth, with no "stairsteps" showing, then release the button. The line will now connect between the two points. If the line isn't what you wanted, select cancel from the editing pane popup.

#### curve

Similar to drawing a line; however, it takes an extra point to determine the curved line. To draw a curve, go to your start point, then press and hold the left mouse button. Move the brush to the next point and release the mouse button. There should be a "rubberband" line joining the two points. To specify the curvature of your line, move the brush (which now resembles a crosshair) to another point to define the apex of the curve. You will see a repeated drawing of a curve line as it tries to follow the apex point.

When the desired apex is reached, click the left mouse button. The final curve line will appear and link up the three points.

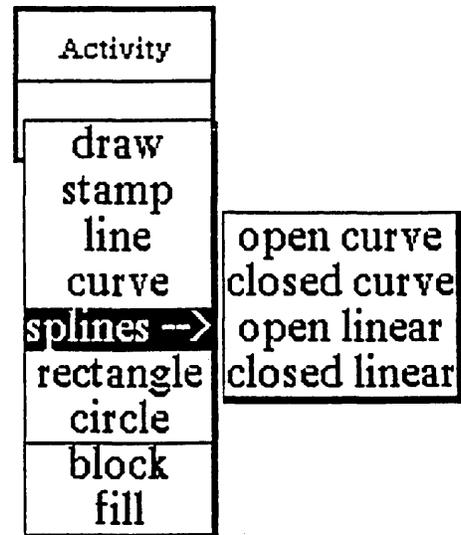
#### splines-->

The following four commands will enable you to draw connected, straight, or curved lines of your choice.

**open curve.** Here, a set of points are put in to define the curved line to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will draw the curve. The numbers will disappear and the points will be connected in the order of their entry sequence.

**closed curve.** This is like the open curve, except that it will draw a closed, connected curve so that the result is a continuously connected line, with the last point connected back to the first point.



A set of points are put in to define the curved line to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will draw and close the curve. The numbers will disappear and the points will be connected in the order of their entry sequence.

**open linear.** A set of points are put in to define the lines to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will terminate the action. The numbers will disappear and the points will be connected by straight lines in the order of their entry sequence.

**closed linear.** This is like Open Linear, except that it will connect the last point to the first point. A set of points are put in to define the lines to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will terminate the action. The numbers will disappear and the points will be connected by straight lines in the order of their entry sequence, including the connection from the last point to the first point.

#### **rectangle**

When this function is selected, the cursor assumes the shape of the upper left (Origin) cursor as soon as it is moved into the editing pane. You can then frame the size of your rectangle by pressing the left mouse button, just as you can frame certain types of windows when you open them.

#### **circle**

Select this, and when the cursor assumes a crosshair shape in the editing pane, press the left mouse button at the point where you want the center of the circle to be. Move the crosshair away from the center of the circle in any direction and note the "rubberband" line that will indicate the radius of the circle. After you have chosen the appropriate radius, release the mouse button. A circle will draw itself about the center point at the specified radius.

#### **block**

Fills a rectangular area (that you have just defined) with any color or pattern currently in the Color button. The rectangular area is not outlined.

#### **fill**

Fills a rectangular area (that you have defined) with the current color or pattern in the Color Button. There are two steps to filling an area. First, the Origin cursor appears and you define the rectangle (so the fill command will have an outer boundary). After this, the crosshair cursor appears; you now click with the left mouse button to indicate that the area within the rectangle is to be filled.

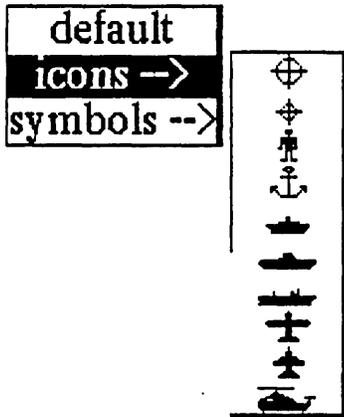
## 2. Brush Button

This button provides all the graphics tools for manipulating the shape of the drawing brush. The Brush Button popup menu contains the following options:

### default

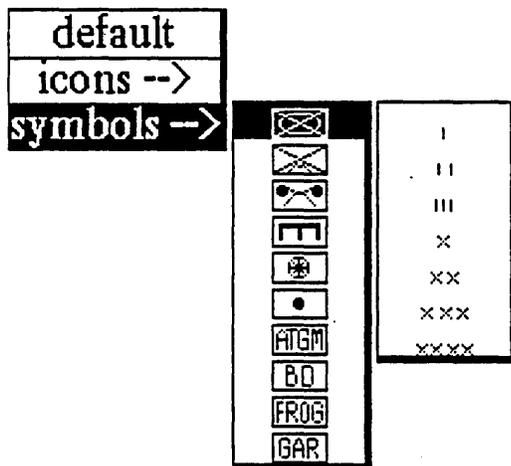
This resets the current brush form to be a 4-pixel by 4-pixel black square.

### icons -->



Moving the cursor to the right along the arrow will produce a scrollable submenu of all of the available annotation forms or icons. Select the desired icon and the Brush Button will carry its shape. When you move the cursor into the editing pane above, copies of the selected icon may be placed onto the image by clicking the left mouse button.

### symbols -->



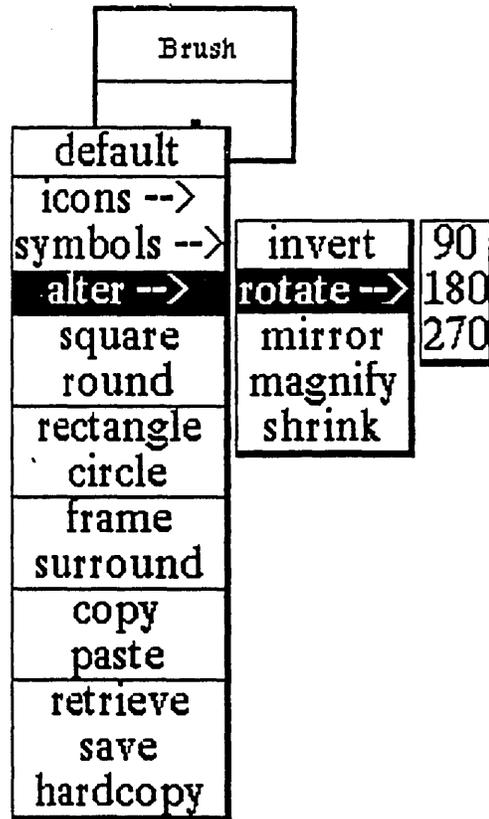
Moving the cursor to the right along the arrow will produce a scrollable submenu of all of the available symbol forms. Furthermore, to the right of each of these forms is another submenu (although no --> indicates this). If required, you may go two levels for your selection: once you have selected the desired symbol from the first submenu, move to the right of the selection to the next submenu to further modify the symbol. The resulting form will be displayed in the Brush Button. When you move the cursor into the editing pane above, copies of the selected form may be placed onto the image by clicking the left mouse button.

### alter -->

This tree popup branches off to five other subfunctions, all of which allow you to manipulate the current brush form:

**invert.** After selecting this, the brush form will be color-reversed: the black bits will become white bits and the white bits will become black bits. This is sometimes referred to as "reverse video."

**rotate -->.** The submenu selections to the right give you the choice of rotating your brush form 90, 180, or 270 degrees. The "brush form," in this case, should be a symbol, an icon, or some sort of framed image;



the default brush (a 4 by 4 pixel square) would reflect no rotation alterations. The rotation is always clockwise, so that two 90-degree rotations will be equivalent to a 180-degree rotation.

Note that this option, along with the mirror option, allows you to generate many combinations of the existing icon or symbol forms.

**mirror.** This "mirror-images" the x-axis of the brush form. For example, if you have a brush form that looks like ">" in the beginning, the brush will look like "<" after mirror is used. In order to mirror the y-axis, mirror the x-axis first and then do a rotate -->180 from the popup.

**magnify.** Enlarges the current brush form, after you have typed the width and height magnification factors (whole numbers only) into the Prompter that appears. The form represented on the Brush Button will immediately reflect the change.

**shrink.** Reduces the current brush form, after you have typed the width and height reduction factors (whole numbers only) into the Prompter that appears. The form represented on the Brush Button will immediately reflect the change.

### **square**

After selecting this, a Prompter requests you to specify the new size for the square brush. The square brush form of the new specified size will be produced, using the current color or pattern in the Color Button.

### **round**

Produces a round paint brush (the default is square) with the current color or pattern in the Color Button. A Prompter will request the radius for the round paint brush.

### **rectangle**

A Prompter will request that you specify the line width (thickness) for the rectangular brush. You will then frame the rectangle to the desired size and it will become the brush form. This allows the rapid generation of many boxes of the same size.

### **circle**

A Prompter will request you to specify the line width for the circular brush. You will specify the size of the desired circle by placing its center on the pane (by pressing the left mouse button) and "rubberbanding" out to the desired radius. It will promptly become the brush form.

### **frame**

After selecting this, the Origin cursor appears and you will define a rectangle that encompasses your desired screen material; that is, the particular area of the editing pane that you wish to become the brush form.

### **surround**

This resembles **frame**, but allows you to pick up irregular images that might be difficult to outline with that function. The normal cursor image is displayed; you will press the left mouse button and use it like a pencil to surround or "rope" the screen image. After releasing the mouse button, the crosshair cursor appears. Next, click with the left mouse button as close as possible to the roped-off image (or even inside the image). The brush form will assume the shape of the surrounded object.

### **copy**

Takes the image currently in the Brush Button and puts it into the transfer buffer. For example, you may **copy** the Brush Button and **paste** it into the editing pane or into the editing pane of another graphics editor. This gives you the ability to move a chart from one image-type editor to another.

### **paste**

Takes the image currently in the Brush Button and replaces it with the image in the transfer buffer. For example, you may **copy** or **cut** a piece of text from the text pane and **paste** it into the Brush Button. This can be done using text or graphics from either this Chart Editor or another graphics editor.

**retrieve**

Allows you to get a brush image from the Information Center's transfer buffer. The item in the transfer buffer must be an image in order for the operation to work correctly.

**save**

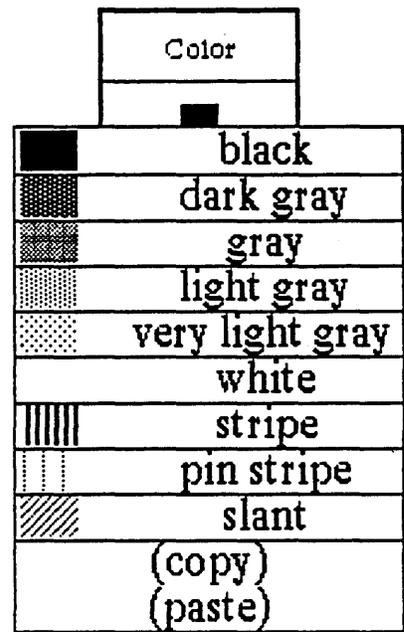
Allows you to store the current brush form into the Information Center of your choice and onto the disk for later retrieval.

**hardcopy**

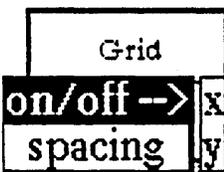
After selection, a hardcopy Q-Box will appear, requesting information such as printer name, number of copies, and so on. After you have typed in this information (or you may wish to leave the default settings), select accept. "Done" or "printing successful" will appear at the top right of the screen later on, when the file has been printed.

**3. Color Button**

The Color Button allows you to change the color or pattern used by the brush form to any of those shown on the popup (see illustration). Besides the colors and patterns that you see on the menu, you may also create your own patterns. One way is to paste a standard pattern into the brush image, then use your imagination and the brush manipulation tools to create a new pattern. Once this pattern is pasted into the Color Button, you will be able to start drawing with it.



**4. Grid Button**



The Grid Button popup options can cause an invisible grid to become part of the editing pane, which will enhance accurate cursor positioning. You may set the spacing of the grid in both x and y axes; moreover, you can turn the grid on or off in either the x or y axis to allow maximum flexibility.

**on/off -->**

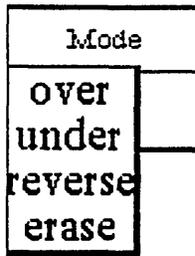
You may select on or off from here in the x or y axis; this feature works like a switch that will "toggle" the gridding on and off accordingly. For example, if your current x axis gridding is on, the command on/off and x will turn the x axis gridding off. If you repeat this procedure, you will find that the x axis gridding will return to off. This is also true, of course, for y axis gridding. The current status will always be displayed in the Grid Button.

**spacing**

Sets the spacing in the horizontal and vertical direction separately. After selection, a Prompter appears requesting the spacing for each direction; enter whole numbers only. If either of the gridding axes is on, its corresponding spacing value will also be shown next to it to help you determine the gridding distance.

## 5. Mode Button

The setting of the Mode Button will determine the method in which the brush form is to be added to the editing pane.



### **over**

The brush form you draw with will be drawn over the image in the editing pane. The white bits in the brush form are not transparent and will overlay (cover) the image.

### **under**

The brush form you draw with will be drawn under the image in the editing pane. Only the black bits in the brush form will be set on the screen, because the white parts of the brush image are now transparent.

### **reverse**

The white bits in your brush will have no effect on the image, which is under the brush. But the black bits in your brush will turn the black bits in the image under the brush white. Similarly, the black bits in your brush will turn the white bits in the image under the brush black.

### **erase**

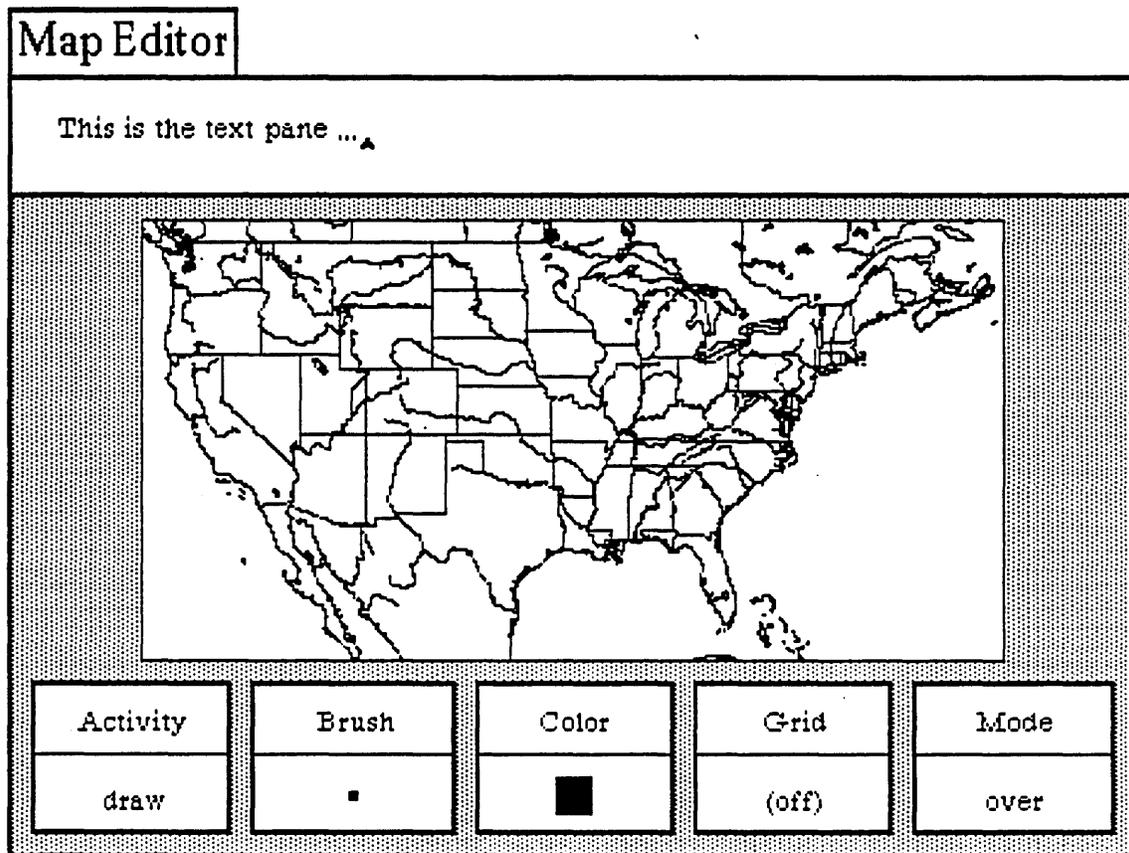
The black bits in the brush form will set any black bits on the screen to white, thus making the image invisible. The white bits in the brush form will again have no effect on the screen image.

## The Map Editor

### OVERVIEW

The Map Editor provides the capability of displaying or creating images generated from a digital geographic database, which can then be edited and annotated. Areas of maps may be specified, expanded, and then annotated from other databases, which might be files of cities, harbors, depots, or anything else useful as a map annotation.

The Map Editor window is similar in structure and function to that of a Sketch Editor. Only the commands in the tree popup menu in the map editing (middle) pane are different.



### OPENING A MAP EDITOR

Each user of the Analyst-85 software receives a set of relevant maps that are stored in an Information Center. Any of these maps can be used as a template for a user-created map by modifying an existing map and storing it as a new map, or zooming on a particular area of an existing map and storing it as a new map.

### MAP EDITOR WINDOW DESCRIPTION

When you open a Map Editor you will see three main areas (or panes) in the window:

- The top or *text pane*, which acts very much like a regular text window, although there are fewer popup options. Here you may enter text or edit it to suit the requirements of the map below. Text entries are added to the map by placing the typed-in text into the transfer buffer (using copy from the popup) and then using paste

from the Brush popup in the button pane. This will make the Brush button cursor take on the shape of the text, and all you need do is move the cursor to the area in the editing pane where you want the text to appear, and click the left mouse button.

Information returned from certain map queries is also displayed in this pane. For instance, when lat/lon is selected from the map editing popup menu, the latitude/longitude of the cursor point is displayed and updated as the cursor is moved about the map. When distance/bearing queries are made on the map, the result is also displayed here.

- The middle or *map editing pane* where the map itself and other related graphics are represented.
- The bottom or *button* pane which has five "buttons" across the window. Each button is represented as a rectangle with an upper half that contains the button title (Activity. Brush. Color. Grid. Mode) and a lower half that displays the currently selected option.

We shall now describe in detail the three main panes of the Map Editor and the interacting popup menu options for each one.

## Map Editor Text Pane

The left, middle, and right mouse buttons function within the text (top) pane of the Map Editor in the following ways:

### LEFT MOUSE BUTTON

The left mouse button retains its normal operations in the text pane of moving the insertion mark (or caret) around to determine where text entry is to occur and to select blocks of text to be edited.

### MIDDLE MOUSE BUTTON POPUP

The middle mouse button in the text pane brings up a variation of the standard text manipulation popup:

#### **again**

Repeats the last copy or cut edits that you do.

#### **undo**

Reverses the effects of the last command. For instance, if you have mistakenly deleted text, **undo** will put it back in.

#### **copy**

Puts a copy of the current selected text into the transfer buffer.

#### **cut**

Deletes the current selected text and puts it into the transfer buffer.

#### **paste**

Places, at the insertion mark, whatever information is currently in the transfer buffer.

#### **search**

Searches for selected text in a designated Information Center. First, the "Information Centers" Q-Box appears, then a "Searching" Q-Box, which will search by title or full text, and item type.

#### **compute it**

Takes selected text, evaluates it, and displays the result. For example, if you type in "2 + 3" and select it, then select **compute it**, the number "5" will appear.

### **time stamp**

Displays the day-month-year and current time in the upper lefthand corner of the text pane.

### **fonts--> regular or underlined**

Allows you to change selected text to whatever typeface is chosen from the resulting scrollable tree popup menu, including bold, italic, underlined, and different text sizes.

## **RIGHT MOUSE BUTTON POPUP**

The right mouse button popup displays the standard window popup menu that is described in Section II of this document, titled "The Analyst-85 Windows."

## **Map Editor Editing Pane**

This pane acts as a canvas upon which you may create freeform edits to your maps or construct more formalized graphics and images, all with the help of the popup features exhibited by the five separate "buttons" of the button pane below. A modified map may be stored as a file for later retrieval; a hardcopy can also be made of it.

The left, middle, and right mouse buttons function within the map editing (middle) pane in the following ways:

### **LEFT MOUSE BUTTON**

If you press and hold down the left mouse button and move the cursor around with the mouse, the cursor becomes a pencil or paintbrush that will draw within the pane whatever movements you make with the cursor; this is much like a "freehand drawing" feature. The width, shape, and color of the lines are determined by the Brush and Color buttons. If you don't want to use the default or current button settings, you need only select the appropriate option from the button popup, and the graphics item will be drawn using that option. The cursor can also change to become whatever shape the current Brush button is. The Brush shape is added to the map by clicking (or pressing) the left mouse button. In other words, the exact manner in which the Brush shape is added to the map will be determined by the state of the five graphic control "buttons" in the lower button pane. These buttons interact with each other and the editing pane in a variety of ways too numerous to describe here, but you will be able to discover them as you read about the popup options and actively use the Map Editor.

### **MIDDLE MOUSE BUTTON MENU**

The middle mouse button controls a popup menu with the following options:

#### **reset**

Sets all five buttons in the button pane back to their default settings. Reset does not reset anything in the text or map editing panes. The defaults are:

- ★ draw (Activity button)
- ★ a 4-pixel by 4-pixel black square (Brush button)
- ★ black (Color button)
- ★ off (Grid button)
- ★ over (Mode button)

**accept**

Takes a "snapshot" of the map you are currently working on. That is, the map will be saved, so that if you do a **cancel** afterwards, you will get this image back. If you are working on a complex map, it's a good idea to do an **accept** as you complete each stage of your work.

**cancel**

Returns you to the map that existed after the last **accept**. It will undo everything you have done since then. This saves you the trouble of laboriously trying to erase or cover up changes that you find you don't like. If you started with a blank sketch, a **cancel** without any previous **accept** will put you back to a blank sketch creating pane. Therefore, it's wise to do an **accept** whenever you have completed a portion of the sketch that you know you'll want to keep.

**copy**

Stores the current map in the editing pane into a "transfer buffer," so that you may transfer a copy of the map to another compatible window or to a Brush. For example, you may **copy** a map or part of a map and then **paste** it into another graphics editor or image-type window. You cannot transfer a map into a *text* window.

**paste**

Places the contents of the transfer buffer into the map editing pane. For example, when you use the upper text pane to type in text, first select it, then **copy** it, then select **paste** from the Brush button popup. The brush shape will change to whatever text is in the buffer. You then go to the desired location for the text in the map editing pane and click the left mouse button to add the text to the map.

**erase**

Gets rid of all pane contents and the pane is wiped clean. If you accidentally select this option, selecting **cancel** will recover the last map saved with an **accept**.

**invert**

Reverses the bits in the map image; that is, all the white bits will be set to black, and all the black bits will be set to white.

**magnify**

Enlarges a specific area of a map so that you can "fine tune" the changes to individual bits that make up a map. Individual bits are very small, and using this feature enlarges them so they are more easily worked on. After selecting **magnify**, you specify the area to be magnified by framing a rectangular area in the map editing pane (the system will ignore any areas outside of the editing pane). The amount of magnification that occurs is determined by the size of the area that is framed. Therefore, when displaying the magnified area on the screen, the rule is: the larger the framed area, the smaller the magnification used.

After framing the desired area, a magnified form of it appears. You will then find a suitable screen location and place the magnified form by clicking the left mouse button at that point. Do *not* place the magnified form over the site of the original selected area, as the system has trouble handling this type of overlay.

The cursor takes on the shape of a crosshair. As you edit the magnified form, the changes you are making there are also occurring on the normal-sized map form. Each click of the left mouse button will either add one

|               |
|---------------|
| reset         |
| accept        |
| cancel        |
| copy          |
| paste         |
| erase         |
| invert        |
| magnify       |
| save file     |
| hardcopy      |
| databases --> |
| location-->   |
| redraw map    |
| zoom          |
| animate       |

bit where there is none, or delete a bit that is already there. When you have finished editing, select **accept** from the popup (or **cancel** if you change your mind). Move the crosshair cursor out of the magnified form and click the left mouse button once to close the form and return to the sketch.

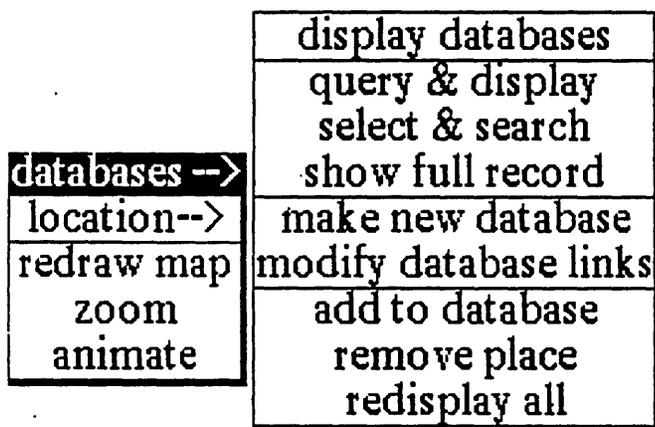
**save file**

Stores the map onto the disk and into an Information Center (using **paste**) for later retrieval. If this is an already existing file, **save file** will cause a Confirmer to appear that asks if you want to overwrite the existing file (**yes** or **no**). If this is a new file, a File Request Q-Box next appears, and here you will specify the name, keyword(s), classification, and target Information Center to store the file in.

**hardcopy**

Causes a hardcopy Q-Box to appear requesting necessary information for printing. Select **accept** at the top of the form when you're finished and the file will be sent on its way to the printer

**databases -->**

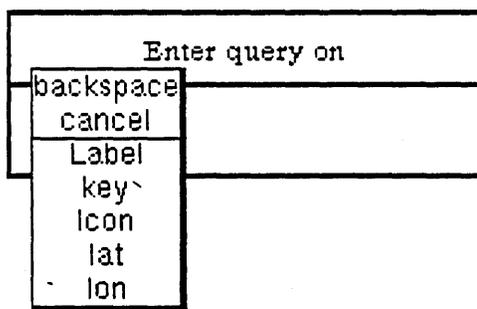


**display databases.** Opens to a list of the current databases. After you select one of the items on the list, the data associated with that item appears on the map. If there are many instances of that item, the information will appear in sequential form.

**query & display.** Allows you to use a query as a filter for information by utilizing a series of query "templates." When you construct a query, a different approach is used to enter most of the information. Instead of typing in text and numbers or selecting from various boxes, you will utilize a series of small popup menus. These menus are designed to keep track of your query syntax (field name – operator – value) and to guide you in forming the query correctly.

In order to illustrate how this works, here is the procedure to make a typical latitude query, such as to display on the map all cities at "latitudes greater than 30":

- Select **query & display** from the popup, then select the desired database from the list that appears. For illustrative purposes, we'll select the item called **Map Cities**. A Prompter will appear next that says "Enter query on."



- Unlike other Prompters, you will not key in text or numbers and terminate it with a <return>. Notice that a mouse cursor appears in the bottom part of the Prompter, with the middle mouse button highlighted. This means that you are to press the middle mouse button to start entering your query.

- After pressing the middle mouse button, a tiny popup appears that contains:

- backspace.** Eliminates (or backspaces over) the current displayed value.
- cancel.** Closes the popup and cancels the query.

The remaining choices in the popup vary, as they represent the current applicable list in the Fields pane of a Database window. In the illustration, one of the variable selections is **lat(itude)**.

- Select lat and observe that lat now appears at the bottom of the query Prompter. Press the middle mouse button again.

- The second popup to appear contains a *fixed* list of operators: `backspace cancel < > = <= >= - contains ~ contains`

- If you want to query latitudes "greater than," select `>` and observe that `lat >` appears in the Prompter. Press the middle mouse button again.

- The third popup contains another fixed list: `backspace cancel enter value`

- Since you're ready to enter the number value of the query, select `enter value`. A Prompter appears that says "Enter a number." This time, key in "30" then press `<return>`.

- The original Prompter reappears and displays the query `lat > 30` at the bottom. Press the middle mouse button again to bring up the last Prompter. Its fixed choices are: `backspace cancel ACCEPT and or xor`

- Since you've finished entering queries, select **ACCEPT** from the menu. The names of all cities at "latitudes greater than 30" will quickly be displayed in their appropriate places on the map.

**select & search.** Searches for database references to your selected item. Selecting this option changes the cursor into a crosshair. Move the crosshair into the map and superimpose it over the crosshair symbol located next to the item name you wish to select, then click the left mouse button. If database references exist, an Origin cursor will appear in order that you may frame and display the folder that contains the references. If no reference exists, a Confirmer will appear that says "There is no reference to this place. Shall I make a new folder?" If you select **yes**, this gives you the opportunity to start a database reference folder for the item.

**show full record.** Selecting this option changes the cursor into a crosshair. Move the crosshair into the map and superimpose it over the crosshair symbol located next to the item name you wish to query, then click the left mouse button. If database references exist, a complete record of the database information will be displayed in the text pane of the Map Editor.

**make new database.** Brings up a "File request" Q-Box, into which you will type in the new database name, any keywords, and select which Information Center it will be filed in. Now if you select **display databases**, the new database name will be listed. There will be no usable database information in it until you do an **add to database**.

**modify database links.** Allows you to connect or disconnect database links to the map. Selecting this option will bring up a "Database connections to [map name]" Q-Box. Every database currently linked to the map is shown in reverse video (selected). The remaining databases not currently linked are not selected. By selecting or deselecting any of the listed databases, you will connect or disconnect that database link to the map.

| Database connections to Continental US Map |                      |                  |                       |
|--------------------------------------------|----------------------|------------------|-----------------------|
| <b>accept</b>                              | <b>cancel</b>        | <b>bailOut</b>   |                       |
| <b>databases:</b>                          | <b>Employee List</b> | <b>Trucks</b>    | <b>US Cities Data</b> |
|                                            | <b>Weather Data</b>  | <b>PJRC</b>      | <b>Nat'l Parks</b>    |
|                                            | <b>Weather Front</b> | <b>Countries</b> | <b>Map Cities</b>     |

**add to database.** Allows you to add information to a database. Selecting this option brings up a list of current databases; select the one that you want to add information to, then the cursor changes into a crosshair. Since the data is new, it will not yet appear on the map, so you must click over the point on the map where you want it to appear. After this, an "Identify this point" Q-Box will appear (see illustration). After selecting **accept**, the newly-entered information will become part of the selected database.

| Identify this point |               |
|---------------------|---------------|
| <b>accept</b>       | <b>cancel</b> |
| <b>bailOut</b>      |               |
| <b>Icon:</b>        | J             |
| <b>Label:</b>       |               |
| <b>Key:</b>         |               |
| <b>Date:</b>        | 25 April 1986 |
| <b>Time:</b>        | 11:07:17 am   |

**remove place.** Gets rid of a database item on the map. Selecting this option changes the cursor into a crosshair. Move the crosshair into the map and superimpose it over the crosshair symbol located next to the name you wish to delete, then click the left mouse button.

**redisplay all.** Refreshes the map; cleans up any leftover bits and pieces and partially obscured names.

**location -->**

**location-->**  
**redraw map**  
**zoom**  
**animate**

**lat/lon**  
**lat/lon grid**  
**dist/bearing**

**lat/lon.** Lists, in the text pane, the latitude and longitude of a map point selected with the crosshair cursor.

**lat/lon grid.** Draws a latitude/longitude grid upon the map. Selecting this option brings up a Prompter that says "Type spacing for grid (deg)." Type in the number and <return>. To get rid of a grid, you must select **cancel** from the middle mouse button popup.

**dist/bearing.** Lists, in the text pane, the distance and bearing of a map point selected with the crosshair cursor.

**redraw map**

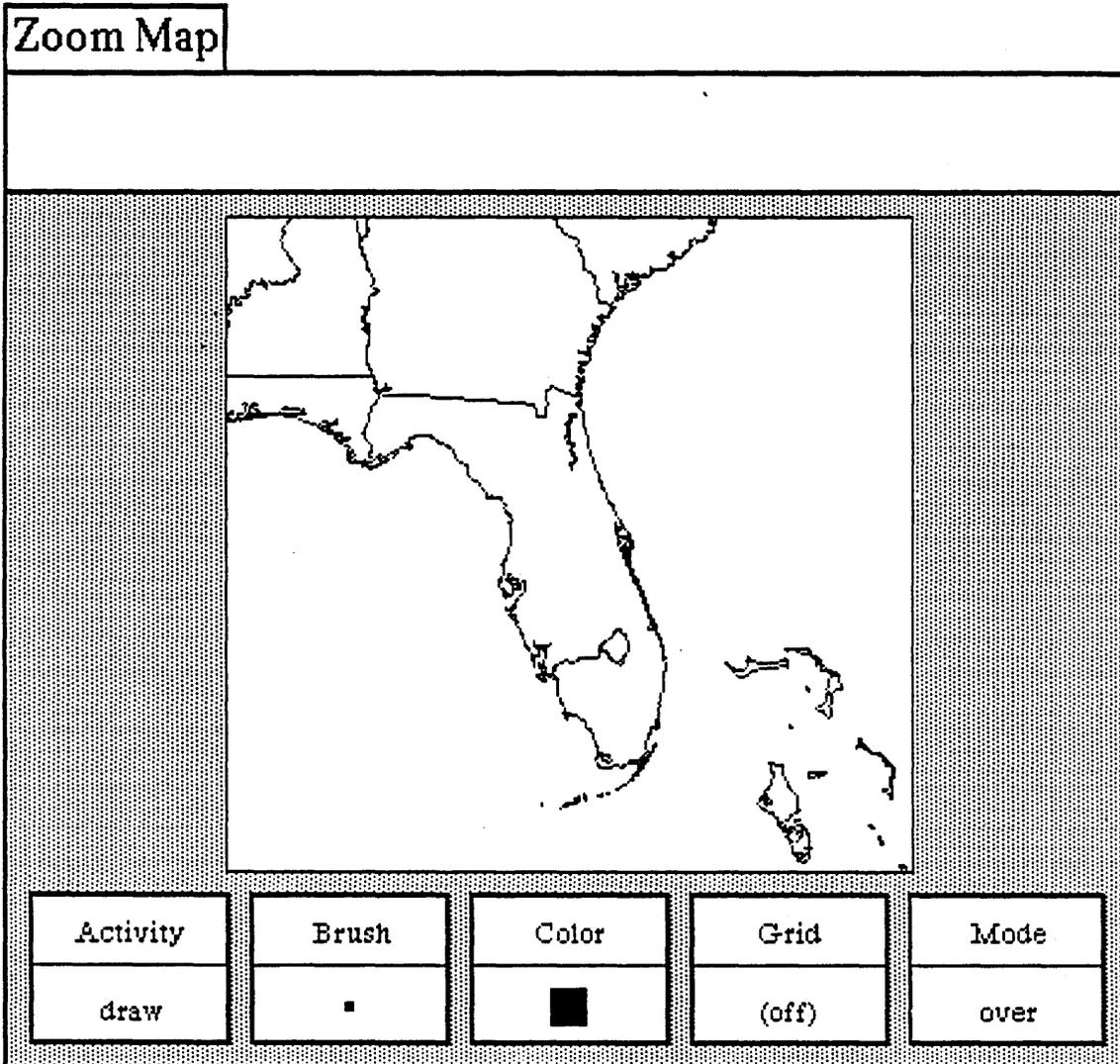
Redraws a complete duplicate map into a size that you have framed:

- Select **redraw map**, which causes the Origin cursor to appear.
- Press and hold down the left mouse button as you frame to the size that you want the redrawn map to be.
- When you release the mouse button, the frame of the map appears on the display. Click the left mouse button and the software will begin to redraw the map to the new size.

**zoom**

Displays an enlarged and sized map area. This is done in several stages:

- Select **zoom** and the Origin cursor appears. Press and hold down the left mouse button as you frame the map area to be zoomed.
- When you release the mouse button, the Origin cursor appears again. This time, press and hold down the left mouse button as you frame the area size to display into (this will be represented by a gray rectangle).
- When you release the mouse button, the frame of the zoomed area appears on the display. Click the left mouse button and the software will begin to draw the zoomed map window.

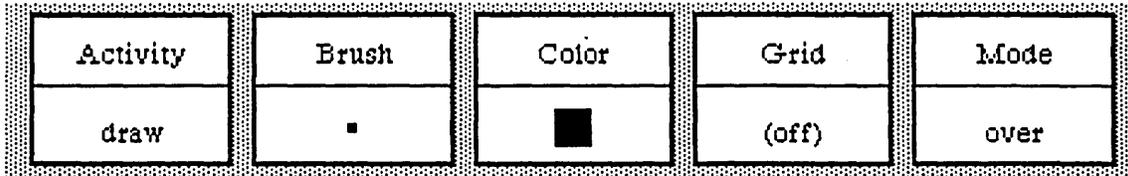


**animate**

Tracks time variant data over a map, such as weather systems moving across a country. This feature is not yet fully implemented.

## Map Editor Button Pane

The button pane at the bottom of the Map Editor window contains the tools to manipulate the map features displayed in the editing pane.



The button pane exhibits five rectangular-shaped buttons, each with two parts: its title at the top and its current popup selection at the bottom. The selection is changed and updated accordingly when a new selection from the button's popup menu is made. These buttons are graphics or image editors.

Since each button has its own unique popup, we will go through every one individually, starting with the Activity Button at the far left and working from there towards the right. The middle mouse button popup menu is the only one described for this pane, since neither the left nor right mouse buttons perform any function in the button pane.

### MIDDLE MOUSE BUTTON MENU

#### 1. Activity Button

The Activity Button sets the mode of operation for the Brush. Its popup menu consists of the following options:

##### draw

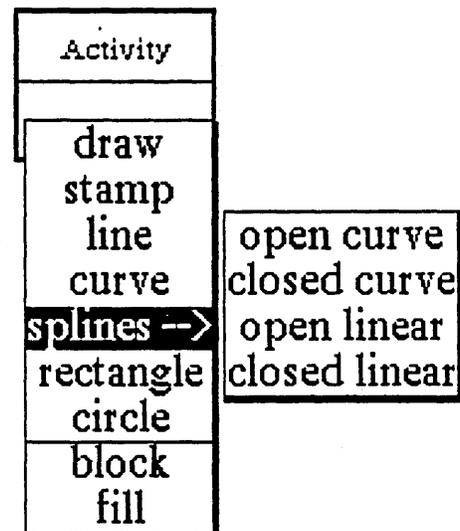
This default setting assures that the cursor will perform like a standard paintbrush. The cursor becomes the brush form currently displayed in the Brush Button, and puts copies (one-at-a-time or continuous) of the form on the editing pane above when the left mouse button is pressed or clicked. If the mouse button is pressed and held down and the brush/cursor moved about inside the editing pane, the brush form will be copied along the path of the brush/cursor.

##### stamp

This option is similar to **draw**, except **stamp** will simply produce one copy at a time of the current brush form, even if the left mouse button is held down and moved inside the editing pane. **Stamp** is used to get the cleanest copy of a brush form.

##### line

Allows you to draw a line with the brush form between two specified points. To specify the start point, go to the location in the editing pane where you want the line to begin and press the left mouse button. Do not release the mouse button; instead, hold the mouse button down and move the brush to the desired end point. The start and end points will be connected by a "rubberband" line that acts as a visual aid. Move the brush up and down slightly until the line is smooth, with no "stairsteps" showing, then release the button. The line will now connect between the two points. If the line isn't what you wanted, select cancel from the editing pane popup.



### **curve**

Similar to drawing a line; however, it takes an extra point to determine the curved line. To draw a curve, go to your start point, then press and hold the left mouse button. Move the brush to the next point and release the mouse button. There should be a "rubberband" line joining the two points. To specify the curvature of your line, move the brush (which now resembles a crosshair) to another point to define the apex of the curve. You will see a repeated drawing of a curve line as it tries to follow the apex point.

When the desired apex is reached, click the left mouse button. The final curve line will appear and link up the three points.

### **splines-->**

The following four commands will enable you to draw connected, straight, or curved lines of your choice.

**open curve.** Here, a set of points are put in to define the curved line to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will draw the curve. The numbers will disappear and the points will be connected in the order of their entry sequence.

**closed curve.** This is like the **open curve**, except that it will draw a closed, connected curve so that the result is a continuously-connected line, with the last point connected back to the first point.

A set of points are put in to define the curved line to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will draw and close the curve. The numbers will disappear and the points will be connected in the order of their entry sequence.

**open linear.** A set of points are put in to define the lines to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will terminate the action. The numbers will disappear and the points will be connected by straight lines in the order of their entry sequence.

**closed linear.** This is like **Open Linear**, except that it will connect the last point to the first point. A set of points are put in to define the lines to be drawn. The brush becomes a crosshair, and points are entered by locating the desired pane point and clicking the left mouse button. As each point is clicked down, it is numbered, starting with "1."

When all the desired points have been entered, a click of the middle mouse button will terminate the action. The numbers will disappear and the points will be connected by straight lines in the order of their entry sequence, including the connection from the last point to the first point.

### **rectangle**

When this function is selected, the cursor assumes the shape of the upper left (Origin) cursor as soon as it is moved into the editing pane. You can then frame the size of your rectangle by pressing the left mouse button, just as you can frame certain types of windows when you open them.

### **circle**

Select this, and when the cursor assumes a crosshair shape in the editing pane, press the left mouse button at the point where you want the center of the circle to be. Move the crosshair away from the center of the circle

in any direction and note the "rubberband" line that will indicate the radius of the circle. After you have chosen the appropriate radius, release the mouse button. A circle will draw itself about the center point at the specified radius.

### block

Fills a rectangular area (that you have just defined) with any color or pattern currently in the Color button. The rectangular area is not outlined.

### fill

Fills a rectangular area (that you have defined) with the current color or pattern in the Color Button. There are two steps to filling an area. First, the Origin cursor appears and you define the rectangle (so the fill command will have an outer boundary). After this, the crosshair cursor appears: you now click with the left mouse button to indicate that the area within the rectangle is to be filled.

## 2. Brush Button

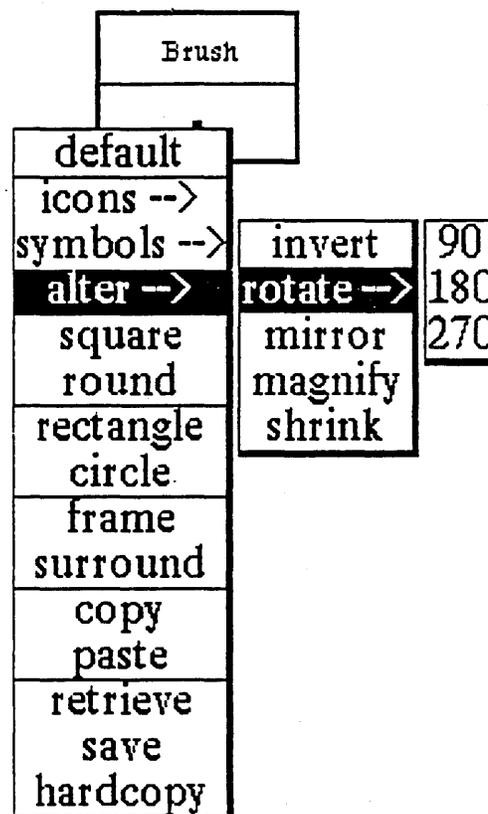
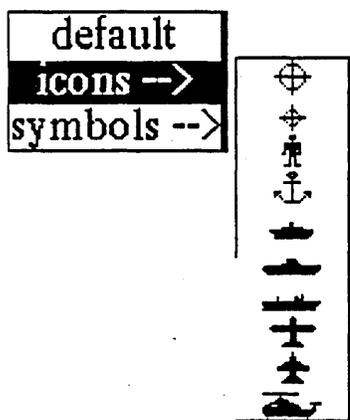
This button provides all the graphics tools for manipulating the shape of the drawing brush. The Brush Button popup menu contains the following options:

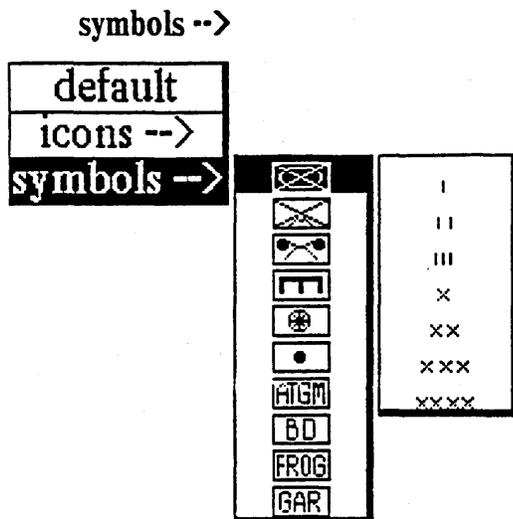
### default

This resets the current brush form to be a 4-pixel by 4-pixel black square.

### icons -->

Moving the cursor to the right along the arrow will produce a scrollable submenu of all of the available annotation forms or icons. Select the desired icon and the Brush Button will carry its shape. When you move the cursor into the editing pane above, copies of the selected icon may be placed onto the image by clicking the left mouse button.





Moving the cursor to the right along the arrow will produce a scrollable submenu of all of the available symbol forms. Furthermore, to the right of each of these forms is another submenu (although no --> indicates this). If required, you may go two levels for your selection: once you have selected the desired symbol from the first submenu, move to the right of the selection to the next submenu to further modify the symbol. The resulting form will be displayed in the Brush Button. When you move the cursor into the editing pane above, copies of the selected form may be placed onto the image by clicking the left mouse button.

**alter -->**

This tree popup branches off to five other subfunctions, all of which allow you to manipulate the current brush form:

**invert.** After selecting this, the brush form will be color-reversed: the black bits will become white bits and the white bits will become black bits. This is sometimes referred to as "reverse video."

**rotate -->.** The submenu selections to the right give you the choice of rotating your brush form 90, 180, or 270 degrees. The "brush form," in this case, should be a symbol, an icon, or some sort of framed image: the default brush (a 4 by 4 pixel square) would reflect no rotation alterations. The rotation is always clockwise, so that two 90-degree rotations will be equivalent to a 180-degree rotation.

Note that this option, along with the mirror option, allows you to generate many combinations of the existing icon or symbol forms.

**mirror.** This "mirror-images" the x-axis of the brush form. For example, if you have a brush form that looks like ">" in the beginning, the brush will look like "<" after mirror is used. In order to mirror the y-axis, mirror the x-axis first and then do a rotate -->180 from the popup.

**magnify.** Enlarges the current brush form, after you have typed the width and height magnification factors (whole numbers only) into the Prompter that appears. The form represented on the Brush Button will immediately reflect the change.

**shrink.** Reduces the current brush form, after you have typed the width and height reduction factors (whole numbers only) into the Prompter that appears. The form represented on the Brush Button will immediately reflect the change.

**square**

After selecting this, a Prompter requests you to specify the new size for the square brush. The square brush form of the new specified size will be produced, using the current color or pattern in the Color Button.

**round**

Produces a round paint brush (the default is square) with the current color or pattern in the Color Button. A Prompter will request the radius for the round paint brush.

### **rectangle**

A Prompter will request that you specify the line width (thickness) for the rectangular brush. You will then frame the rectangle to the desired size and it will become the brush form. This allows the rapid generation of many boxes of the same size.

### **circle**

A Prompter will request you to specify the line width for the circular brush. You will specify the size of the desired circle by placing its center on the pane (by pressing the left mouse button) and "rubberbanding" out to the desired radius. It will promptly become the brush form.

### **frame**

After selecting this, the Origin cursor appears and you will define a rectangle that encompasses your desired screen material; that is, the particular area of the editing pane that you wish to become the brush form.

### **surround**

This resembles **frame**, but allows you to pick up irregular images that might be difficult to outline with that function. The normal cursor image is displayed; you will press the left mouse button and use it like a pencil to surround or "rope" the screen image. After releasing the mouse button, the crosshair cursor appears. Next, click with the left mouse button as close as possible to the roped-off image (or even inside the image). The brush form will assume the shape of the surrounded object.

### **copy**

Takes the image currently in the Brush Button and puts it into the transfer buffer. For example, you may copy the Brush Button and paste it into the editing pane or into the editing pane of another graphics editor. This gives you the ability to move a map from one image-type editor to another.

### **paste**

Takes the image currently in the Brush Button and replaces it with the image in the transfer buffer. For example, you may copy or cut a piece of text from the text pane and paste it into the Brush Button. This can be done using text or graphics from either this Map Editor or another graphics editor.

### **retrieve**

Allows you to get a brush image from the Information Center's transfer buffer. The item in the transfer buffer must be an image in order for the operation to work correctly.

### **save**

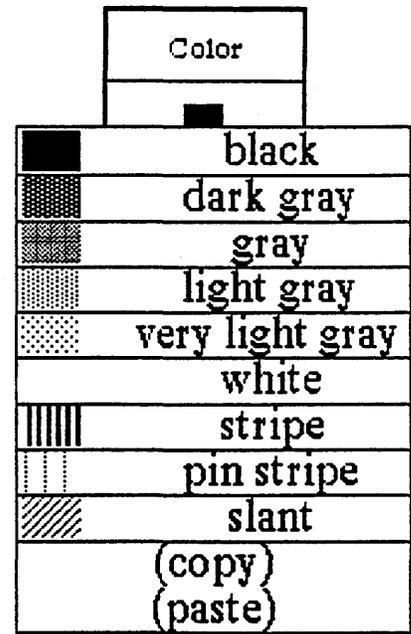
Allows you to store the current brush form into the Information Center of your choice and onto the disk for later retrieval.

### **hardcopy**

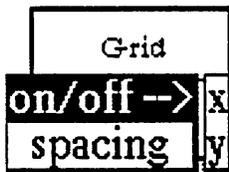
After selection, a hardcopy Q-Box will appear, requesting information such as printer name, number of copies, and so on. After you have typed in this information (or you may wish to leave the default settings), select accept. "Done" or "printing successful" will appear at the top right of the screen later on, when the file has been printed.

### 3. Color Button

The Color Button allows you to change the color or pattern used by the brush form to any of those shown on the popup (see illustration). Besides the colors and patterns that you see on the menu, you may also create your own patterns. One way is to paste a standard pattern into the brush image, then use your imagination and the brush manipulation tools to create a new pattern. Once this pattern is pasted into the Color Button, you will be able to start drawing with it.



### 4. Grid Button



The Grid Button popup options can cause an invisible grid to become part of the editing pane, which will enhance accurate cursor positioning. You may set the spacing of the grid in both x and y axes; moreover, you can turn the grid on or off in either the x or y axis to allow maximum flexibility.

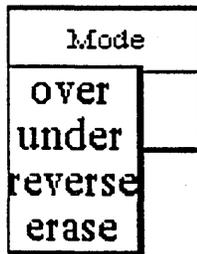
#### on/off -->

You may select **on** or **off** from here in the x or y axis; this feature works like a switch that will "toggle" the gridding on and off accordingly. For example, if your current x axis gridding is on, the command **on/off** and **x** will turn the x axis gridding off. If you repeat this procedure, you will find that the x axis gridding will return to off. This is also true, of course, for y axis gridding. The current status will always be displayed in the Grid Button.

#### spacing

Sets the spacing in the horizontal and vertical direction separately. After selection, a Prompter appears requesting the spacing for each direction; enter whole numbers only. If either of the gridding axes is on, its corresponding spacing value will also be shown next to it to help you determine the gridding distance.

### 5. Mode Button



The setting of the Mode Button will determine the method in which the brush form is to be added to the editing pane.

#### over

The brush form you draw with will be drawn over the image in the editing pane. The white bits in the brush form are not transparent and will overlay (cover) the image.

#### under

The brush form you draw with will be drawn under the image in the editing pane. Only the black bits in the brush form will be set on the screen, because the white parts of the brush image are now transparent.

#### reverse

The white bits in your brush will have no effect on the image, which is under the brush. But the black bits in your brush will turn the black bits in the image under the brush white. Similarly, the black bits in your brush will turn the white bits in the image under the brush black.

#### erase

The black bits in the brush form will set any black bits on the screen to white, thus making the image invisible. The white bits in the brush form will again have no effect on the screen image.

## The Preview Window

### OVERVIEW

The Preview window is a tool for composing documents by combining graphics (such as charts, graphs, maps) and text files. This is accomplished with automatic text wraparound of the inserted graphics. Preview also offers many editing and page composition features not available to the user in regular text windows.

### FEATURES OF THE PREVIEW WINDOW

★ Automatic text wraparound of graphics images. When a picture or graphic image is transferred into a designated Preview window area, you then select a popup menu option called **compose page**, and the text in that area will position itself around or at the side(s) of the image. If you don't like the way the text has wrapped, a few simple manipulations will alter the layout until it is formatted correctly.

★ Many editing options, like the ability to create multiple columns, change margin settings, vary line spacing and justification, and set tabs.

★ A "text page break line" that breaks a page wherever necessary. This will control problems with single lines moving to the next page, or titles being separated from their appropriate text.

★ Rectangular or square "blank spaces" of any size can be created. These blank spaces have many uses, such as a template for positioning later illustrations, a wedge for evening up columns, and a tool to force text into designated areas.

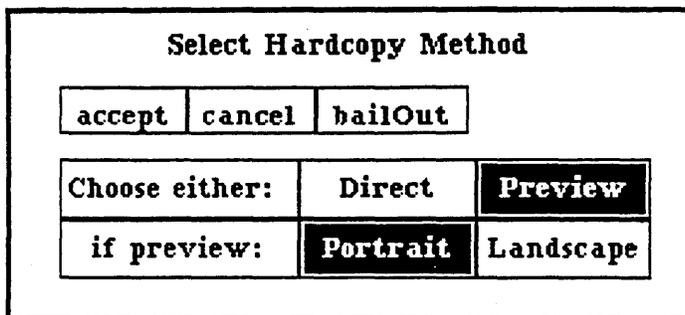
★ Text and graphics appearing in the Preview window are exactly the way they will appear when printed out. Therefore, you can be sure that screen layouts of text and images will be accurate and realistic.

### OPENING A PREVIEW WINDOW

A Preview window is created in either of three ways:

[1] By selecting **create --> preview** from a folder's middle mouse button popup. This will open up a "Create new preview" Q-Box. When you fill that in and select **accept**, the next thing you will see is the Origin cursor, which will be attached to a rather large, fixed-size window outline. Place the outline at a convenient area on the screen and click the left mouse button to open the Preview window (but make sure the entire outline is on the screen when you do this).

| Create new preview    |               |                |              |                |              |              |
|-----------------------|---------------|----------------|--------------|----------------|--------------|--------------|
| <b>accept</b>         | <b>cancel</b> | <b>bailOut</b> |              |                |              |              |
| <b>Name</b>           | preview       |                |              |                |              |              |
| <b>Keywords</b>       |               |                |              |                |              |              |
| <b>Classification</b> |               | <b>Int</b>     | <b>XPers</b> | <b>XPriv</b>   | <b>XReg</b>  |              |
| <b>Controls</b>       | <b>XSIS</b>   | <b>Vista</b>   | <b>Draft</b> | <b>No Page</b> | <b>Align</b> | <b>Align</b> |



[2] By selecting **hardcopy** from the text window's middle mouse button popup, then selecting **preview** from the "Select Hardcopy Method" Q-Box. When the Preview window opens, it will contain the same text as that of the text window it was made from.

[3] By selecting a filename (it must be a text file) from a folder, then **hardcopy** from the folder's middle mouse button popup. The same sequence of actions described in [2] above will occur.

Once a Preview window is created, you can replace or append additional text, add graphics files (which are created separately), and perform a number of editing functions that are not available in a text window. The remainder of this section will describe every editing feature available in a Preview window, and how to insert graphics within the text.

### NORMAL MODE

A Preview window has two modes: a "normal" mode and a "picture layout" mode. Normal is the default. You may switch back and forth between the two states by selecting **picture layout** from the "normal" mode middle mouse button popup, and **back to normal** from the "picture layout" mode middle mouse button popup.

Normal mode contains both text and pictures/blank spaces, while picture layout mode displays only pictures and blank spaces, and *no* text. If an image needs to go on a page that contains no text, the Preview window must be in picture layout mode.

Remember, although you edit or change text in the Preview window, the material in the original *text* file it came from remains the same. Text placed into a Preview window should be as error-free and complete as possible, thus using the editing features only to "fine tune" and format.

For a Preview window that is currently in normal mode, the middle mouse button popup has many text editing options to choose from:

### NORMAL MODE MIDDLE MOUSE BUTTON POPUP

**page -->**

**forward**

Moves forward one page to the next page of the document. If you are on the last page when **forward** is selected, a Prompter will appear that says "This is the last page!" meaning the software knows it cannot go beyond this page. However, images (only) can be placed beyond the last page of a document when the Preview window is in picture layout mode.

**back**

Moves back one page to the previous page of the document. If you are on the first page when **back** is selected, a Prompter will appear that says "This is the first page!" meaning the software knows it cannot go back beyond the first page (in either mode).

**random**

Activates a small scrollable popup that displays numbers 1 through 5, which refer to the page numbers of the Preview file. Selecting one of these numbers causes the file to jump to that page (forward or back, depending upon where you are in the document). This option is useful when, for instance, you are currently

working in a 15-page document, are on page 1, and want to get to page 4. Instead of having to go forward page by page to reach 4, selecting random then 4 will immediately get to page 4.

If you are somewhere in the same document and want to jump ahead more than five pages, scroll the submenu forward through all the page numbers by pressing and holding down the left mouse button as the cursor is placed at the bottom edge of the submenu. To scroll backwards, place the cursor at the top edge of the submenu. Select the appropriate page number when it appears by moving the cursor inside the submenu.

#### **compose page**

Arranges (or re-arranges) the images and text within the current displayed page. This option must be used after every image or text positions change. Preview will compose only what needs to be composed.

#### **compose document**

Arranges every page of the document, starting with whatever page is currently displayed. While composing, the current page number is shown in the page break box below. To stop the composing process, hold down the left mouse button.

#### **hardcopy**

Prints the Preview document. The Q-Box that appears is similar to other hardcopy Q-boxes used throughout the system, except for several additional commands:

- Either the page currently on the screen or the whole document may be printed.
- A major heading can be typed in that will appear at the top left corner on every page of the printed document, except for the first page.
- A minor heading, which will appear under the major heading. It will appear on every page except the first page.

#### **save**

Stores all the information created up to the moment into a file. If this is a new file, save will cause a "File request" Q-Box to appear. The filename, any keyword(s), target Information Center, and classification need to be filled in and accept selected. No Q-Box appears if this is an existing document; it will automatically be saved with all its changes.

#### **justification -->**

There are four types of text justification, which are described below. You may justify one or several lines of a paragraph, the paragraph itself, or a whole page. With the left mouse button, select the justification type and then the line(s) to be justified. When you select a justification type, the cursor will change from the normal upward arrow into an appropriate illustrative shape.

After the designated justification has taken place, you may exit that state by clicking the left mouse button to return to the "regular" cursor, or just by selecting another command from the popup.

#### **full**

This paragraph is full justified and is the default setting for text in a Preview window. The software produces spacing between words so that lines of text starting at or near the left margin will end exactly at the right margin. Most of the text in this document is full justified.

|                                              |
|----------------------------------------------|
| page --><br>compose page<br>compose document |
| hardcopy<br>save                             |
| justification --><br>tab<br>set options      |
| modify text --><br>add pictures -->          |
| picture layout                               |

**left**

The only justification setting for text in a typical text item window (before putting it into Preview). The text begins at the left margin (unless there is a tab or spaces) and ends, with varying spacing, at or near the right margin, giving the right margin a "ragged" look.

**center**

Sets selected text lines to center between the left and right margins. This is a convenient feature to use when centering titles.

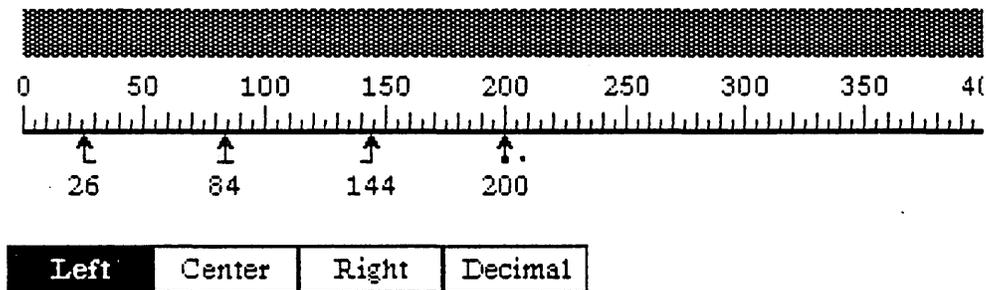
**right**

Lines of text begin at the left margin with varying spacing and give the left margin a "ragged" look. The lines end exactly at the right margin.

**tab**

Tabs must first be entered into your text by pressing the Tab key on the keyboard (either in regular or Preview). Every tab has a default setting, which may only be changed while editing the Preview document. During this time you may also add new tabs, move existing tabs, or delete tabs. To use this feature:

**Preview Window Tab Rule**



- **Select tab:** the Origin cursor will appear. This lets you open and place a Tab Rule (which you will need to make tabs) into the Preview document. You may place the Tab Rule at the top of the document or anywhere within it, because the tab creations that you subsequently make from it will still apply to tabs anywhere in the document.
- The Tab Rule displays one preset tab (in the form of an arrow) with its numerical tab setting shown underneath. The units of measurement on the Tab Rule appear in *points* (there are 72 points to an inch). You can change the measurement unit ahead of time from points to *inches*, *centimeters*, or *picas* by using the "Margin, Column, and Line Settings" Q-Box (first select **set options** from the popup to make it appear).
- Below the Tab Rule is a list of the four types of tabs available: Left, Center, Right, and Decimal. You may select the type of tab ahead of time, or change the tab type after creating it, by selecting the desired tab type, then clicking over the tab to be changed. Notice that the small tab arrow will change shape when you change the type of tab it represents.
- Tab manipulations on the Tab Rule are all done with the left mouse button. Tabs may be moved, deleted, or created:

– To move a tab and change its setting, first place the cursor over it (in the unit number area underneath); press and hold down the left mouse button. The tab will select and appear in reverse video, and the cursor takes on the shape of the left-tab arrow. Move the selected tab to the left or right along the Tab Rule. As you do, the number setting will blink and increase or decrease, depending on the direction you're going. Note that once you've selected the tab, you can move the left-tab arrow cursor above or way below the Tab Rule. It's not necessary to keep the cursor exactly over the tab as you attempt to move it. Release the mouse button when the tab has been moved to the desired location.

– To delete an unwanted tab, merely select it by pressing and holding down the left mouse button and moving the tab completely off the Tab Rule and outside the margin (in either direction). When the mouse button is released outside the margin, the tab disappears. If it's necessary, the tab can move "through" other tabs to get beyond the margin. In addition, a tab is deleted by placing it precisely over another unselected tab: when the mouse button is released, the unwanted (selected) tab will disappear.

– To create a new tab, place the cursor at the desired location on the Tab Rule and either (1) click the left mouse button at the desired location, or (2) press and hold down the left mouse button and move the left-tab arrow cursor until you pinpoint the desired location, then release it.

• The final step in setting tabs is to bring up the Tab Rule's middle mouse button popup. There are two choices on it: **apply** and **bailout**.

– **apply** will recompose and redisplay the page text with all the new tab settings.

– **bailout** will undo all the new tab settings, return them to what they were before, and cause the Tab Rule to disappear from the Preview window.

### set options

Selecting **set options** opens a Q-Box called "Margin, Column, and Line Settings." This offers an opportunity to change the top, bottom, right or left margin settings, to channel the window text into one to four columns, to determine the width between columns (gutter width), to change line leading, and to change the type of tab setting.

– The margin setting units are in inches; there is already a default for each margin that can be typed over to give it a new setting. The range of settings runs from 0.25 to 3 inches maximum for the left and right margins, and 0.75 to 2 inches maximum for the top and bottom margins.

| Margin, Column, and Line Settings |      |               |     |                |        |
|-----------------------------------|------|---------------|-----|----------------|--------|
| <b>accept</b>                     |      | <b>cancel</b> |     | <b>bailOut</b> |        |
| <b>Top</b>                        | 1.0  |               |     |                |        |
| <b>Bottom</b>                     | 1.0  |               |     |                |        |
| <b>Right</b>                      | 0.75 |               |     |                |        |
| <b>Left</b>                       | 1.0  |               |     |                |        |
| <b>Columns</b>                    | 1    | 2             | 3   | 4              |        |
| <b>Gutter Width</b>               | 5    | 10            | 15  | 20             | 30     |
| <b>Tab Unit</b>                   | inch |               | cm  | picas          | points |
| <b>Line Spacing</b>               | 1.0  | 1.5           | 2.0 | 3.0            |        |

- The gutter width between columns is measured in "screen" units; these units increase or decrease in increments of 5 between 5 and 30, and are selected with the left mouse button instead of being keyed in.
- Line spacing can be changed from the default of 1 (single-spaced) up to 3 (triple-spaced).
- Tab settings can be changed from the default, which is measured in *points*, to *inches*, *centimeters*, or *picas*.

When you select or type in a new setting in the Q-Box, the software will automatically rearrange the page to accommodate the new information.

### **modify text -->**

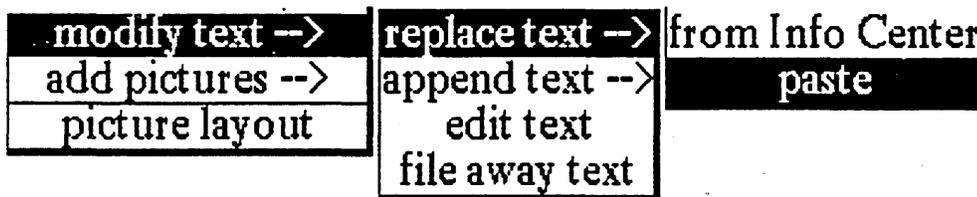
Permits you to replace the entire document text with text from another file. append text at the end of the document, and perform various editing functions.

Ideally, text should be as "finished" as possible before placing it in a Preview window. However, it is realized that not every circumstance can be anticipated, and that it will often be necessary to do some "after-the-fact" editing by adding or deleting space, eliminating or copying text, changing fonts, and so on.

**Modify text -->** contains a number of practical text manipulation features:

**replace text -->**

**from Info Center**



Replaces all the text currently in the Preview window with text from a file selected from an Information Center.

To accomplish this:

- Select the desired filename from the Information Center and select copy (or cut) from its middle mouse button popup in order to store the text in a transfer buffer.
- Next, move back into the Preview window and select **replace text --> from Info Center**. If text is already in the Preview window, a Confirmer will appear that says "Fatal to current text! Continue?" with a yes or no decision.
- Selecting yes will copy all the text from the transfer buffer into the Preview window. The new text will attempt to wrap around any images in the window (images are not overwritten by the text transfer).

**paste**

Replaces all the text currently in the Preview window with text you have previously cut or copied from another opened text window.

**append text -->**

**from Info Center**

Adds text from a file selected from an Information Center to the end of the text currently in the Preview window. To accomplish this:

- Select the desired filename from the Information Center and select copy (or cut) from its middle mouse button popup in order to store the text in a transfer buffer.
- Next, move back into the Preview window and select **append text --> from Info Center**.
- A Confirmer appears that says "Are you sure?" with a yes or no decision.

- If you have not inserted a <return> after the existing Preview text (so the appended text can begin in a new paragraph), another Confirmer says "No CR at the end! Add a CR?" **yes** or **no**.

- When all Confirmer selections have been made, the file text will appear appended to the end of the current Preview text.

**paste**

Appends to text currently in the Preview window the text you have previously cut or copied from another opened text window.

**edit text**

A very important tool, as it offers a variety of Preview editing features and is the only way you may type in, change, or delete text while in Preview.

After selecting **edit text**, observe that the regular cursor arrow will have the word "Edit" attached to it. When it appears, you must select or highlight the particular text area that needs editing, which is done by holding down the left mouse button and moving the cursor up or down over each line of applicable text (you can't select one word or one character only). You may select one line or the entire page this way. As each line is highlighted, it goes into reverse video.

When the mouse button is released, an Origin cursor appears; this will open an editing pane with the text inside it by your simply clicking the left mouse button. You don't have to "frame" the text area first, and you can place the text below or above the actual location of the text. After releasing the mouse button, the selected text appears in a pane with its own scroll bar. The text is no longer in reverse video. Now you can move the cursor into the pane and select characters, words, lines, or paragraphs, in order to edit.

The text editing will be done from the options offered in the pane's middle mouse button popup. These are:

**again.** Repeats the last edit.

**undo.** Reverses the effects of the last edit.

**copy.** You may copy text from another text window or from within the Preview window. In either case you, must first select the text, put it into a transfer buffer, and then **paste** it into the next location. Here is a typical sequence of actions if you want to copy text from the same Preview window:

- Select **edit text**; highlight the text area to be worked on and open the editing pane.

- Inside the pane, highlight the exact text to be copied, then select **copy** from the popup. Select **accept**.

The pane will close.

- Select **edit text** again. Follow the sequence of actions described above, but this time move to the desired point within the editing pane, click the left mouse button to place the insertion caret, and select **paste** to insert the text waiting in the transfer buffer.

- Text from another text window can be copied into a Preview window in exactly the same way; or, text from a Preview window into a text window.

**cut.** Use **cut** to remove text. Since the cut text will be placed into the transfer buffer, it can either be inserted somewhere else or never used (deleted), because as soon as new text is placed into the transfer buffer, any text currently there will be overwritten. If text is to be inserted somewhere within the Preview window or another text window, the sequence of actions are the same as in **copy**.

**paste.** Places, at the insertion caret, whatever text is currently in the transfer buffer.

**accept.** Stores the editing changes.

**cancel.** Restores all edited text to its original form and takes you out of the **edit text** state.

**fonts -->.** Allows you to change selected text, via a scrollable tree popup submenu, to another typeface.

**generate table.** Makes a table from information selected in the editing pane. **Generate table** brings up a Prompter for number of columns, then a Q-Box for column widths; **accept** will create the table.

|                  |               |                |
|------------------|---------------|----------------|
| <b>accept</b>    | <b>cancel</b> | <b>bailOut</b> |
| <b>Column 1:</b> | 1             |                |
| <b>Column 2:</b> | 1             |                |

**file away text**

Files newly-edited text away to your designated Information Center's In Box. Since files that are edited in Preview are different from their original text files, this is a way of storing the edited file. Selecting **file away text** will bring up a "File request" Q-Box where you may fill in the desired filename, any key words, which Information Center to store it in, and so on.

**add pictures -->**

Lets you take pictures or graphics images from other parts of the Preview document or other documents and place them into the Preview window. It also creates and places blank spaces used for templates. You must do a **compose page** after you have added another picture or blank space to the text.

**paste**

Places images or text currently in the transfer buffer into the Preview document. For instance, a typical series of steps involving a chart-would be:

- In an opened chart, select **copy** from the chart's editing pane popup. This will place the chart image into the transfer buffer.
- Move the cursor into the Preview window and select **add pictures --> paste**.
- The image will appear, represented at this time by a movable gray rectangle (or square) with the cursor embedded in the center.
- Click the left mouse button to place the image into the Preview document. The gray rectangle disappears and the copied image takes its place.
- Since the pasted image has no name, the system keeps track of it by calling it "PastedinFilename.image-+x" ("x" is a number). See the description of **from my list** for more information about this.

**blank space**

A "blank space" is like a blank picture. Its shape, which you frame for size, is that of a square or rectangle. A blank space can act as a template for positioning later images, as a wedge for creating space for correct placement of text or pictures, even as a means for evening up column endings. The many uses of variable blank spaces in a Preview document will become apparent as you use them. After selecting **blank space**, the following steps will take place:

- The Origin cursor appears, which allows you to begin to frame the size of your blank space.
- When you have finished framing, the blank space is represented by a movable gray square or rectangle with the cursor embedded at the bottom.
- Click the left mouse button to place the blank space into the Preview document. The gray color will then disappear, replaced by a blank, bordered square or rectangle.

### from screen

Allows you to frame an area of the Preview window or an area of another currently opened window. These framed areas, whether of images or text, are treated as pictures and can be placed into the Preview document by using the following steps:

- Select **add picture --> from screen** to bring up the Origin cursor. Frame an appropriate area of the Preview window or some other open window.
- The newly-framed image is represented by a movable gray rectangle with the cursor embedded at the bottom.
- Click the left mouse button to place the image into the Preview document.
- Since the screen image has no name, the system keeps track of it by calling it "ScreenFilename.image-+x" ("x" is a number). See the description of **from my list** for more information about this.

### from my list

Brings up the list of "Pasted image" and "Screen image" pictures appearing in the Preview document, including pictures removed earlier in the current Preview session. The first number at the left of each ".image" name is the page number that it appears on:

- Select the desired image name from the list.
- When the image appears, it is represented by a movable gray rectangle with the cursor attached.
- Click the left mouse button to place the image into the Preview document.



### from Info Center

Lets you select an image name from an Information Center and place the subsequent image into the Preview document:

- Select the image filename from the Information Center.
- Select **copy** from its middle mouse button popup.
- Move the cursor into the Preview window and select **add pictures --> from Info Center**. You'll immediately observe the representative movable gray rectangle with the cursor attached.
- Click the left mouse button to place the image into the Preview document.

### picture layout

There are two modes or "states" in a Preview window: a "normal" state and a "picture layout" state. You will be in either one or the other. The normal state is that which contains all the text and images you are working on. The picture layout state contains only the images or blank spaces of the document—there is no text. This means you can edit and manipulate images faster, without having to constantly recompose text around them.

The picture layout state middle mouse button popup is almost identical to the normal state popup, except that it contains no menu options that deal with text manipulations.

When you are in the picture layout state and wish to return to the normal state, you merely select **back to normal** from the middle mouse button popup.

### THE TEXT PAGE BREAK LINE

One of the special features of the Preview window is the ability to designate where you want a page to break, therefore avoiding problems like single lines moving to the next page ("widows") or titles being separated from their text. This is accomplished with the *text page break line*.

The text page break line will only separate text material, not graphics. Even if an image appears underneath a text page break line, the image will still remain on the same page, and not move to the next page. An image can be placed by itself on the next page only if the Preview window is currently in picture layout mode.

To use the text page break line, move the cursor over the page number located in the square at the bottom right section of the Preview window. Press and hold down the left mouse button. The square turns gray and is then easily moved up and down the window edge, dragging the bottom line up or down with it. When you release the mouse button, any text under the page break line will move to the next page.

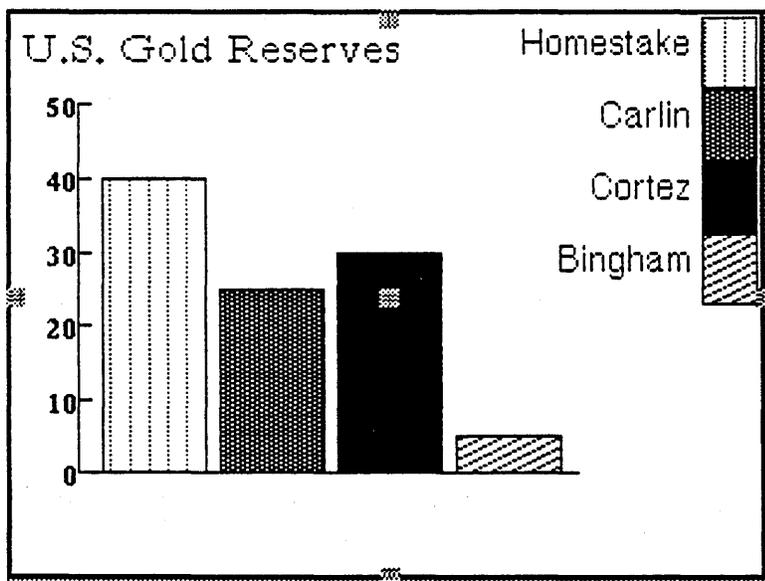
### THE PICTURE AND THE BLANK SPACE

In a Preview document, there are two types of graphics that you will work with:

★ A *picture*, which is a chart, graph, sketch, or some other type of graphical object.

★ A *blank space*, which is a bordered rectangular or square area that contains no graphical material. A blank space is framed to whatever size is needed. Its uses range from acting as a preliminary picture layout device to being a means of correctly positioning text around multiple images. Although the blank space appears to have a border (so that you can see it), the border does not appear when the document is printed. However, you *can* deliberately add a border if necessary with one of its popup options.

Both a picture and a blank space must first be *selected* in order to perform editing functions on them, such as moving, adding/removing borders, widening or narrowing the outside dimensions, and other options. Either type of object is selected by placing the cursor inside it and clicking the left mouse button. You will then see gray "sticky points" at all four corners and one in the center, as the illustration shows.



Editing is performed on a selected graphics object with the mouse or by selecting popup menu options. While a picture or blank space is selected, you cannot perform any text editing (if you're in "normal" state), as the popup menu that contains those options will be unavailable. Instead, the picture or blank space will acquire its own middle mouse button popup menu.

When you've finished editing the graphics object and want to deselect it, move the cursor outside the object anywhere in the Preview window and click the left mouse button. The sticky points will disappear and the regular middle mouse button popup menu is again available. The next thing you will have to do is select compose page from the popup. If you try to use another menu option without recomposing the page, a Prompter will appear that says "Do a recompose first!"

Since a selected picture menu popup is different from a selected blank space popup, each one will be described separately.

### SELECTED PICTURE MIDDLE MOUSE BUTTON POPUP

#### picture -->

##### center

Centers the picture with respect to the outer rectangle so that there is even spacing on all four sides.

##### move

Allows you to move the picture inside its outer rectangle or border, permitting you to "fine tune" the

placement of the picture within that area. This means the movement of the picture is bounded or restricted by the outer rectangle, and there is a difference between moving the *picture* and moving the *frame* with the picture inside.

In order to actually pick up and move the rectangle that contains the picture to another area of the window, you do not use a command from the popup. Instead, the cursor is placed into the sticky point at the center of the picture and the left mouse button is pressed and held down. The picture will temporarily turn into a gray rectangle that follows the cursor's movements. When you come to the right location, click the left mouse button to place the picture.

##### border on

Draws a visible 2-pixel-wide inside border around the picture (not the outer rectangle, if any).

##### border off

Removes the visible inside border from around the picture.

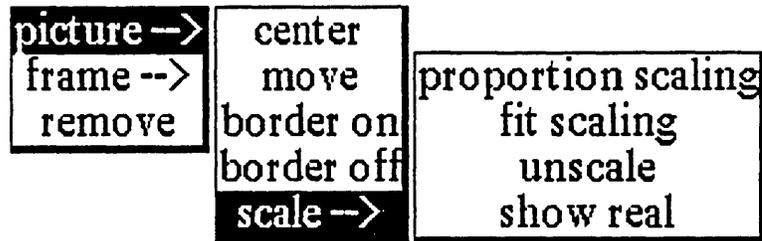
##### scale -->

The following four submenu options deal with scaling or resizing pictures. Due to system graphics constraints, a proportion-scaled or fit-scaled image (explained below) cannot be shown on the screen as it will appear when it's printed. Instead, the newly scaled image is represented by a gray rectangle of the correct size that overlays the original image. If you need to view the original image again, you can select **show real**. If you decide not to scale the image after all, you then select **unscale**.

##### proportion scaling

Allows you to scale an image to a larger or smaller size in the same ratio aspect as the original:

- Upon selection, the Origin cursor appears in order for you to frame the new size of your image. The frame will always stay in direct proportion to the original.
- After framing, release the left mouse button. The image is represented by a blinking, movable gray rectangle attached to the cursor. Click the left mouse button to place the rectangle in the Preview document.



- Even though your image has in actuality been scaled, it can only be shown as a solid gray rectangle with the words "Scaled Image/Prop" appearing in the upper lefthand corner.

- The rectangle can be moved around or deselected.

**fit scaling**

Allows you to scale an image to a larger or smaller size within a rectangular area that you specify. It is possible to deliberately distort the image's x and y parameters:

- Upon selection, the Origin cursor appears in order for you to frame the new size of your image. The frame is flexible and can be sized as desired.

- After framing, release the left mouse button. The image is represented by a movable gray rectangle attached to the cursor. Click the left mouse button to place the rectangle in the Preview document.

- Even though your image has in actuality been scaled, it can only be shown as a solid gray rectangle with the words "Scaled Image/Fit" appearing in the upper lefthand corner.

- The rectangle can be moved around or deselected.

**unscale**

Returns you to your original image:

- Upon selection, a movable gray rectangle attached to the cursor appears. It is the size of the original image.

- Click the left mouse button to place the rectangle into the Preview document. The original image will then re-appear.

**show real**

Shows the original image for comparison in the upper lefthand corner of the newly-scaled image. If the scaled image is much bigger or smaller than the original, show real may show a slightly clipped or smaller original image because of system graphics constraints.

While the original image is being shown, a Prompter appears on the scaled object that says "This is the scaled image!" When you are finished viewing the original image, you may click the left mouse button in the bottom part of the Prompter, and the image will disappear.

**frame -->**

**fit picture**

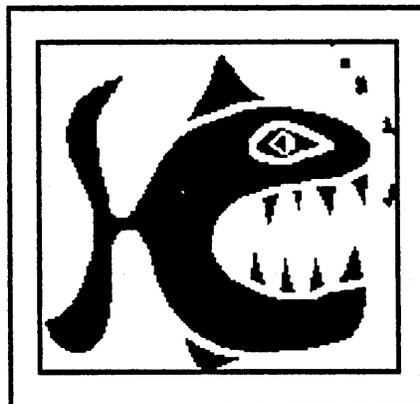
Automatically resizes or returns the frame to a size that fits around the picture.

**border on**

Draws a 2-pixel-wide visible border around the outer rectangle of a picture.

**Note:** a picture normally has little or no frame or outer rectangle around it. The outer rectangle must be created by you. This is accomplished by placing the cursor over the sticky points located in the picture on the top, bottom, left or right side. If you now press and hold down the left mouse button, the cursor will grab and drag the side along as you move the it. Release the mouse button when the desired width has been reached. The borders can be returned to their original dimensions in the same way.

Bordered picture and  
Bordered frame



Even though a border now appears around the outer rectangle, this is just to define the outer rectangle for you so you can see it on the screen; it will actually print out as white space. If you want a *visible* border you must now select **frame --> border on**, so the 2-pixel-wide border can be drawn around the outer rectangle.

You may create a border on one side of the picture, or up to all four sides. If the border is not even on all sides, you can select **picture --> center** to correct the spacing.

One of the most frequent reasons to widen the borders of a picture is to control the text flow around the picture. For instance, suppose it's necessary to center a picture on a page and you wish to have no text appearing on either side. If the picture isn't wide enough, text will flow into available space around both the left and right sides after page composition. The solution is to select the picture so its sticky points are usable, then pull the left and right sides of the picture so the edges meet the margins of the page. Text will then be forced to flow under the picture.

**border off**

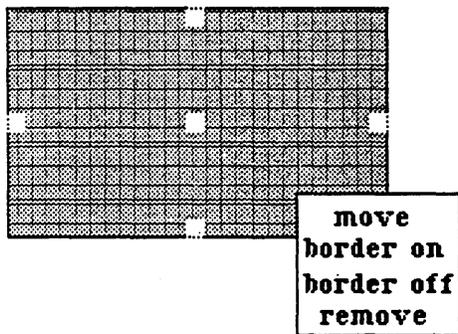
Removes the visible border from around the outer rectangle.

**remove**

Takes the selected picture off the page. The removed picture is placed in a buffer in case you want to use it later. You can get to it again by selecting **add pictures --> from my list**, which contains all the "Pasted.image" and "Screen.image" pictures appearing in the Preview document, including pictures removed earlier in the current Preview session. However, when you quit from the Analyst-85, the removed pictures will not be saved.

**SELECTED BLANK SPACE (Rectangle) MIDDLE MOUSE BUTTON POPUP**

**A "blank space" with its popup**



The selected blank space has its own middle mouse button popup. It also contains "sticky points" (as does a selected picture), which means that you can move a blank space by selecting its center sticky point, or increase or decrease the size of the blank space by selecting the sticky point at each side and pulling it. There is no inside border *and* outside frame in a blank space.

**move**

Allows you to pick up and move the blank space to another area of the Preview window. The blank space will temporarily turn into a gray rectangle that follows the cursor's movements. When you come to the right location, click the left mouse button to place the blank space.

Another way to move the blank space is by placing the cursor into the sticky point at the center of the blank space and pressing and holding down the left mouse button. The blank space will turn into a gray rectangle that follows the cursor's movements. Again, when you come to the right location, click the left mouse button to place the blank space.

**border on**

Draws a 2-pixel-wide visible border around the blank space.

**border off**

Removes the visible border.

**remove**

Deletes the blank space from the Preview document.

## PICTURE LAYOUT MODE

There are two modes in a Preview window: a "normal" mode or a "picture layout" mode. You will be in either one or the other. The normal mode is that which contains all the text and images you are working on. The picture layout mode contains the images and blank spaces of the document only—there is no text. This means you can edit and manipulate images faster, without having to constantly recompose text.

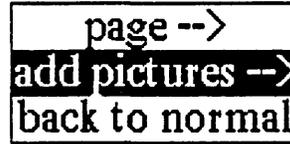
### PICTURE LAYOUT MODE MIDDLE MOUSE BUTTON POPUP

The picture layout mode middle mouse button popup resembles the normal mode popup, except that it contains no menu options that deal with text manipulations. For a Preview window that is currently in picture layout mode (with no selected picture or blank space), the popup menu contains the following items:

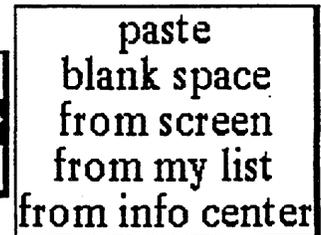
**page -->**

**forward**

Moves you forward one page to the next page of the document. If you are already on the last page when you select **forward**, a Prompter will appear that says "This is the last page!" meaning that you cannot go forward beyond the last page. However, images (regular or blank space) can be placed beyond the last page of a document when the Preview window is in picture layout mode.



**page -->**  
**add pictures -->**  
**back to normal**



**paste  
blank space  
from screen  
from my list  
from info center**

**back**

Moves you back one page to the previous page of the document. If you are already on the first page when you select **back**, a Prompter will appear that says "This is the first page!" meaning that you cannot go back beyond the first page (in either mode).

**random**

Causes a small scrollable popup to appear that can display up to five numbers. This option is useful when, for instance, you are currently working in a 15-page document, are on page 1, and want to get to page 4 next. Instead of having to go forward page by page to reach 4, selecting **random** will display the popup; the numbers will read 1 through 5. While still holding down the left mouse button, select 4 and the document will jump immediately to page 4.

If you are somewhere in the same document and want to jump ahead more than five pages (or jump back), the popup can be scrolled forward through the available page numbers by pressing and holding down the left mouse button while placing the cursor at the bottom edge of the popup. To scroll backwards, place the cursor at the top edge of the popup. Select the appropriate page number when it appears by moving the cursor back inside the popup.

**add pictures -->**

Lets you take pictures from other parts of the Preview document or other documents and place them in the Preview window. It also lets you create and place blank spaces.

**paste**

With a click of the left mouse button, **paste** inserts at the caret whatever image or blank space is currently in the transfer buffer.

**blank space**

A "blank space" is a framable, rectangular object used as a template or as a tool to place text and graphics.

**from screen**

Allows you to frame an area of the Preview window or an area of another currently opened window. These framed areas, whether of images or text, are treated as pictures and can be placed into the Preview document.

**from my list**

Brings up the list of "Pasted image" and "Screen image" pictures appearing in the Preview document, including pictures removed earlier in the current Preview session. The number to the left of each image name is the page number that it appears on.

**from Info Center**

Lets you select an image name from an Information Center and place the subsequent image into the Preview document:

**back to normal**

There are two modes or "states" in a Preview window: a "normal" state or a "picture layout" state. You will be in either one or the other. The normal state is that which contains all the text and images you are working on. The picture layout state contains the images and blank spaces only—there is no text.

When you are in the picture layout state and wish to return to the normal state, just select **back to normal** from the middle mouse button popup.

**RIGHT MOUSE BUTTON POPUP**

In either mode, the right mouse button brings up the standard window popup menu fully described in Section II of this document, titled "The Analyst-85 Windows."

## The Database Tool

### OVERVIEW

The Database Tool is a powerful data management device which allows a user to rapidly call up data, enhance or modify it, create new data, and manage it according to user-specific needs. Database information is flexibly integrated with other Analyst-85 tools through the resources of the Information Center, so that extracted data can be sent to a Chart Editor or accessed in a Spreadsheet. Cartographic information can be stored in a database and accessed by the Map Editor. Individual records may be independently assigned security levels.

| Map Cities |             |                |
|------------|-------------|----------------|
| FIELDS     | HITS        |                |
| Label      | Atlanta     | Label: Atlanta |
| key        | Boston      | key: GA US     |
| Icon       | Buffalo     | Icon: J        |
| lat        | Chicago     | lat: 33.75     |
| lon        | Dallas      | lon: 275.601   |
| -----      | Denver      |                |
|            | El Paso     |                |
|            | Los Angeles |                |
|            | Miami Beach |                |
|            | New Orleans |                |
|            | New York    |                |
| QUERIES    | REPORTS     |                |
| -----      | -----       |                |
| -----      | -----       |                |

Basic functions of the Database Tool are data entry, data manipulation, and data output. Data entry can start from a blank record whose fields are to be filled in from scratch by the user, or from an existing record that may be used as a template for entering the next one. A menu-defined query function assists the user in the creation of a syntactically correct query, eliminating the need for the user to learn the query language and allowing him to concentrate on the question behind the query without worrying about syntax. Data output functions can sort a list of records identified by a query, and then produce a report that can immediately be hardcopied. Selected records may also be sent directly to the Chart Editor to produce line, bar, or pie charts.

### CREATING A DATABASE

A new Database is created in several ways:

[1] By selecting **create --> database** from an Information Center or folder middle mouse button popup. After this, a "Create new database" Q-Box appears that asks for the database name and keywords. Upon selecting **accept**, the Database window opens.

**Create new database**

|                 |               |                |
|-----------------|---------------|----------------|
| <b>accept</b>   | <b>cancel</b> | <b>bailOut</b> |
| <b>Name</b>     | database      |                |
| <b>Keywords</b> |               |                |

[2] By selecting utilities--> make new database from the Hits pane middle mouse button popup. This, in turn, will bring up a "File request" Q-Box to fill in a database name, designated Information Center for filing, and so on.

[3] By selecting databases --> make new database while in a Map Editor's editing pane. If a database is opened from a Map Editor, the Editor will automatically enter some default settings into the database that it will need, such as latitude and longitude.

The Database window has a fixed size and is composed of two rows and five panes. The top row contains the Fields, Hits, and text panes; the bottom row contains the Queries and Reports panes. Each pane's functions and popup menu options are next described separately.

**FIELDS Pane.**

A "field" is a specific area in a record. The Fields pane lists data fields and allows them to be created, modified, and updated as needed. When an item is selected in this pane, its characteristics are listed in the adjacent Hits pane. The Fields pane middle mouse button popup menu offers the following options:

**add**

Adds a new field to the database. Selecting **add** brings up a "Field Entry" Q-Box. It requires the new field name, field length (the probable number of characters needed for the field; the highlighted default is 10), and field type, whether string (text), or number (number of data digits), date, and time.

When you enter the new field *name*, don't type in spaces before or after the name. Furthermore, the field name should be unique among other field names to avoid confusion—no duplicates!

**US Cities Data**

|                                                                                                                                                                                                                                                                                                                                                   |            |               |               |                      |                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------|---------------|----------------------|-------------------|
| <b>FIELDS</b>                                                                                                                                                                                                                                                                                                                                     |            |               |               |                      |                   |
| -----                                                                                                                                                                                                                                                                                                                                             |            |               |               |                      |                   |
| Label                                                                                                                                                                                                                                                                                                                                             |            |               |               |                      |                   |
| Icon                                                                                                                                                                                                                                                                                                                                              |            |               |               |                      |                   |
| lat                                                                                                                                                                                                                                                                                                                                               |            |               |               |                      |                   |
| lon                                                                                                                                                                                                                                                                                                                                               |            |               |               |                      |                   |
| key                                                                                                                                                                                                                                                                                                                                               |            |               |               |                      |                   |
| -----                                                                                                                                                                                                                                                                                                                                             |            |               |               |                      |                   |
| <table border="1" style="margin: auto;"> <tr> <td style="padding: 5px;"><b>add</b></td> </tr> <tr> <td style="padding: 5px;"><b>delete</b></td> </tr> <tr> <td style="padding: 5px;"><b>rename</b></td> </tr> <tr> <td style="padding: 5px;"><b>change length</b></td> </tr> <tr> <td style="padding: 5px;"><b>definition</b></td> </tr> </table> | <b>add</b> | <b>delete</b> | <b>rename</b> | <b>change length</b> | <b>definition</b> |
| <b>add</b>                                                                                                                                                                                                                                                                                                                                        |            |               |               |                      |                   |
| <b>delete</b>                                                                                                                                                                                                                                                                                                                                     |            |               |               |                      |                   |
| <b>rename</b>                                                                                                                                                                                                                                                                                                                                     |            |               |               |                      |                   |
| <b>change length</b>                                                                                                                                                                                                                                                                                                                              |            |               |               |                      |                   |
| <b>definition</b>                                                                                                                                                                                                                                                                                                                                 |            |               |               |                      |                   |

**Field Entry**

|                     |               |                |      |      |
|---------------------|---------------|----------------|------|------|
| <b>accept</b>       | <b>cancel</b> | <b>bailOut</b> |      |      |
| <b>Field Name</b>   | FieldName     |                |      |      |
| <b>Field Length</b> | 10            |                |      |      |
| <b>Type</b>         | <b>string</b> | number         | date | time |

The field *length* is the integer character count for the data field. You must calculate how many characters will probably be needed to define this field. For instance, a typical longitude designation is "241.750" which requires a minimum of 7 characters (include the period in the count). If a length of 30 for a field is specified but use only

25 is used, the length, as far as the system is concerned, will still be 30. There is no harm done here, except some disk space and memory are wasted, and after many such entries this could become significant. If too small a number is entered, the system will truncate the information. That is, if the field called "Los Angeles Basin" is given a length of 15, it will appear as "Los Angeles Bas". These situations are easily remedied with the **change length** menu option. Field lengths must be entered in integers only—no decimals, fractions, or negative numbers.

The answer to field *type* will be determined by the kind of data being entered into the new field name. "String" refers to text material, while numeric material requires "number."

#### **delete**

Eliminates the item in the Fields pane that is currently selected. After selecting **delete**, a precautionary Confirmer appears that asks "Are you sure you want to delete filename?" to which you must click over **yes** or **no**.

#### **rename**

Lets you assign a new field name to an already existing name. After selecting **rename**, a Prompter appears that asks "New field name?" You must then type in the new name and press the <return> key, so the name will be entered into the system.

#### **change length**

Allows the length of the field to be changed. After selecting **change length**, a Prompter appears that asks "New field length?" You must type in the desired number and press the <return> key, so the number will be entered into the system. This command will truncate extra data if the new field length is shorter than the previous field length, and it will pad the fields with blank spaces if the new field length is longer.

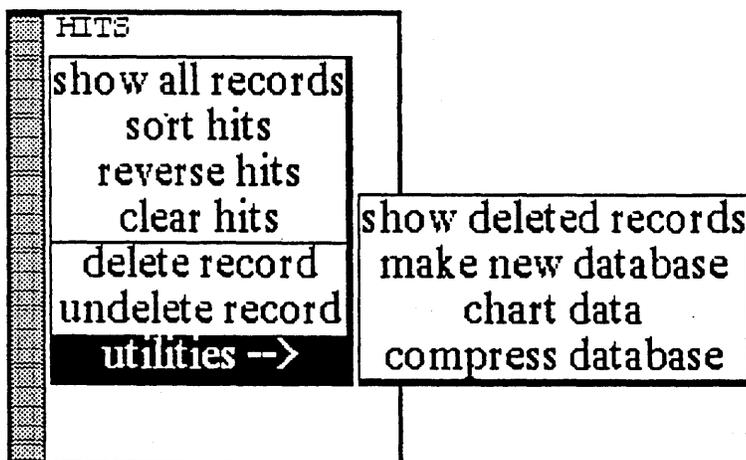
#### **definition**

Displays the characteristics of a selected field name. After selecting **definition**, a Notifier appears that lists the Field Name, Field Length, and Field Type in the top part. When you have finished reading the definition, click in the bottom part of the Notifier where it says "Click mouse here please."

### **HITS Pane**

The Hits pane displays all the records resulting from field names that were selected from the Fields pane. Records can be listed, sorted, deleted, undeleted, and so on.

The Hits pane middle mouse button popup contains the following items:



#### **show all records**

Lists all undeleted records residing in the Hits pane. The records belong to the field currently selected in the Fields pane. If there is no selection in the Fields pane, it will default the selection to the first item in the Fields pane.

#### **sort hits**

Sorts the current Hits pane information in ascending order (as in a, b, c ... 1, 2, 3). The program will only sort the field which is currently selected in the Fields pane. If there is no selection, the program will use the first item in the Fields pane for sorting.

**reverse hits**

Reverses the current Hits pane list. In other words, the first item on the list becomes the last item on the list, the second item on the list becomes the second-to-the-last item on the list, and so on.

**clear hits**

Removes all information from the Hits pane so that only "no hits" is displayed.

**delete record**

Deletes the record currently selected in the Hits pane.

**undelete record**

Brings back a record that has been deleted earlier. To do this, first select **utilities --> show deleted records** from the popup. Next, select the record from the resulting list that you wish to undelete, then select **undelete record** from the popup. If you now select **show all records**, you will get a display of the full list, including the record that you have just undeleted.

**utilities -->**

**show deleted records.** Displays those records that have been eliminated with **delete record**. When you have finished viewing the list of deleted records and wish to return to the previous list, either select **undo query** from the Queries pane middle mouse button popup or select **show all records** again from the Hits pane.

**make new database.** Takes the list of records from the current Hits pane list and makes a new database window from them. After selecting this option a "File request" Q-Box appears to fill in a database name, designated Information Center for filing, and so on. After selecting **accept**, the new database will be filed into the designated Information Center by either selecting **paste** from the Information Center's middle mouse button popup and selecting and opening the file when it appears in the List pane, or by selecting **in box** from the same popup and selecting and opening the file from there.

**chart data.** Transfers the records information currently in the Hits pane to a Chart Editor, where the information will automatically be drawn or charted. To accomplish this, the following steps are taken:

- Select **chart data**, and observe the "Chart data" Q-Box that subsequently appears. Here you must choose how to label the chart, what value(s) are to be assigned to it, and whether the information should be compressed.

- The selectable items appearing after **Labels:** will be the same data field items currently listed in the Fields pane. The selection from this option will display below the x axis of the chart. If you plot an xy chart, select a label for your x axis and a single value for your y axis.

- Unlike other Q-Box entries, **Value:** information is not entered by keying it in or selecting

from different boxes. When you move the cursor into that area and click the left mouse button, the cursor changes into the shape of a mouse with the middle mouse button highlighted. This means that you are to press the middle mouse button to start entering your value(s).

- After pressing the middle mouse button, a tiny popup appears that contains:

**backspace.** Eliminates (or backspaces over) the current displayed value.

**cancel.** Eliminates all current displayed values.

| Chart Data |       |      |        |     |         |
|------------|-------|------|--------|-----|---------|
| accept     |       |      | cancel |     | bailOut |
| Compress?  | yes   |      |        | no  |         |
| Labels:    | Label | Icon | lat    | lon | key     |
| Value:     |       |      |        |     |         |

from different boxes. When you move the cursor into that area and click the left mouse button, the cursor changes into the shape of a mouse with the middle mouse button highlighted. This means that you are to press the middle mouse button to start entering your value(s).

– The remaining choices in the popup can vary, as they represent the current applicable numeric fields associated with the information in the Hits pane that you are charting. You'll be able to input multiple fields for the values, so that cluster bar charts, stack bar charts, and stack line charts can be plotted. One field can also be used to plot bar charts, line, charts, pie charts, and xy charts.

– **Compress?** if selected yes (default is no), the resulting chart will sum or group like items into one comprehensive item. In other words, a "compress" will group all names of the same name together in your label selection, so that the final result will encompass all of them.

Before compression:

| Label    | Value |
|----------|-------|
| Region A | 100   |
| Region B | 200   |
| Region A | 300   |

After compression:

| Label    | Value |
|----------|-------|
| Region A | 400   |
| Region B | 200   |

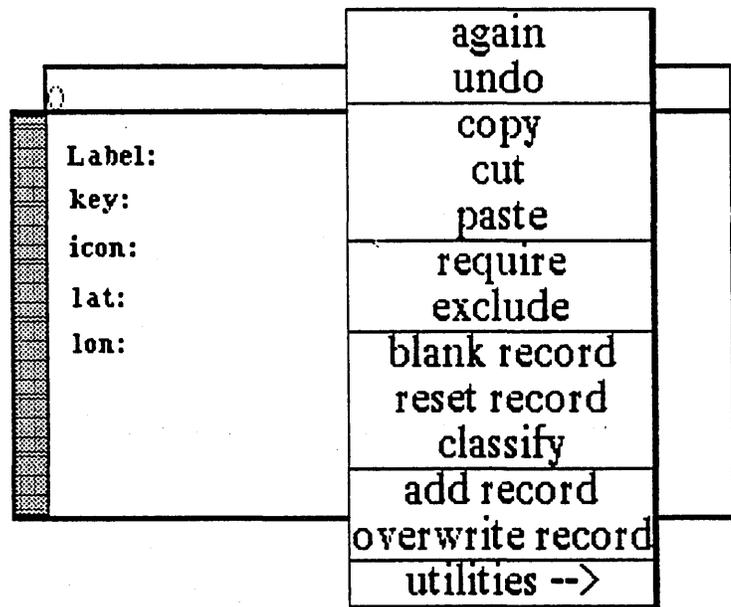
- When you have filled in the Q-Box and selected accept, the Origin (top left) cursor appears in order for you to frame the chart to your desired size. After the chart is framed and you've released the left mouse button, another Origin cursor appears. This represents the top left corner of the complete Chart Editor window; the chart itself is in the middle pane section. Click the left mouse button once to place the window upon the screen.

- If you now wish to edit the displayed chart, add or delete features, increase/decrease the chart font size, and so on, use the chart area middle mouse button popup. Every menu item is described in Section III. "The Chart Editor."

**compress database.** Throws away all deleted items, thereby opening up additional disk space.

### TEXT Pane

This is the (unlabeled) pane for editing information contained in the database records. It automatically displays the relevant information corresponding to the currently selected record in the Hits pane, along with a predetermined set of data fields. The data fields are identical to those currently represented in the Fields pane, so they will vary as the data fields in the Fields pane change. The data fields are "protected," in that they cannot be edited or deleted; they appear in **holdface**. The bar at the top of the Text pane displays the classification (if any) of the record (each record can be individually classified). The classification appears inside the parentheses.



Editing information in this pane is much like editing a record entry form. The editing features available are very simple and the pane is not meant to contain large amounts of text. Using a tab in the Text pane will jump you to the next field and highlight it, and a <return> will place the caret at the beginning of the next field.

The pane middle mouse button popup contains some standard text editing options, as well as some special options:

**again**

Repeats the last copy or cut action.

**undo**

Reverses the effects of the last command. For instance, if text has been deleted, **undo** will put it back in.

**copy**

Puts a copy of the current selected text into the transfer buffer for later placement.

**cut**

Deletes the current selected text and puts it into the transfer buffer for later placement; however, you cannot cut a protected data field.

**paste**

Places, at the insertion mark, whatever information is currently in the transfer buffer.

**require**

A way of doing queries without having to invent a new query. When a record is displayed in the Text pane, double-click one of the fields: **require** will look at values, go through the Hits list, and eliminate everything that *doesn't* contain relevant information.

**exclude**

Given the same situation as in **require** above, **exclude** eliminates everything that *does* contain relevant information.

**blank record**

Leaves the current data fields displayed but removes the information associated with them: this is like getting a blank form to work with.

**reset record**

Puts the record information that was changed back to the way it was before the last **accept** record or before the text was edited.

**classify**

Assigns a security level to the record via the "Change Classification" Q-Box. The entire Database window will display the classification. To remove or downgrade an assigned classification, you must first select the appropriate box in the Q-Box, then either [1] select **compress database** from the Hits pane popup so the software can consolidate the revised information, or [2] select **change length** in the Fields pane popup, which also has the effect of consolidating the information.

| Change Classification |                          |         |       |                          |                          |                          |
|-----------------------|--------------------------|---------|-------|--------------------------|--------------------------|--------------------------|
| accept                | cancel                   | bailOut |       |                          |                          |                          |
| Classification        | <input type="checkbox"/> | Int     | XPers | XPriv                    | XReg                     |                          |
| Controls              | XSIS                     | Vista   | Draft | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**add record**

Adds a new record to the Hits pane list. You may either edit existing data field information or start with a blank form and key in the information before selecting add record.

**overwrite record**

Accepts editing changes made to data field information. Note that a database isn't explicitly "saved" when you're ready to close it, because it has the ability to do that for itself.

**utilities -->**

**compute**

Takes selected text, evaluates it numerically, and displays the result. For example, if you type in "2 + 3" and select it, then select compute, the number "5" will appear.

**search text**

Searches for a text word or item as it is linked to a name or keyword within an Information Center.

To do this:

- Select the record text to be searched for, then select search text from the popup.
- An "Information Centers" Q-Box appears so you may designate which Information Center to conduct the text search in.

| Searching          |                   |                  |                   |              |                |
|--------------------|-------------------|------------------|-------------------|--------------|----------------|
| <b>accept</b>      | <b>cancel</b>     | <b>bailOut</b>   |                   |              |                |
| <b>Search for</b>  |                   |                  |                   |              |                |
| <b>Search type</b> | <b>title only</b> | <b>full text</b> | <b>both</b>       |              |                |
| <b>Item types</b>  | <b>text</b>       | <b>numeric</b>   | <b>calculator</b> | <b>types</b> | <b>numbers</b> |

- A "Searching" Q-Box next appears so you may confirm word(s), search type and item type.
- The results are displayed in a window that lists all the data items containing the information searched for.

**QUERIES Pane**

The Queries pane acts as a "filter" on the database. It allows you to enter and keep track of queries for your particular database; if you wish, these entries can be saved into a constantly updated file so that the next time you open your database, every query not previously deleted will be listed.

The pane's middle mouse button popup menu contains the following options:

|                           |                                                                                                                   |
|---------------------------|-------------------------------------------------------------------------------------------------------------------|
| QUERIES<br>-----<br>----- | show all records<br>sort hits<br>reverse hits<br>add<br>delete<br>delete all<br>query<br>query hits<br>undo query |
|---------------------------|-------------------------------------------------------------------------------------------------------------------|

### show all records

Lists all undeleted records in the Hits pane. The records listed belong to the field currently selected in the Fields pane. If there is no selection in the Fields pane, the software will default to the first item in the Fields pane.

### sort hits

Sorts the current Hits pane information in ascending order (a. b. c ... 1, 2, 3). The software will only sort the field currently selected in the Fields pane. If there is no selection, the first item in the Fields pane will be sorted.

### reverse hits

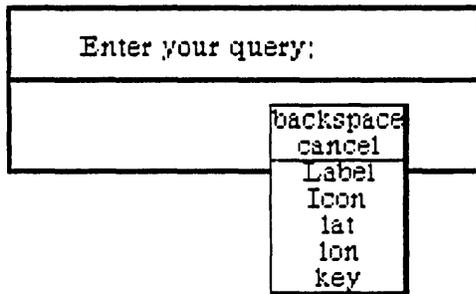
Reverses the order of the current Hits pane list. In other words, the first item on the list becomes the last item, the second item on the list becomes the second-to-the-last item, and so on.

### add

Allows you to add or construct a new query using a series of query "templates." You may then use them to query the whole database or just the information in the Hits pane.

After selecting **add** to construct the new query, a different approach is used to enter most of the information: instead of typing in text and numbers or selecting from various Q-Boxes, you will utilize a series of small popup prompter menus. These menus are designed to keep track of your query syntax (field name – operator – value) and to guide you in forming the query correctly, without syntax errors.

In order to illustrate how this works, here is the procedure to add a typical latitude query that will say "latitudes greater than 30":



- Select **add** from the popup; a Prompter appears that says "Enter your query."
- Unlike other Prompters, you will not key in text or numbers and terminate it with a <return>. Notice that a mouse cursor appears in the bottom part of the Prompter, with the middle mouse button highlighted. This means that you are to press the middle mouse button to start entering your query.
- After pressing the middle mouse button, a tiny popup appears that contains:

**backspace.** Eliminates (or backspaces over) the current displayed value.

**cancel.** Closes the popup and cancels the query.

The remaining choices in the popup vary, as they represent the current applicable list in the Fields pane. In this example, one of the variable selections is **lat(itude)**.

- Select **lat** and press the middle mouse button again. (Notice that **lat** now appears at the bottom of the query Prompter).

- The second popup to appear contains a *fixed* list of operators: **backspace cancel < > = <= >=**  
~ contains ~ contains

- You want to query latitudes "greater than," so select **>** and observe that **lat >** appears in the Prompter. Press the middle mouse button again.

- The third popup contains another fixed list:

`backspace cancel enter value`

- Since you're ready to enter the number value of the query, select `enter value`. A Prompter appears that says "Enter a number." This time, key in "30" then press <return>.

- The original Prompter reappears and displays the query `lat > 30` at the bottom. Press the middle mouse button again to bring up the last menu. Its fixed choices are:

`backspace cancel ACCEPT and or xor`

- If your query is to be more complex than the three simple steps just described, you may extend the query as far as you need to by selecting the logic operators to connect the queries: QueryA and QueryB or (and so on). If you want to finish the query at this point, select **ACCEPT** from the popup. This will place the new query at the bottom of the list in the Queries pane.

- If you now select `lat > 30` from the list with the left mouse button and then select `query` from the pane's middle mouse button popup, the query will be made against the whole database. The results will be displayed in the Hits pane.

#### **delete**

Cuts the current selection in the Queries pane off the list. If there is no selection, the window will flash and nothing will happen.

#### **delete all**

Eliminates all the entries in the Queries pane. This command essentially erases every query entry and starts a new list.

#### **query**

Queries the pane selection against the database, which does not include deleted records. If there is no selection, the window will flash and nothing will happen. You may return to the previous list by selecting `undo query`.

#### **query hits**

Queries the pane selection against the current list in the Hits pane, not the entire database. This command is useful when data must be filtered by stages. For example, if you want to find out those people living in Los Angeles who are over 65, you will query `city = Los Angeles` first to obtain the number of people living in Los Angeles, then query `age > 65` to get the correct answer.

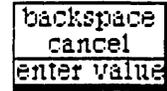
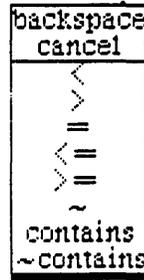
#### **undo query**

Returns the current Hits pane list to the previous list. The current Hits list is transferred into a buffer, so that if you select `undo query` again the Hits pane list will toggle back to the first list.

### **REPORTS Pane**

The Reports pane lists reports (which are different fields) found to be useful for the database, and shows the contents of the Hits list. The format of a report displays the order in which certain fields are to be listed. A report can be saved and retrieved for later use.

The pane's middle mouse button popup menu contains the following options:



### show all records

Lists all undeleted records residing in the Hits pane. The field that is listed is the same field currently selected in the Fields pane. If there is no selection, the program will list the first item in the Fields pane.

### sort hits

Sorts the current Hits pane information in ascending order (a, b, c ... 1, 2, 3). The program will only sort the field which is currently selected in the Fields pane. If there is no selection, the program will use the first item in the Fields pane for sorting.

### reverse hits

Reverses the current Hits pane list. In other words, the first item on the list becomes the last item, the second item on the list becomes the second-to-the-last item, and so on.

### add

Allows you to add a new report using a popup menu as a "template" instead of typing in text or numbers. The popup guides you in forming a report that uses the correct fields. To do this, the following steps are taken:

- Select **add** from the pane popup. A Prompter appears that says "Enter your report."
- Observe that the cursor has changed to a mouse with the middle mouse button highlighted. This means that you are to press the middle mouse button and select the option(s) shown in the resulting popup:
  - backspace**. Eliminates (or backspaces over) the item that appears at the bottom of the Prompter.
  - cancel**. Closes the Prompter and stops making a report.
  - accept**. Saves the new report.

The remaining choices in the popup vary, as they are the same as the current list in the Fields pane.

- Select one or several choices from among the variable list, then select **ACCEPT**. The popup will disappear and the new report name will be at the bottom of the list in the Reports pane.

### delete

Cuts the current selection in the pane off the list. If there is no selection, the window will flash and nothing will happen.

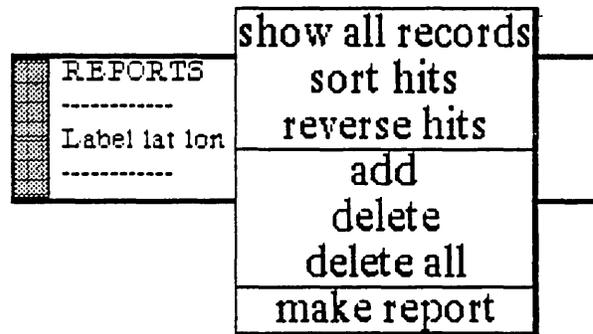
### delete all

Eliminates all the entries in the pane. This command essentially erases every report entry and starts a new list.

### make report

Allows you to create a report in a text window that already contains columns of field information (column spacing is determined by a Q-Box). This information is linked to the report previously selected by you from the Reports pane list. Only the records currently in the Hits pane are used for reporting; to get a report of the whole database, select **show all records** from the Hits pane popup before you generate your report.

In order to create a report, the following steps are taken:



- Select the desired report from the list, then select make report from the pane's popup menu.
- A "Maximum Classification Level" Q-Box appears. "Maximum classification" means that if you select a classification level lower than the default, any record that has a classification level above what you've selected will not print.

| Maximum Classification Level? |      |        |       |         |       |       |
|-------------------------------|------|--------|-------|---------|-------|-------|
| accept                        |      | cancel |       | bailOut |       |       |
| Classification                |      | Int.   | XPers | XPriv   | XReg  |       |
| Controls                      | XSIS | Vista  | Draft | Mr Copy | Print | Print |

• Next, a column widths Q-Box appears which enables you to set the width (in inches only) for up to five columns. When you've finished setting the desired width(s), select accept.

• An Origin cursor will next appear, so that you may frame and open the resulting text window. Inside the window, the field information contained in your selected report is displayed in columnar form (if that option was utilized).

The text window has a middle mouse button popup menu that contains the standard text-editing options: information can be edited, deleted, modified, keyed in, fonts changed, and so on. For a complete description of these options, see the chapter in Section III titled "Word Processing."

| Enter Column Widths in Inches |   |        |  |         |  |
|-------------------------------|---|--------|--|---------|--|
| accept                        |   | cancel |  | bailOut |  |
| Label                         | 1 |        |  |         |  |
| lat                           | 1 |        |  |         |  |
| lon                           | 1 |        |  |         |  |

• If the report contains columns and tabs, as in the "Report from US Cities Data" illustration, you will notice that the columns appear irregular and poorly-spaced. This is because a text window can't display columnar information. However, a Preview window is designed to create and/or display columns and set tabs; therefore, select **hardcopy** next from the text pane's popup and then **preview** from the "Select Hardcopy

## Report from US Cities Data

| Label           | lat    | lon     |
|-----------------|--------|---------|
| Los Angeles     | 34,049 | 241     |
| Washington D.C. | 38,891 |         |
| Boston          | 42,25  | 288,884 |
| Chicago         | 41,849 | 272,351 |
| Dallas          | 33,266 | 263,101 |
| Denver          | 39,766 | 355,0   |
| El Paso         | 31,783 | 253,567 |
| Miami Beach     | 25,799 | 279     |
| New Orleans     | 29,949 | 269     |
| New York        | 40,708 | 286     |
| Pittsburgh      | 40,449 | 280     |
| Portland        | 45,516 | 237     |
| Richmond        | 37,583 | 262     |
| St. Louis       | 38,649 | 269,75  |

- again
- undo
- copy
- cut
- paste
- save
- strip CRs
- search
- hardcopy
- annotation-->
- fonts-->
- utilities-->
- file as new item

Method" Q-Box. When the Preview window opens you will notice immediately that the columns are displayed at exactly the widths that were specified. Putting the report into a Preview window will enable tabs to be set, columns to be modified, and other editing features made available that are not possible in a simple text window.

### RIGHT MOUSE BUTTON

The right mouse button in all five Database panes brings up the standard window popup menu fully described in Section II of this document, titled "The Analyst-85 Windows."

## The Spreadsheet

### OVERVIEW

A Spreadsheet is a modeling device or tool able to explore different types of "what-if" scenarios by referencing a variety of databases. Spreadsheets are used for scientific processing, and can include charts, truth tables, and image processing.

A Spreadsheet is arranged as a two-dimensional array of cells indexed by row and column. Cells contain values that can be computed dynamically from user-specified rules that may reference values from other cells. Spreadsheets in the Analyst-85 can, in addition, be linked together to form powerful distributed Spreadsheets.

Each cell of a Spreadsheet can hold any Smalltalk-80 object, including images, databases, popup menus, and files. New functionality added to the software system is automatically accessible by Spreadsheets without modification to the Spreadsheet application software.

| Spreadsheet Matrix Inverter                                                       |                             | TYPICAL SPREADSHEET |             |    |  |
|-----------------------------------------------------------------------------------|-----------------------------|---------------------|-------------|----|--|
|  | 1                           | 2                   | 3           | 4  |  |
| 1                                                                                 |                             |                     |             |    |  |
| 2                                                                                 | 'Matrix A'                  |                     |             |    |  |
| 3                                                                                 |                             | 4                   | 0           | -3 |  |
| 4                                                                                 |                             | 0                   | 1           | 0  |  |
| 5                                                                                 |                             | -3                  | 2           | 1  |  |
| 6                                                                                 |                             |                     |             |    |  |
| 7                                                                                 |                             |                     |             |    |  |
| 8                                                                                 | 'Matrix (A) <sup>-1</sup> ' |                     |             |    |  |
|                                                                                   | value                       | absolute            | auto update |    |  |
|                                                                                   | nil                         |                     |             |    |  |

### CREATING A SPREADSHEET

Creating a Spreadsheet is done from an Information Center in several stages: first select create --> spreadsheet from its middle mouse button popup menu. Immediately, a "Create new spreadsheet" Q-Box appears, into which you will key in the Spreadsheet's name, any key words, and classification. After selecting accept, the new Spreadsheet name will appear in the same Information Center from which it was created.

**Create new spreadsheet**

|                       |               |                |
|-----------------------|---------------|----------------|
| <b>accept</b>         | <b>cancel</b> | <b>bailOut</b> |
| <b>Name</b>           | spreadsheet   |                |
| <b>Keywords</b>       |               |                |
| <b>Classification</b> |               | Int            |
|                       |               | XPers          |
|                       |               | XPriv          |
|                       |               | XReg           |
| <b>Controls</b>       | XSIS          | Vista          |
|                       | Draft         | for Copy       |
|                       |               | Meta           |
|                       |               | Ctrl           |

At the same time, a Q-Box called "Enter Spreadsheet Dimensions" will appear to receive the intended number of horizontal rows and vertical columns; selecting accept next causes the Origin cursor to appear, with which you can now frame and open the newly-made Spreadsheet window.

**Enter Spreadsheet Dimensions**

|                |               |                |
|----------------|---------------|----------------|
| <b>accept</b>  | <b>cancel</b> | <b>bailOut</b> |
| <b>rows</b>    | 20            |                |
| <b>columns</b> | 20            |                |

**WHAT MAKES A SPREADSHEET**

You will notice several things about a Spreadsheet:

- ★ There is a set of four arrows in the upper left corner. This is the *scroll button*.
- ★ There is a sequential set of numbers with heavy boundaries on the top and left sides. These are the *row* and *column indices*.
- ★ There are *cells* (which are blank in a new Spreadsheet) immediately under and to the right of the index bars.
- ★ Under the cells are a trio of rectangles that are set at the default words "value," "absolute," and "auto update."
  - The one with "value" in it is the *value/rule/label button*.
  - The one with "absolute" in it is the *address mode button*.
  - The one with "auto update" in it is the *update mode button*.
- ★ Finally, at the very bottom, there's a long bar that says "nil" in it. This is the *command bar*. Each of these attributes is discussed next:

### **The Scroll Button**

The scroll button is used to get a *scrolling map* onto the screen. When you click the mouse in the arrowhead area, a rectangle will appear to the left side of the window. This is the scrolling map. It will probably be white in the beginning, but as you enter data into the Spreadsheet, areas of it will become black or gray to signify that there are data in the sheet. This rectangle is a one-fifteenth scale map of how the entire sheet looks. There will also be a light gray area that shows what part of the entire sheet you are seeing right now. To make the scrolling map disappear, click in the center or outside of it.

### **The Row and Column Indices**

These areas are used mainly for changing the shape of a given row or column of cells. Cells can be made very tall, wide, or small. The means to do this are discussed in the "Changing Row/Column Size" section.

The indices give you a convenient reference to where you are in the sheet. They start at Row 1 and Column 1, and grow larger numerically as you go towards the right and the bottom.

### **The Cells**

This is where most things happen in a Spreadsheet, as you point at cells and change their rules and values. This is also where you can copy, cut, and paste cells and rules from one place to another. The cell popup menu is described in "The Cell Menu" section.

As explained before, cells can contain almost any Smalltalk-80 object, from simple numbers to charts, graphs, vectors, files, and matrices. Entire personal databases can be kept in cells, allowing you to both query and analyze them from within a Spreadsheet.

### **The Value/Rule/Label Button**

This button has a middle mouse button popup that contains *value*, *rule*, or *label* options.

Every cell has three parts: a *value* (the information it holds), a *rule* (how it relates to other cells), and a *label* (description). The value/rule/label choices tell the Spreadsheet which part to display in the command bar. Since all changes are made through the command bar, the button also tells the sheet which part of the cell you are trying to change—the value, rule, or label.

### **The Address Mode Button**

This is a simple area to deal with, but it controls a function that can be difficult to grasp at first. The button has a popup that contains the options *absolute* and *relative*.

To better understand the address mode button, you will need to read about what cell rules are, and how the cells refer to each other. Basically, cells can talk about one another in two different ways; that is, "absolutely" and "relatively." This button tells the system which way to do it when it is asked to name a cell.

### **The Update Mode Button**

The update mode button tells the system whether you want everything to update as soon as any value is entered. This is handy, since the Analyst-85 software cannot update everything on a Spreadsheet instantly, especially if it is complicated. It's an advantage to be able to save all updates until the desired changes in the Spreadsheet have been made.

The update mode button toggles the state of the system, via the popup, between *auto update* and *no updates*. If the system is currently on *no updates*, it will save information until the system is set back to *auto update*, then it will update everything at that point.

### The Command Bar

The command bar gives a helping hand to the cells, letting you edit the value or rule of the selected cell. It is very much like a typical text window in that you can do some of the usual text editing things with the middle mouse button popup menu. The menu consists of the following options:

**again**

Repeats the last copy or cut edits.

**undo**

Reverses the effects of the last command. For instance, if text has been deleted, undo will put it back in.

**copy**

Puts a copy of the current selected text into the transfer buffer.

**cut**

Deletes the current selected text and puts it into the transfer buffer.

**paste**

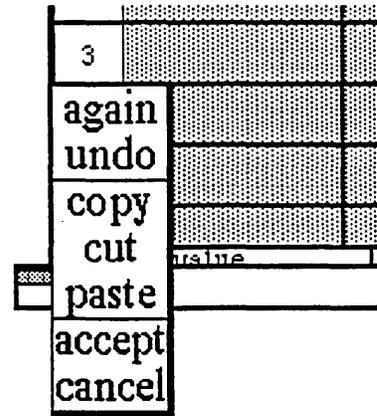
Places, at the insertion mark, whatever information is currently in the transfer buffer.

**accept**

Puts the value or rule into the cell, depending upon how the Rule/Value button is currently set.

**cancel**

Sets the contents of the window to where they were after the last accept was used.



## USING THE SPREADSHEET

After learning the basic terms associated with a Spreadsheet, the next step is to become familiar with its workings.

### SELECTING A CELL

One of the most basic things to know is how to select a cell or group of cells. You must first select an individual cell or a group before you can do anything to it, such as adding values or rules, or moving it around.

To select a single cell, place the mouse within the cell and click the left button. The cell will turn from gray to a darker gray to signify that it has been selected. In the command bar below, the word "nil" will appear (if the cell was empty), or some value will appear (if the cell had contents).

You can also select a group (a rectangular block) of cells. To do this, find the upper left corner of the group to be selected, press the left mouse button, and drag the cursor to the bottom right corner before you release the mouse button. It's much like framing a window, but instead you're framing a group. You may also select a group vertically from top to bottom or horizontally from left to right.

### THE CELL MIDDLE MOUSE BUTTON MENU

The cell popup menu is a collection of useful things to do to cells. Its operation is very similar to other system middle mouse button menus:

**clear**

Sets the contents to "nil" and blanks the rule for every selected cell.

**update**

Tells a selected cell to evaluate its rule and display the result.

### copy cut paste

This is the familiar copy, cut, and paste found in so many menus. These menu items work much the way they do in other areas of Analyst-85 software; however, there are a few differences when they are used with Spreadsheets:

You may copy or cut groups of cells, as well as single cells. The main differences apply to the paste function with cells.

If you copy a single cell and paste to a selected group of cells, the cell will be duplicated in each. If you copy a group of cells and paste them into a smaller group, then the selected first group will be "clipped." If the second group is larger than the selected group, no cells will be clipped, and the cells left over will be unaffected.

If you copy a group and paste it into a single cell, the single cell will be set to the cell at the top left corner of the copied group.

### copy/paste rule

Copying and pasting rules works somewhat like the copy, cut, and paste for cells in general. You may copy the rule only of a single cell. If a group is selected it will take the rule of the top left selected cell.

You may paste a rule into one cell or a group of cells, and all the cells selected will get the rule. Once the rule has been pasted, all the cells that just received it will evaluate the rule and update themselves.

### display links

Draws lines to all cells that either depend on the selected cell or supply data to it. This is how to find all of the cells associated with a given cell if you want to move it or change it.

If no cell has first been selected when this option is used, the sheet will display the links among all the cells.

### details

Opens the Spreadsheet upon which the selected cell's value is dependent.

### save sheet

Stores the Spreadsheet, with all present rules and values, onto the disk.

### hardcopy

Causes a Hardcopy Q-Box to appear. Select **accept** when the correct information has been entered, and the system will place the file into the printing queue.

|                          |
|--------------------------|
| clear<br>update          |
| copy<br>cut<br>paste     |
| copy rule<br>paste rule  |
| display links<br>details |
| save sheet<br>hardcopy   |

## CHANGING ROW/COLUMN SIZE

If you want to change the height of a row or width of a column, you have to use the row and column indices to do it. The row indices are the numbers at the left, while the column indices are the numbers at the top.

- To change the *height* of a row, hold the Shift key down and press the left mouse button in one of the row indices. As you move the cursor up or down, the horizontal line corresponding to that row will move with it—it has the appearance of a sliding bar. You cannot make the row shorter than about one-third of an inch. When you release the mouse button, the window will redisplay itself to match the new height.

- To change the *width* of a column, hold the Shift key down and press the left mouse button in one of the column indices. As you move the cursor left or right, the vertical line corresponding to the column will move with it; it has the appearance of a sliding bar. You cannot make the column smaller than about one-third of an inch. When you release the mouse button, the window will redisplay itself to match the new width.

## SCROLLING AROUND THE SHEET

Not all of the Spreadsheet is always visible in the displayed window. You can, of course, re-frame it to a larger size. If the Spreadsheet is especially large or you simply want to see another part of it while keeping the same frame size, use the scroll map:

- Click the left mouse button in the scroll bar area to make the scroll map appear. The rectangle that makes up the map represents the entire Spreadsheet, while the light gray rectangle (the window marker) within the map represents what part is visible in the window.

- Move the window marker around by pressing and holding the left mouse button and moving it around the scroll map. When you let up the mouse button, the window will redisplay itself to accommodate the new location.

- At times you may want to select a group of cells that are larger than the window. In this case, if you want to keep selecting cells that are out of the window, continue dragging off the edge of the window. The window will scroll itself in order to get the desired cells onto the screen. When you eventually reach the cell you want, let up on the mouse button.

## VALUES

You will probably want to change values in the cells quite often. This is done by selecting a cell, typing the desired value, and setting the value/rule/label button to value. The cursor can be in either the cells or the command bar when you type.

Once you have the value typed in, you must store it. There are three ways to do this:

- Press the <return> key, which will accept the value and move the selection down one row.
- Press the ESC key, which will accept the value and move the selection right one cell.
- Select the accept command from the middle mouse button popup in the command bar.

In the following sections, you'll learn how to specify various types of values.

## NUMBERS

One of the kinds of values you can put into Spreadsheets is a number. There are several types available, and these are:

| Type                     | Examples                   |
|--------------------------|----------------------------|
| Integer                  | -3, -2, -1, 0, 1, 2, 3     |
| Float (the real numbers) | 1.1, 38.8945, 2.0, 3.14159 |
| Fraction                 | (-2/3), (1/4)              |

These numbers are entered just as displayed above. There are special instances for some of them; for instance, to get the Analyst-85 version of pi, enter "Float pi."

Numbers understand numerous mathematical functions. For a list of those functions, look in the subsection titled "More Complex Math Functions."

## STRINGS

Numbers are not the only kinds of values that the Spreadsheet can handle. Strings are collections of characters in sequence. They are useful for labelling areas of a sheet, giving additional information such as units of measurement, and many other like tasks.

Strings can be specified by typing an apostrophe (') before and after the characters you want in the string. If the string needs an apostrophe in it, put a pair of apostrophes in instead.

Here are some examples:

'This is a string!' ← an ordinary string.

'here"s another' ← a string with an apostrophe.

There are ways to test and manipulate strings in the system. You'll find more information on them in the subsection titled "String Functions."

## OTHER VALUES

The Spreadsheet can handle many different kinds of things. While it's impractical to go into all of them, here are a few examples:

*Booleans* are values that are either true or false, and are specified by typing either the word "true" or "false." They are useful for lots of decision-making procedures, in that you can test them and decide on actions with them. This is illustrated in the section titled "If-Thens, or Doing Things Sometimes."

*Points* are x-y pairs that can be treated as vectors as well. They are described in the subsection on "Other Interesting Functions." You specify them by typing a number, followed by the symbol "@," followed by a number. An example is "3@4," which means "x=3" and "y=4."

*Charts* are simple business graphics that can be built into cells. They need large cells to display nicely. How to build a chart is described in the "Other Interesting Functions" subsection.

## RULES

Using rules in a Spreadsheet is complex, but very powerful. One of the major things that makes a Spreadsheet creative is the ability to say that some cell has a value that depends on the value of another cell.

This is done by specifying a rule by which the cell can update itself whenever one of the cells it depends upon changes. The rule can be simple, such as stating that a given cell is always equal to the value of some other cell, plus one. Or it may be much more complex. With rules, you can do all sorts of useful calculations without having to learn how to program a computer.

A rule is entered much the same way a value is, but with the value/rule/label button set to rule. However, you can accept a rule only with the accept command from the middle mouse button popup in the command bar.

You must know how to write rules. This task is described in the next few subsections.

## REFERENCING OTHER CELLS

Here is a cell reference: {R1C2}. This is about the simplest reference that can be made concerning a cell. What that says is "the value of the cell at row 1 and column 2." Remember that "rows" are the horizontal bands of cells, and columns are the vertical ones. They are numbered, and appear with dark borders around them across the top and left side of a sheet. The "R1" stands for "row number 1," and the "C2" stands for "column number 2." This type of reference is called an *absolute* reference, since we are absolutely pointing at row 1 column 2.

There is another kind of reference called the *relative* reference. Here's an example: {R-3C+2}. It says "the value of the cell three rows up and two cells right of this cell." For instance, if this cell were at {R8C4}, we would be talking about {R5C6} with our example. {R0C-1} points at a cell on the same row, but one column left of the cell it appears in.

There are other kinds of references as well, for talking about groups of cells and cells on other sheets, but these examples are sufficient for now.

## SIMPLE MATH

An expense form is a good example of using simple math in a Spreadsheet. The rules needed to make an expense form would probably use only the four basic math operations: + - \* /. They are described below.

Cell references can be used to make up rules by telling them to do things like adding themselves. For instance, the rule "{R1C1} + 1" says "make this cell's value equal to the value of the cell at row 1 column 1, plus one."

The rule always evaluates from left to right, so things may be a little different from what you are accustomed to. "1 + 3 /{R1C1}" would be the same as saying "4/{R1C1}," *not* "1 + (3/{R1C1})." Whenever you aren't quite sure how something is going to work, put parentheses around it.

The rule can be as long as you like; you may string a set of items together, such as "{R3C4} / 3 + (2 \* {R-1C+2})." If the cell at {R3C4} has a value of 3, and the cell at {R-1C+2} has a value of 8, the rule would evaluate to 17.

The kinds of operations we have been talking about are called *binary*, because they have two elements that participate. In the expression "2 + 3," both "2" and "3" participate in the operation of addition. However, some operations are called *unary*, because only one element takes part. This is discussed in the next subsection.

## CELL REFERENCE BY SELECTING

There is a simple way to make references while you're building a rule. When you are making a rule, and the cell you want to reference can be seen on the screen, hold down the Shift key and click over the cell. The reference for the cell you want to reference will appear in your rule, saving you most of the typing. There is a similar way of selecting groups of cells, which will be discussed later.

## MORE COMPLEX MATH FUNCTIONS

Up until now, the rules being described involved "binary" operations. A Spreadsheet can also handle "unary" operations. It's important to understand how unary operations work, and how they are different from binary operations. Like binary operations, they evaluate from left to right, but they are *always* done before any binary operations are done.

For instance, there is a unary operation named "squared." It multiplies a number by itself, thus "3 + 4 squared" evaluates to 19. If things were always evaluated left to right, it would have evaluated to 49, "(3 + 4) squared," rather than 19. "3 + (4 squared)." This can be a difficult concept, but practice will make you get used to it. Remember, if you aren't sure how something is going to work, put parentheses around it.

There's one other type of operation called the "keyword." There may be several elements that participate, or only one. The thing that makes this different is the fact that it has a colon (:) in it. "raisedTo:" is a keyword message that raises one number to the power of another. Keyword operations *always* get done after all the others.

Here is an example "2 raisedTo: 1 + 1" evaluates to 4, because the keyword operation is done last. If things were always done left to right, it would evaluate to 3; that is, "(2 raisedTo: 1) + 1," instead of 4, or "2 raisedTo: (1 + 1)." Here is a more complex example: "2 + 1 negated raisedTo: 2" evaluates to ... 1.

Below is a list of some of the available functions:

| <b>Name</b>      | <b>Example</b>     | <b>Function</b>            |
|------------------|--------------------|----------------------------|
| squared          | 33.2 squared       | square                     |
| sqrt             | 33.2 sqrt          | square root                |
| raisedTo:        | 3.2 raisedTo: 8    | raise to the given power   |
| ln               | 33.2 ln            | natural logarithm          |
| exp              | 33.2 exp           | exponential                |
| log:             | 10 log: 3          | log to the given base      |
| sin              | 33.2 sin           | sine in radians            |
| cos              | 33.2 cos           | cosine in radians          |
| tan              | 33.2 tan           | tangent in radians         |
| arcSin           | 12.8 arcSin        | inverse sine               |
| arcCos           | 12.8 arcCos        | inverse cosine             |
| arcTan           | 12.8 arcTan        | inverse tangent            |
| degreesToRadians | 3 degreesToRadians | convert degrees to radians |
| radiansToDegrees | 3 radiansToDegrees | convert radians to degrees |
| truncated        | 33.2 truncated     | nearest integer less than  |
| rounded          | 33.2 rounded       | nearest integer            |
| abs              | 33.2 abs           | absolute value             |

### STRING FUNCTIONS

Strings can be treated in several different ways. When you have a string, you can treat it as a bunch of characters, or as a whole string. For instance, you can ask a string what character is at a given spot, how long the string is, or whether it contains some other string or character. You can paste them together, or just take small sections of them.

Here is a list of some of the things you can do:

| <b>Name</b>            | <b>Function</b>         |
|------------------------|-------------------------|
| .                      | put strings together    |
| at:                    | character at a spot     |
| copyFrom:to:           | get part of a string    |
| indexOf:               | position of a character |
| findString:startingAt: | position of a string    |
| size                   | size of a string        |

And some examples:

| Name         | Example                 | Result      |
|--------------|-------------------------|-------------|
| ,            | 'two', ' parts'         | 'two parts' |
| at:          | 'two' at: 2             | \$t         |
| copyFrom:to: | 'two' copyFrom: 2 to: 3 | 'wo'        |
| indexOf:     | 'two' indexOf: \$o      | 3           |
| findString:  | 'two' findString:       |             |
| startingAt:  | 'w' startingAt: 1       | 2           |
| size         | 'two' size              | 3           |

### IF-THENS, OR DOING THINGS SOMETIMES

There are times when you want to specify things to be done only under certain conditions. This is often called an "if-then" construct. It allows an action to be taken only if some condition is true.

In the Analyst-85, the way to specify this is with the "ifTrue:ifFalse:" construction. Here is an example:

```
{R1C1} = {R2C3} ifTrue: ['hello'] ifFalse: ['goodbye']
```

What it says is that if {R1C1} is equal to {R2C3}, then the value of this cell is "hello," otherwise it is "goodbye."

You can make all sorts of tests on things, and most are pretty self-explanatory once you see them. Below is a list:

- =
- >
- >=
- <
- <=
- ~= (is not equal)

The ifTrue:ifFalse: construct can also take a boolean and decide based on that. For instance, if {R2C3} is the boolean true, then the following example would evaluate to "That is true." Here is the example:

```
{R2C3} ifTrue:['That is true'] ifFalse:['That is not true'].
```

### OTHER INTERESTING FUNCTIONS

This section is sort of a grab-bag of features for various data types. There are several types of values that can be used in cells, and each has its own particular functions. These are some of the more interesting:

**Booleans.** There are only a few interesting functions. One of the most interesting is the "not" function. {R2C3} not returns the opposite of {R2C3} if it is a boolean. Thus, a true becomes a false, and vice versa.

**Points.** The functions you can perform on points allow you to look at the x and y value, treat them as vectors, and other things. Below are some examples:

| Name  | Example       | Result   | Function                     |
|-------|---------------|----------|------------------------------|
| x     | (2@3) x       | 2        | the x value of a point       |
| y     | (2@3) y       | 3        | the y value of a point       |
| r     | (2@3) r       | 3.60555  | distance of a point from 0@0 |
| theta | (2@3) theta   | 0.982836 | angle of a point from 0@0    |
| +     | (2@3) + (4@5) | 6 @ 8    | vector addition              |
| -     | (2@3) - (4@5) | -2 @ -2  | vector subtraction           |

**Charts.** Often a chart will enhance the impact of a Spreadsheet. You can build a business chart into a cell using the following rules:

BarChart new title: 'My Title' labels: {some group of cells} data: {another group}

LineChart new title: 'My Title' labels: {some group of cells} data: {another group}

Here is a real example:

BarChart title: 'Yearly Sales' labels:{R1C1:R5C1} data: {R1C2:R5C2}

**Cell Position.** There are some special cases where you might want to know what cell this is from so that you can do some fancy displaying of unusual values. You can find out what row this cell is in by putting in the word "ycell" where you want the row number to appear; "xcell" will give the column number of the cell.

### REFERENCING GROUPS OF CELLS

Eventually, you may want to work on groups of cells in a Spreadsheet. Many times, you'll need to sum up all the elements in a group of cells, find the mean or standard deviation of the group, or work with a matrix of some sort. The Analyst-85 package allows you to specify these groups in a syntax similar to the one you've already seen.

{R1C1:R3C4} is a group reference. It says "the values of the rectangular group of cells with a top left corner at R1C1 and lower right corner at R3C4." To obtain a reference like this, do the following:

- Open a Spreadsheet, set the value/rule/label switch to "rule," and then select some cell.
- Start at another cell and drag the mouse to yet a third cell by keeping the mouse button pressed the whole time and also holding the Shift key down.
- Now let up on all the buttons, and observe what shows up in the command bar. If everything has been done right, what appears should look somewhat like the group reference sample shown in a previous paragraph. Notice that the first part of the reference is the cell where you started dragging the mouse, and the second part is the cell where you finished dragging. This is, by the way, the most convenient way to make a group reference, and is generally similar to the way to make a cell reference by selecting.

## GROUP FUNCTIONS

Groups of cells can be treated two ways—either as simple lists, or as matrices. If you treat them as a list, then you have a set of functions for doing some statistical manipulations on them. If you treat them as a matrix, you can use some matrix manipulation functions on them. Either way, they can be very helpful in lots of different problems.

Here are some things you can do to groups:

### Groups as lists:

| Name              | Example            | Function                                   |
|-------------------|--------------------|--------------------------------------------|
| sum               | {R1C1:R3C4} sum    | the sum of all the elements                |
| mean              | {R1C1:R3C4} mean   | the mean of the elements                   |
| median            | {R1C1:R3C4} median | the median of the elements                 |
| mode              | {R1C1:R3C4} mode   | the mode of the elements                   |
| standardDeviation | {R1C1:R3C4}        | the standard deviation of all the elements |

### Groups as matrices:

| Name        | Example                 | Function                     |
|-------------|-------------------------|------------------------------|
| invert      | {R1C1:R3C4} invert      | inverse of the matrix        |
| determinant | {R1C1:R3C4} determinant | determinant of the matrix    |
| *           | {R1C1:R2C2} * {R2C3}    | multiply by number or matrix |

## REFERENCING CELLS ON OTHER SHEETS

The last major area to understand about references is how to talk about cells in other sheets. This has a number of uses, including the ability to have a hierarchy of Spreadsheets. For instance, you might have a set of regional sales sheets all linked to a national sales sheet, and the national sales sheet linked to a corporate-wide balance sheet, and so on.

To talk to a cell on another sheet, you simply have to put the name of the sheet, followed by a semicolon (;), into the beginning of the reference. Only absolute references can be used: "{eastSales:r2c3}" and "{westSales;R1C1:R6C7}" are both valid references to other sheets. It is important that inter-sheet links go in only one direction, otherwise the effects may be rather unpredictable. Thus, if nationalSales depends on some information in westSales, westSales should *not* depend on any cells in nationalSales.

## MOUSE RIGHT BUTTON MENU

The right mouse button in the Spreadsheet panes brings up the standard window popup menu fully described in Section II of this document, titled "The Analyst-85 Windows."

## The OIT Text Window

### OVERVIEW

The OIT Text Window provides a terminal interface to a host computer. It is meant to be used in a manner similar to the Delta Data terminal.

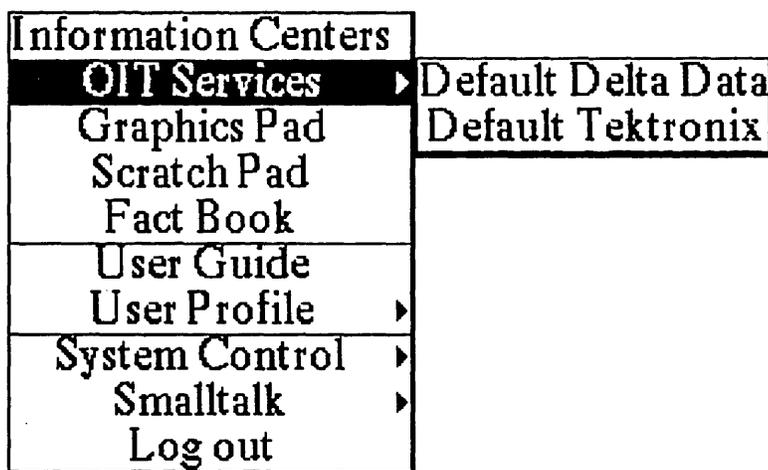
| Default Delta Data Label                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Browsing pages 4 thru 4 of 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                   |
| <pre> MSG 001 OF 002 MSGS FOR HOUR 0200 *SEC DAY TOTAL 0027 PAGE 03 OF 05 DATE 14 NOV INTEREST. HE EXPRESSED REGRET AT THE STATE OF DISUNITY AND FRAGMENTATION WHICH THE ARAB NATION HAS REACHED AND EMPHASIZED THAT THE ONLY PARTY PROFITING FROM THIS SITUATION IS OUR COMMON ENEMY AND THOSE WHO WISH US EVIL AND WHO PLOT AGAINST US. THE AMIR OF QATAR EXPRESSED ASTONISHMENT THAT WHILE EVERYBODY CONSIDERS THAT THE CONTINUATION OF SUCH A DETERIORATING SITUATION HE HAS BEEN NO INITIATIVE CAPABLE OF PUTTING AN END TO THIS TREND OR AT LEAST RESTRAINING IT, HE SAID THIS ABYSS LIES IN A FORMULA WHICH IS SIMPLE AND EASY TO UNDERSTAND, NAMED IN CONTENT, NAMELY A RETURN TO THE PRINCIPLES OF THE ABYSS, WHICH ARE THE DENOMINATORS WHICH SPRING FROM THE HIGHER PRINCIPLES OF THE ARAB NATION AND ITS COMMON DESTINY. THE AMIR OF QATAR STATED THAT THE FIRST REQUIREMENT TO PUT THIS FORMULA INTO EFFECT IS TO AVOID ALL THAT IS LIABLE TO CAUSE DISUNITY AND DIVISION AMONG THE ARAB PEOPLES, AS A FIRST STEP TOWARD JOINING FORCES AND COOPERATION AMONG THEM. SOLIDARITY WHICH, BY ITSELF, IS A GUARANTEE OF THE FUTURE OF THE ARAB NATION. THE FIRST REQUIREMENT IS A IN A COMMON DESTINY. THE AMIR OF QATAR STATED THAT THE FIRST REQUIREMENT IS A AL-SHARAFI STATED THAT THE FIRST REQUIREMENT IS A TODAY, THE ARAB NATION IS IN A STATE OF DISUNITY AND DIVISION. THE EXISTENCE OF ALL THESE FACTORS IS A &gt; </pre> | <pre> ----- log out send quit PRINT MARK D+ SETHL CURRENT MENU LOGOFF RETURN D- STATUS NAME ROUTE= SAVE= TEXT= DELETE SETZ FULL NEXTH PREV PAGE MSG NXTHL NEXTM HOUR ----- </pre> |
| <pre> clear memory again undo copy cut paste file it strip CRs search hardcopy fonts paging end browse </pre>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <pre> get prev page THE 1 TORATION get next page 2 get page(s) 1 3 ERS add next page(s) 2 4 THE add prev page(s) 3 THE 4 </pre>                                                   |

### WINDOW PANE LAYOUT

The OIT Text Window has five subwindows or panes, which act differently depending on the overall state of the system. The window label corresponds to the menu item selected from OIT Services -->. The short, wide "window status" pane beneath it always shows the current state of the system. Below it is the "receive" pane (which itself has a subpane at the top written to by some OIT programs), and below that is the "transmit" pane. Along the right side is the "function keys" pane, with a small "function keys status" pane above it for use during editing.

### HOW TO OPEN THE OIT TEXT WINDOW

An OIT text window is opened by selecting the appropriate item from the **OIT Services** --> list located in the main system middle mouse button popup menu. A default item of *Default Delta Data* is provided. (The items in this list are defined in your OIT window access profile, see below). When the window is opened it will signal the host computer in the same manner as turning on a Delta Data terminal, and the prompt to enter switching characters will appear.



### OIT TEXT WINDOW STATES

The OIT Text Window has five basic states: Transmit, Receive, Browse, Full Screen Editing, and Edit Function Keys. The state of the window dictates the behavior of each pane.

The window opens into Transmit state, which is the state for sending to the host. When receiving from the host it is in Receive state. Browse state is for editing received text. Full Screen Editing is a form of the browse state entered when using full screen editing. When you are editing a list of function keys, it is in Edit Function Keys state.

#### Transmit State

Transmit State is essentially the default state for the window. Here, only the Transmit pane is fully active for typing and text editing. When a <return> is used (or received as an "enter" from a function key), the text in the pane will be sent out to the host computer, echoed in the Receive pane, and deleted from the Transmit pane. The state will then be changed to Receive, in order to receive the host computer's response.

If multiple lines of text or text greater than 80 characters long has been pasted into the Transmit pane, a <return> will cause the text to be sent out a line at a time, with lines over 80 characters broken at the nearest space before 80.

The middle mouse button menu that is available in both the Receive and Transmit panes provides the standard text editing functions as well as several additional functions. These are described below:

**clear memory**  
 Clears the machine's memory of what has been received.

**again**  
 Repeats the previous action.

**undo**  
 Undoes the previous action.

**copy**  
 Copies the current selection into the copy buffer.

**cut**

Deletes the current selection and places it into the copy buffer.

**paste**  
 Replaces the current selection with the contents of the copy buffer.

**browse**  
 Switches the window to Browse state.

**full screen**  
 Starts a sequence to get to the Full Screen Editing state and assumes you are already editing a file. You will be asked to specify the number of lines to bring in from that file to be edited at one time. It will then ask the host to send that many lines and enter Full Screen Editing state on whatever text is sent back.

**kermit -->**

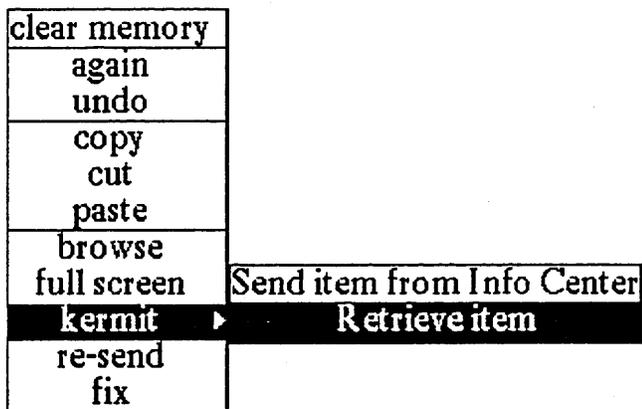
Sends and retrieves information center data items from the host computer through use of a program on the host called Kermit.

**send item from info center**  
 Before selecting this, copy the data item you wish to send from an information center. This menu selection causes a Q-Box to appear requesting the name to use for the file on the mainframe, as well as the storage format. The *plain text* storage format should be used for textual items intended for use as text on the mainframe. The *Tiger only* storage format allows the storage of Analyst formatted data items onto the mainframe for later retrieval onto any Analyst workstation.

**retrieve item**  
 Will ask you for the name on the mainframe of the file to be retrieved. After retrieving the file, the item will be found in the scavenge information center.

**resend**  
 Sends the last line that was transmitted to the host again.

**fix**  
 Puts the last line that was transmitted into the Transmit pane so it can be edited for retransmission.



The first mouse button may be used to select text in the Receive pane, causing it to be copied into the Transmit pane, and for selection of function keys in the Function Key pane.

The Function Key pane's activity is limited to:

- \* Selection of function keys (causing the key's text to be sent to the Transmit pane)
- \* Changing the window state to Edit Function Keys by selecting **edit** from the middle mouse button menu
- \* Scroll up (to scroll the list up if there are more function keys than can be displayed at once)
- \* Scroll down.

### Receive State

In this state, the Receive pane has total control in order to display the text as it is received. The window will return to Transmit State when it receives the proper command from the host, or when you select **break** or **abort** in the middle mouse button menu. Selecting **break** (just like the break key on the Delta Data) tells the host to stop whatever its doing. Selecting **abort** causes termination of any auto – login sequence in progress, dumps anything that has not yet been transmitted into the Transmit pane, and returns the window to Transmit State (but does not notify the host that anything has happened).

### Browse State

In this state the Receive pane is transformed into a fully functional text editing pane with some special functions. Browse State is reached by selecting **browse** in the middle mouse button menu while in Transmit State. When Browse State is entered the Receive pane is given full text editing control (becoming a Browse pane), and the last page of text received is put in it. The window status pane indicates which pages of the total number available are being browsed. The Transmit and Function Keys panes are not available while in Browse State.

The Browse State popup menu has the following options:

**clear memory**

Clears the machine's memory of what has been received.

**again**

Repeats the previous action.

**undo**

Undoes the previous action.

**copy**

Copies the current selection into the copy buffer.

**cut**

Deletes the current selection and places it into the copy buffer.

**paste**

Replaces the current selection with the contents of the copy buffer.

**file it**

The same as **file as new item** in the standard text window. It puts the selected text (or if nothing is selected, all text) in the window (edited page) into a file in an Information Center of your designation.

**strip CRs**

Removes unneeded <return>s from text. This is especially useful for text received from the mainframe.

**search**

Looks through an Information Center for any occurrences of the selected text in any of its labels or keywords.

**hardcopy**

Causes a Q-Box to appear requesting necessary information for printing. When this is done the hardcopy request will be placed in the background printing queue.

**fonts -->**

Allows you to change selected text to whatever typeface is chosen from the resulting scrollable tree popup menu.

**paging -->**

Note that editing while in Browse State does not affect the page contents stored in memory. Therefore, getting the same or other pages in place of those currently displayed, overwrites any editing that was done.

**get prev page**

Replaces the current contents of the Browse pane with the contents of the page previous to the first one currently displayed. Does nothing if you already have page one.

**get next page**

Replaces the current contents of the Browse window with the contents of the next page that was received after the last one currently displayed. Does nothing if you already have the last page.

**get page(s) -->**

Sliding to the right will bring up a scrollable menu containing each page number available. Selecting one number causes that page to be displayed in the Browse pane. Selecting one number and sliding to the right again brings up another scrollable menu containing each page number from which the other end of a range of pages to be displayed can be selected.

**add next page(s)**

Adds the user-specified number of pages after the last one now displayed to the current contents of the Browse window.

**add prev page(s)**

Inserts the user-specified number of pages in front of the first one now displayed in the current contents of the Browse window.

**end browse**

Returns to Transmit State.

### Full Screen Editing State

Full Screen Editing State is just like Browse State, except no paging is allowed. It also has the following special full screen commands:

**Full screen -->**

**Abort**

Terminates Full Screen Editing State. Any editing done on the currently displayed page will be lost.

**Continue -->**

Contents of the pane are sent to the host and the next page of text is received and brought into Full Screen Editing State.

**Save** The host is told to automatically save the text being sent back.

**No save** The host is not told to automatically save the text being sent back.

**Accept -->**

Contents of the pane are sent to the host. Full Screen Editing State is then terminated.

**Save** The host is told to automatically save the text being sent back.

**No save** The host is not told to automatically save the text being sent back.

### Edit Function Keys State

In Edit Function Keys State, only the Function Keys pane is operable. A menu is provided which allows changing the order of appearance of the keys in the list, adding new user-defined keys, removing keys, re-labeling, and re-defining keys. The small pane on top of the Function Keys pane shows the contents of the function key buffer during editing.

The Function Keys pane contains a list of the labels for all the defined function keys. Upon opening an OIT window, the list of labels is set up from the definitions in the logged-in user's OIT access profile. The list, and the functions performed upon selection of a label, will only change if you edit them, or when the host sends function key loads.

Edit Function Keys State is entered by selecting **edit** from the middle mouse button menu in the Function Keys pane while in Transmit State. The Function Keys window becomes fully active. The small status pane above the Function Keys pane shows the label of the function key in the function key buffer. The function key buffer is used to temporarily store the definition of a key which has been created, copied, or cut, so that it can be pasted somewhere else. This window's middle mouse button menu displays the following options:

**end edit**

Ends the editing session and returns the OIT window to Transmit state.

**accept**

Saves the current function key definitions.

**cancel**

Returns the list to the last accepted definitions.

**copy**

Copies the definition of the currently selected key and places it in the function key buffer.

**cut**

Removes the currently selected key from the list, placing its definition in the function key buffer.

**paste**

Inserts the key from the function key buffer into the list in front of the currently selected key. If no key is selected, adds it on the end of the list.

**create**

Creates a user-defined function key, puts it in the function key buffer, and pastes it into the list. A Q-Box asks for a label, the text to be sent, and whether that text should be entered (sent to the host) automatically.

**change**

A Q-Box allows editing the label, the text to be sent, and whether that text should be entered (sent to the host) automatically for the currently selected function key.

There are some special things that can be put into Function Keys text:

\* A double ampersand (&&) will be replaced by whatever is in the Transmit pane when the function key is selected.

\* A hex specification for a character inside of double angle brackets will cause that hex value to be sent (e.g., "<<1B>>" is an ESC).

## EDITING THE OIT WINDOW ACCESS PROFILE

The OIT window access profile defines the list of items selectable from **OIT Services** --> in the main system middle mouse button popup menu. Each item in the profile contains the label for the window, the list of function keys for the window, what type of window to open (Delta Data or Tektronix emulation), and optionally, an automatic login sequence to be sent to the host once the window is open.

To edit the OIT window access profile, select **User Profile** --> **OIT Edit** from the main system popup; this will produce a menu list of all the currently existing OIT window access profiles existing on your local disk. Selecting one of these will bring up a window with the list of existing items.

Each item in the list consists of its name, the window type, the auto login sequence, and a set of function keys. The window type is either "Delta Data" or "Tek," indicating which type of window to open. "Delta Data" is a text-only window that does many of the things a Delta Data will do. "Tek" is the graphics window that does many of the things a Tektronix 4014 terminal does.

The auto-login sequence takes the form **response1, response2, . . . , responseN**. These are the text strings that are sent in succession as responses to the host computer. When the OIT window is opened, **response1** is sent, something comes back from the host, then **response2** is sent, and so on. If any response is left empty (indicated by two commas next to each other) the auto-login sequence will wait for you to enter the response (useful for passwords). Since **response1** is the first message to be sent when the window is opened, this would normally contain the switching characters.

The commands for editing the window access profile list are in the middle mouse button popup menu. Only a subset of commands is available in the profile windows of persons other than a logged-in user, unless the logged-in user is a System Administrator. Access profile editing windows may be opened to several users at once so that items can be copied from one user to another.

The full list of popup commands is as follows:

**edit keys**

Opens a function key editing window to the function keys associated with the selected item. The editing functions in this window are equivalent to those in the function key pane of the OIT window while in the function key editing state.

**edit auto login**

Brings up a Q-Box that allows editing of the name (rename), window type, and/or auto-login sequence of the selected item.

**create empty**

Brings up a Q-Box to allow entry of the name, window type, and an auto-login sequence for a new item. After selecting **accept**, this new item will automatically be pasted into the list. The new item will have an empty set of function keys.

**copy**

Makes a copy of the selected item (name, window type, auto-login, and associated function keys) and places it into a copy buffer shared by all the OIT access profile editing windows. As an aid in remembering what is in this buffer, the name of the item is displayed in the small pane at the top of the window.

**cut**

Removes the selected item from the list and places it into the copy buffer.

**paste**

Adds the item in the copy buffer to the list in front of the selected item, or if nothing is selected, at the end of the list. Selecting **paste** brings up a Q-Box that allows changing the name, window type, or auto-login. If the accepted name matches one which is already in the list, a Confirmer will appear asking whether the existing entry should be overwritten. If the answer is *no*, the **paste** will be aborted.

## The OIT Graphics Window

### OVERVIEW

The OIT Graphics Window provides a graphics terminal interface to a host computer. It is meant to be used in a manner similar to the Tektronix 4014 terminal.

### WINDOW PANE LAYOUT

The OIT Graphics Window can be opened into two different sizes, each of which has a different window layout. When the OIT Services menu selection opens a "Tek" window, a Q – Box appears on the screen to let you specify making the window either half or full size, and where incoming text should be displayed. (Tack text style displays it in the Graphics Display pane; non – Tack style displays it in the Receive pane).

The full – size OIT Graphics Window has four subwindows or panes (it has no Function Keys panes):

- Starting at the top – left and covering most of the screen is the 1024 wide by 780 high "graphics display" pane
- Within its borders, starting about one – and – a – half inches to the right of it, and only displayed while in use, is the "receive" pane
- Below it is the "transmit" pane on the left
- The "window status" pane on the right.

The half – size OIT Graphics Window has six subwindows or panes:

- Starting from the top left, below the window label, is the "window status" pane
- Beneath it, in order, are the 512 pixel x 512 pixel "graphics display" pane
- The "receive" pane
- The "transmit" pane
- Appended on the right side is the "function keys" pane
- Lastly, a small "function keys status" pane on top for editing.

### HOW TO OPEN THE WINDOW

An OIT Graphics Window is opened by selecting the appropriate item from the OIT Services – – > list located in the main system middle mouse button popup menu. (The items in this list are defined in your OIT window access "profile").

### WINDOW STATES

The OIT Graphics Window has four basic states: Transmit, Receive, Browse, and Edit Function Keys (in the small size window only). The state of the window dictates the behavior of each pane.

The window opens in the Transmit State, which is the state for sending to the host. For details of Browse and Edit Function Keys States, see the descriptions in the OIT Text Window section.

#### **Transmit State**

Transmit State is essentially the default state for the window. Here, only the Transmit pane is fully active for typing and text editing. When a <return> is used (or received as an "enter" from a function key), the text in the pane will be sent out to the host computer, echoed in the Receive pane, and deleted from the Transmit pane. The state will then be changed to Receive, in order to receive the host computer's response.

The middle mouse button menu available in both the Receive and Transmit panes provides the standard text editing functions as well as several additional functions:

#### **again**

Repeats the previous action.

#### **undo**

Undoes the previous action.

#### **copy**

Copies the current selection into the copy buffer.

#### **cut**

Deletes the current selection and places it into the copy buffer.

#### **paste**

Replaces the current selection with the contents of the copy buffer.

#### **browse**

Switches the window to Browse State.

#### **resend**

Sends the last line that was transmitted to the host again.

#### **fix**

Puts the last line that was transmitted into the Transmit pane so it can be edited for retransmission.

#### **always echo**

Sets the Transmit pane to "always echo" anything that is typed, including passwords. This is useful because when drawing, the pane is put in a "no echo" state and is not switched back automatically.

#### **page**

Puts a page break in the saved text and clears both text and graphics windows

#### **reset**

Does everything **page** does, but also resets the graphics location to 0,0.

#### **capture graphics -- >**

For creation of map style data, hints, and control files from any vector data that comes in while this option is **on** (default is **off**). When **on** is selected, it will ask you to provide information for creation and Information Center filing.

#### **hardcopy -- >**

Gives the standard image hardcopy sequence for either the entire image or the area framed by the user.

**file out -- >**

Gives the standard fileout (save) sequence to put either the entire image or the area framed by the user as an image in an Information Center.

**copy -- >**

Puts a copy of either the entire image or an area you have framed into the copy buffer.

**Receive State**

In this state the Receive and/or Graphics Display pane(s) have total control in order to display the text and graphics as they are received. The window will go back to Transmit State when it receives the proper command from the host, or when you select **break** or **abort** in the middle mouse button menu. Selecting **break** tells the host to stop whatever its doing, and clears the input buffer of any data that has been received but not yet displayed. Selecting **abort** causes termination of any auto-login sequence in progress, dumps anything that has not yet been transmitted into the Transmit pane, and returns the window to Transmit State (but does not notify the host that anything has happened).