

helm.help

COLLABORATORS

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Contents

1	helm.help	1
1.1	Helm Help	1
1.2	Browsing through a Helm Book	1
1.3	Features of Helm	2
1.4	Structure of a Book	2
1.5	Objects	3
1.6	Message Handling	4
1.7	User Levels	5
1.8	The Authoring Environment	6
1.9	The Bookshelf	6
1.10	Helm Menus	7
1.11	Book Menu Items	7
1.12	Edit Menu Items	8
1.13	Go Menu Items	9
1.14	Tool Menu Items	10
1.15	Object Menu Items	11
1.16	Text Menu Items	12
1.17	Author Menu Items	13
1.18	Image Menu Items	14
1.19	Brush Menu Items	16
1.20	Paint Menu Items	18
1.21	Action Types	20
1.22	Descriptions of Tool Windows	21
1.23	Keys	21
1.24	Navigation Keys	21
1.25	Painting Keys	22
1.26	Drawing Keys Keys	23
1.27	Text Editing Keys	24
1.28	Common Problems	25
1.29	Problem 1	26

1.30 Problem 2 26

1.31 Problem 3 26

1.32 Problem 4 26

1.33 Problem 5 27

1.34 Problem 6 27

1.35 Problem 7 27

1.36 Problem 8 28

1.37 Problem 9 28

1.38 Problem 10 28

1.39 Problem 11 28

1.40 Problem 12 29

1.41 Problem 13 29

1.42 Problem 14 29

1.43 Problem 15 29

1.44 Design Tips 30

1.45 Glossary 32

1.46 Technical Support 42

Chapter 1

helm.help

1.1 Helm Help

- I. Browsing through a Helm Book
- II. Features of Helm
- III. Descriptions of Menus
- IV. Keystrokes
- V. Common Problems
- VI. Design Tips
- VII. Glossary
- VIII. Technical Support

1.2 Browsing through a Helm Book

Helm creates electronic books of one or more pages. Each page consists of any number of buttons, textfields, imagefields, shapes, charts, and selectors. When you click on many of these objects, Helm will execute a script or a list of preprogrammed actions that are connected to the object.

There are several ways to browse through a Helm book:

1. Clicking on objects - Most books will have arrows that you can click on with the Selection button (left mouse button).
2. Using menu items - You can use the Go menu to move the first, last, next, or previous page. Many books trap the Menu button (right mouse button). This means that the menus will not appear when you press down the Menu button. You can also get the menus to appear by moving the mouse pointer to the top of the screen before pressing the Menu button.
3. Cursor Keys - At most times, you can use the cursor keys to move to another page in the book. If you are currently using tools to create or modify objects, you will not be able to use the cursor keys to change pages.

Left Arrow: Go to the previous page.

Right Arrow: Go to the next page.

Up Arrow: Go to the first page in the book.
Down Arrow: Go to the last page in the book.

If you make changes to a book, Helm automatically saves the new information. For instance, you do not have to save the book again when you add a new name to an address book. Helm will automatically store the new name in the book. This is why Helm does not have a menu item for saving the current book. It does have a menu item for making a copy of the current book. This is the "Make Copy..." menu item of the Book menu.

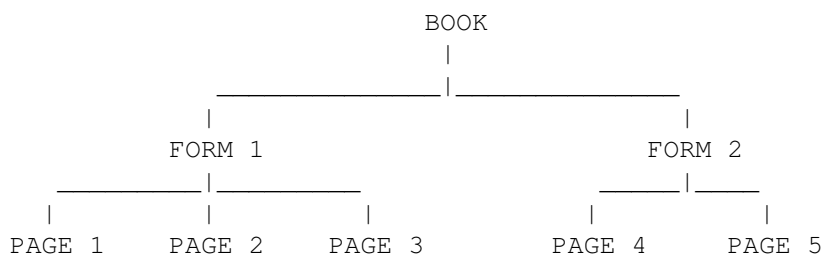
1.3 Features of Helm

1. Structure of a Book
2. Objects
3. Actions
3. Message Handling
4. User Levels
5. The Authoring Environment
6. The Bookshelf

1.4 Structure of a Book

Each page of a Helm book is associated with a form. A form defines a page's display, default font, and commonly used objects. A book must have at least one form and one page. The objects of the page always appear on top of the objects of the form.

This diagram shows a book with five pages. Pages 1 through 3 belong to form 1. When Helm is displaying any of these pages, it also displays form 1. Helm displays pages 4 and 5 with the second form.



When the user moves from page 3 to page 4, Helm will automatically switch to form 2 and change the display mode if necessary.

Forms are like master pages or templates. You can define any number of forms in a book. You edit the current form by selecting "Edit Form" from the Edit menu. Don't forget to deselect "Edit Form" when you again want to edit a page.

1.5 Objects

Helm has several types of objects that you can draw on a page or form.

Buttons

Buttons are simple rectangular objects. You can quickly create an interactive display by drawing a few buttons and attaching actions to them. You can customize them with different borders, colors, patterns, fonts, and shadows.

Charts

By entering values into a textfield, you can create a chart that is displayed on the page. You can choose from five chart types: scatter, line, area, bar, and pie.

Imagefields

Imagefields are like miniature paint programs. Each imagefield can contain a single image at a time. An image consists of one or more bitmapped frames. You can load IFF images into Helm or you can edit an image by using Helm's paint tools. By checking the "Use as Button" option in an imagefield's information requester, you use an imagefield as a icon button.

Selectors

Selectors are self-contained control panels that Helm can create and manage. To use a selector, you decide where to put it and what choices it should give the user. Helm handles the rest. These are the selectors that are currently available in Helm:

- | | |
|-----------------|--|
| Empty | - A blank selector that does nothing. You can use it to create a background by selecting a color and border type within it's information requester. |
| Pop-up Menu | - Displays a menu of items when pressed with the Menu button. When the user selects an item, Helm displays the text of the item within the selector button. |
| Cycle | - When pressed with the Selection button, it cycles through a series of items. |
| Check Box | - Select multiple options by clicking on check buttons. |
| Function | - A set of buttons that Helm automatically sizes and positions for you. Each button is a simple non-toggle button that does not change the state of the other buttons within the selector. |
| Multiple Choice | - Select options by clicking on one or more of a group of buttons that are displayed within the selector. |
| Single Choice | - Select an item from a group of items by clicking on one of the buttons within the selector. When you click on a button and highlight it, Helm automatically |
-

clears the highlighting of the previously selected item.

- | | |
|----------------|--|
| Radio Box | - Select an item from a group of items by clicking on one of the radio buttons within the selector. When you click on a button and highlight it, Helm automatically clears the highlighting of the previously selected item. |
| Slider | - Select a numeric value by moving a knob on the selector. |
| Item Slider | - Select an item from a group of items by moving the selector's knob. |
| Palette | - Choose a color from the set of colors displayed within the selector. |
| Scrolling List | - Select an item from a group of items within a list. Use the slider to scroll through the complete list of items. |
| Matrix | - Enter numbers into a table of textfields. |
| Number | - Select a number by entering it into a textfield. If up and down arrows are beside the textfield, you can increase the value by pressing the up arrow and decrease the value by pressing the down arrow. |
| Clock | - Display the time in 12 or 24 hour format. |
| Date | - Display the current date. |
| Information | - Display information about the book or system. This includes things like the page number and free memory. |
| File | - Select a file path from the scroll list by entering it into the drawer and file textfields. |

Shapes

Shapes are two-dimensional structured objects. They are particularly useful in an authoring environment because they take up less memory and load faster than imagefields. Helm includes these shapes: boxes, ellipses, lines, curves, arrows, regular polygons, and irregular polygons.

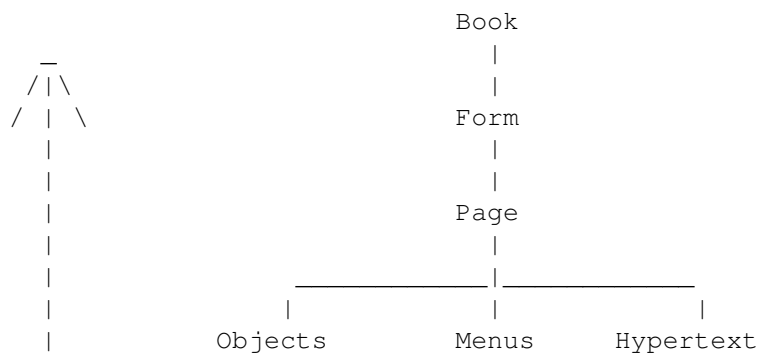
Textfields

Textfields are like miniature word processors. You can enter text into these fields by clicking on the field with the mouse. Like imagefields, you can use a textfield as a button by checking the "Use as Button" option in the textfield's information requester.

1.6 Message Handling

The user of a book creates messages by clicking on mouse buttons, moving the mouse, selecting items from the menu, or by typing on the keyboard. In response to these events, Helm sends the messages to the relevant object. For instance, if the user clicks on a button, Helm will send a `SelectDown` and then a `SelectUp` message to the button.

If Helm does not find a match to a message, the message continues upward through a hierarchy of objects until it is used by an object or it reaches the end of the hierarchy. You can designate the kinds of messages that trigger an action or script function. To program the behavior of the book, you attach actions and scripts to objects and menu items.



1.7 User Levels

You can restrict access to a book by changing the book's User Level. This lets you create books using the full power of Helm. When you are finished, you can set the User Level to a more restrictive setting. The user of the book gets only the options that you intend him to get. You can set one of these five levels:

1. `Navigate` - Allows you to click on buttons and browse through pages. This level is the best level for presentations and slide shows.
2. `Type` - Allows you to edit text in fields and create new pages. This level is good for address books, personal organizers, bibliographies, and other similar books.
3. `Art` - Allows you to use the Paint window to edit images. This level is good for creating custom paint or image processing books.
4. `Create` - Allows access to all book creation features except scripting. You can attach actions to objects. You can also configure the menus. Use this level to make books that do not require scripts. Such books include address books, presentations, and graphics books that need no special programming.
5. `Script` - Allows you complete control over Helm's environment. You get all of the power of the `Create` level, plus the ability to create and edit scripts.

1.8 The Authoring Environment

Helm is built with a "seamless interface". This means that you do not go to different places in the program to perform different tasks. The draw and paint aspects of the program work together and are always available. In fact, you can choose to display both the draw tools and the paint tools at the same time. You can use the palette window to select the color of new or existing objects. You can also use the palette window to choose the color of paint when you are painting within an imagefield.

These are the basic steps for creating a Helm book:

Select New... from the Book menu.

Use the file requester to enter a name for your book.

Helm will display a requester asking whether you want to copy the current form to the new book. To create a completely empty book, click on the "No" button.

If you want to use a different display mode, select "Display..." from the Author menu. Helm will display a requester for choosing a new mode.

From the Tools menu, select the Palette and Draw Tools windows. The Draw Tools window contains buttons for creating new objects. The Palette window is used for selecting the colors of objects, paint, and marked text.

From the Draw Tools window, select an object type. When you move the pointer off the Draw Tools window, the pointer will turn into crosshairs. Press the Selection button (left mouse button) and drag the rectangle until you are satisfied with the size of the object. Release the mouse button and Helm will create the object. Helm will show control points on the object. These control points mean that the object is currently selected. While the object is selected, you can move the object or reposition a control point. You can also change its color by clicking on a color in the Palette window while the object is selected.

To create more pages in your book, select "New Page" from the Go menu.

You don't have to worry about saving your work. Helm will automatically save pages and objects to the book.

1.9 The Bookshelf

When you run Helm, it looks for the Bookshelf book. This book contains buttons with the names of other books. When you click on one of the buttons, Helm closes the Bookshelf and opens another book that is designated by the button.

There is no difference between the Bookshelf and other Helm books. It

only has special status because Helm looks for this book when it starts and because you can return to it by selecting the "Bookshelf" menu item in the Go menu.

1.10 Helm Menus

Helm has nine default menus. Not all menus are available at all times. For instance, if you are painting, Helm will display the Image, Brush, and Paint menus. If you are drawing or modifying objects, Helm will display the Object menu.

Default Menus when the browse tool is selected
Book Edit Go Text Tools Author

Default Menus when a paint tool is selected
Book Edit Go Image Brush Paint

Default Menus when a draw tool is selected
Book Edit Go Object Tools Author

1.11 Book Menu Items

New...

Displays a file requester with which you can enter a new book name. Selecting OK will close the current book and generate a new book with the new name.

Open...

Displays a requester to open a book. Assignments and devices are in a separate scrolling list. The selected filename will remain highlighted. Select OK to open the selected book.

Make Copy...

Opens a file requester to select a file for backing up the current book.

Streamline

Reorganizes the internal structure of the current book. This command often makes the file smaller. You should choose Streamline after you have deleted several pages. This command requires a space on disk that is equal to the size of the book. Streamline will fail if there is not enough disk space.

Print...

Opens a requester that contains settings that format a printed page. Remember to select the appropriate printer driver in Workbench's Preferences. You can also adjust PostScript settings and send a page using PostScript commands.

Report...

Opens a requester where you can generate reports from a form's nonshared textfields. Use the page layout area to format the report on a piece of paper.

Preferences...

Opens a requester that controls the Helm interface. The Preferences are divided into six sets of controls: Options, Colors, Serial, Music, and Scripting.

Workbench

Toggles the Workbench Screen on and off.

Help

Uses AmigaGuide® to show this document.

About...

Displays Helm's copyright notice and the amount of free memory. Helm describes memory as Graphics (chip RAM) and Other memory (fast RAM).

Quit...

Closes the current book and shuts down Helm. A requester will confirm this command.

1.12 Edit Menu Items

Cut

Deletes selected objects or text and stores them on the Clipboard.

Copy

Puts a duplicate of the selected objects or text on the Clipboard.

Paste

Moves an object, block of text, or page from the Clipboard to the current page, textfield, or book. If a page is pasted and the form that the page uses is not in the book, then the form is also pasted.

Clear

Erases selected objects or text.

Select All

Activates all objects on a page or form. If a cursor is active in a textfield, this command will select all text in that field. @endnode

Cut Page

Copies the current page with all its objects to the Clipboard. Disabled in the Demo version.

Copy Page

Puts the current page into the Clipboard.

Colors

This item displays a submenu contain commands that change the palette.

Load...

Opens a file requester where you can load a set of colors and sixteen patterns. If you select the name of an IFF image, Helm will load that image's colors.

Save...

Opens a file requester where you can save a palette and pattern set.

Restore Palette

Restores the palette to the colors it had before the last palette change.

Default Palette

Changes the colors to Helm's default palette.

Brush Palette

Changes the palette to the colors of the brush. The brush palette is created when the user cuts the brush or when the brush is loaded from the disk or the Clipboard. Image Palette will change the palette to the colors of the image that was last loaded into the active imagefield.

Cycle

Toggles color cycling.

Grid

Opens the Grid requester. The grid offers means of restricting drawing and painting to certain points on a page. When Snap to Grid is activated, you can only draw to and from those points. Show Grid will display those points as complemented pixels. Use the two sliders to adjust the distance between grid points.

Show All

Displays all objects. Helm will show objects that are invisible or part of an invisible layer when the Show All item is checked.

Edit Form

Toggles form editing. When this item is checked, you can manipulate and create objects on the form. When this item is unchecked, you edit only on pages. If you have more than one form layer, you must use the Layers window to select specific form layers to edit.

Share

This item is visible when you are editing a form and using the button, textfield, imagefield, chart, or selector tool. By checking Share, you can create an object that will share its data when displayed on the form's different daughter pages. A shared textfield, for example, will display the same text on different pages. A textfield without shared data will have different text on each page.

1.13 Go Menu Items

Next Page

Turns to the next page in the book.

Previous Page

Displays the page before the current page.

First Page

Turns to the first page in the current book.

Last Page

Moves to the last page in the current book.

Backward

Turns to the previously displayed page in the page history. If the page belonged to a different book, Helm will re-open that book to display the page.

Forward

Moves forward in the page history. Forward will have no effect if you have not used the Backward command.

Autobrowse...

Opens a requester where you can change the way you interact with the program. You can choose to control the interface with a joystick, cursor keys, or a single button. You could employ these different interfacing techniques to assist disabled persons.

Bookshelf

Turns to the first page in the Bookshelf book, which is used as a card catalog for all books on your system. When you add a new book to your system, you should add a button or item to the Bookshelf with a Go To action that links to the new book.

New Page

Inserts a new page after the currently displayed page. The new page will use the same form as the current page. This command is available in the Type User Level or higher.

Delete Page

Removes the current page and updates sequence numbers of succeeding pages. This command is available in the Type User Level or higher.

New Form

Creates a new Form. To edit a form, choose Edit Form in the Edit menu. The New Form command is available in the Create User Level or higher.

Load Form...

Inserts a saved form along with a single page into the book.

Save Form...

Saves the current form and page.

1.14 Tool Menu Items

Coordinates

Toggles the display of the x and y positions of the pointer. You must display the title bar to see the coordinates. The origin is the top left pixel of the page. If you are using a paint tool and are over an imagefield,

the origin is the top left pixel of the image.

Title Bar

Toggles the title bar.

Palette

Opens the Palette window where you can select a color or pattern.

Colors

Opens the Color Editor. The Color Editor is divided into five sets of controls, which you can select with the pop-up menu at the bottom of the window. The Colors controls let you change the values of individual colors. Cycle lets you set the cycling ranges and speeds. Bias changes a single component of color for the whole palette. With the Effect controls, you can change all colors in a palette according to certain formulae. The Toner controls turn the palette into a series of tones with the same hue.

Patterns

Opens the Pattern Editor, which you can use to edit any of the sixteen patterns. Use the up and down arrow buttons to toggle through the patterns eight at a time.

Paint Tools

Toggles the Paint Tools window.

Paint Types

Opens the Paint Types window. A paint type determines how Helm applies pixels to an image with a painting tool.

Histogram

Opens a window that displays a bar chart of the relative amounts of colors in an image.

Magnifier

Toggles the Magnifier window.

Messages

Opens the Message window. You can use this window to type search or navigation commands. You also use it as a calculator or to determine the state of system properties.

Draw

Opens or closes the Draw window.

Layers

Opens the Layers window where you can create, delete, or select layers to edit. A check indicates that a layer is displayed. You edit the highlighted layer.

1.15 Object Menu Items

Load...

Opens a requester to load selected objects to a file.

Save...

Opens a file requester to save selected objects to a file.

Bring To Front

Moves the selected objects to the top of all other objects.

No other object can obscure an object that is brought to the front.

Send To Back

Moves the selected objects to the bottom of all other objects.

All other objects obscure an object that is sent to the back.

Bring Closer

Moves the selected objects forward. The selected objects will obscure one more object than before.

Send Farther

Moves the selected objects back. The selected objects will obscure one less object than before.

Group

Joins two or more objects. Objects that have been grouped act as a single object when moved, sized, cut, or pasted.

Ungroup

Splits a group of objects.

Duplicate...

Opens a requester in which can clone the current object. Set the number of rows and columns. Set the number of pixels between the cloned objects with the Row Spacing and Column Spacing sliders.

Align...

Opens a requester with commands to reposition selected objects so that their edges line up. Left Edges lines up the left edges of the objects. The farthest left edge of all the selected objects is the x-position on which the objects align themselves. The commands Right Edges, Top Edges, and Bottom Edges work similarly.

Info...

Opens the information requester, which defines the selected object's functionality and appearance. This requester controls the object's border type, color, font, shadow, et cetera.

Actions...

Opens the Action Editor, which controls many multimedia tasks. You can add and reorder actions in a list with the pointer.

Script...

Opens the Script Editor where you can enter a Breeze script. Scripts are a more powerful substitute for actions. If both actions and a script are attached to an object, then the actions are executed first.

1.16 Text Menu Items

Load...

Opens a file requester to load an ASCII file into the active textfield.

Save...

Opens a file requester to save the contents of the active textfield to an ASCII file.

Plain

If you choose this item, Helm will remove all text styles from a highlighted block of text.

Underline

Puts a line number the highlighted text.

Bold

Changes highlighted text so that it is rendered in boldface.

Italic

Slants the highlighted text towards the right side.

Shadow

Puts a black silhouette of the text behind the highlighted text.

Font...

Opens a requester in which you select font and size for highlighted text.

Spacing...

Opens a requester where you can adjust the line spacing of a highlighted text. The number you enter is the number of pixels between the bottom of each line and the top of the line immediately below.

Hypertext

Marks a block of text as hypertext so that the block can be attached to actions and a script. Hypertext operates much like the text styles. You mark a block of text and choose Hypertext to indicate that the text will function as a button. Use the Action Editor to add actions to the hypertext. You can set the appearance of hypertext in the Hypertext requester, opened from the Author menu.

Actions...

Opens the Action Editor in which you can add actions to hypertext.

Script...

Opens the Script Editor in which you can enter a Breeze script. Scripts are a more powerful substitute for actions. If both actions and a script are attached to a hypertext block, the actions are executed first.

1.17 Author Menu Items

Book...

Opens a requester in which you can change properties controlled by the Book. Here you can set the User Level and create a password.

Form...

Opens a requester in which you can change many of the current form's properties. Select the Default or Menu buttons to set the default and menu fonts.

Page...

Opens a requester in which you can change the page's properties. You can select whether to inherit certain properties from the form or book. You can also protect the page from deletion, enter a page name, or attach an action list or script to the page.

Display...

Opens the Display requester in which you can change the screen display mode and page size for the current form. You select an available display from a scrolling list on the left side of the screen. Use a slider to set the number of colors.

Menus...

Opens the Menu Editor in which you can add, edit, or delete menus and menu items. The menus are arranged in three scrolling lists: a menu list, a menu item list, and a subitem list. Above each list is a pop-up menu that contains editing commands. Below each list is a context list that indicates the circumstances when a given menu, menu item, or subitem will be available.

Narrators...

Opens the Narrators requester where you can create narrators that can be used throughout the book. A narrator is a group of settings that defines the quality of a single narrator voice. You give the narrator a name that can be selected for a Narration action or in a Breeze script.

Hypertext...

Opens a requester in which you can choose the way hypertext will look throughout the book. Hypertext can be any style or color.

Resources...

Opens a requester in which you can import a file into the book. Use one scrolling list to select files on disk. The other scrolling list shows the files that are stored inside the book.

Effect...

Opens the Effect requester in which you can select the visual effect for the book, forms, or pages. This requester contains two lists of effects, one effect for when a page appears and another for when it disappears.

Effect Area

Lets you designate the area in which the visual effects (wipe, scroll, etc.) will occur. After choosing this item, Helm will attach the word EFFECT to the pointer. The rectangular area you make with the mouse will be associated with the visual effect chosen in the Effect requester; it belongs to a page, form, or book.

1.18 Image Menu Items

Load...

Opens a file requester in which you load pictures and animations into

imagefields. You must first click in an imagefield with a paint tool or the Browse tool. In the requester, click on Multiple Selections to put picture files in a queue for later retrieval with the Next command.

Save...

Opens a requester in which you can save the image of an active imagefield.

Next

Loads the next image or animation file in the queue. This command is available only if you used the Multiple Selections feature of the Load requester.

Capture...

Displays a requester that you can use to grab a specified screen currently opened on the computer and put the image inside an imagefield. These screens are identified by the text in their title bars.

Clipboard

This item displays a submenu containing commands to copy or paste frames of the current image to the Amiga Clipboard.

Spare

This item displays a submenu containing commands to control a spare picture.

Switch Images

Exchanges the displayed bitmap with the spare bitmap.

Copy To Spare

Copies a duplicate of the current bitmap to the spare bitmap.

Merge in Front

Stamps all parts of the spare picture onto the displayed picture except for the parts of the spare that are drawn in the paper color.

Merge in Back

Stamps parts of the spare picture onto the pixels of the displayed picture that are drawn in the paper color.

Delete Spare

Removes the spare and frees its memory.

Frame

This item displays a submenu containing commands to control the frames of an image.

Next

Moves to the next frame in the animation.

Previous

Moves to the previous frame.

New

Creates a new animation frame immediately after the currently displayed frame, copying the image of the current frame into the new frame.

Delete

Removes the current frame. If the imagefield contains only one frame, then this command has no effect.

Copy To All

Pastes the current frame onto all other frames.

Color

This item displays a submenu containing commands to control the palette of an image.

Remap

Remaps the image to use the current palette.

Transparency

Sets the transparent color to the paper color.

No Transparency

Turns the transparent color off.

Paper <-> Pen

Swaps pixels of the paper color with pixels of the pen color.

Paper -> Pen

Merges pixels of the paper color into pixels of the pen color.

Count

Counts the pixels in the image and displays them in the Histogram window if it is open.

Flip

This item displays a submenu contains two commands to flip an image horizontally or vertically.

Info...

Opens a requester with which you can adjust the size of the image inside an imagefield.

1.19 Brush Menu Items

The Brush menu commands manipulate brushes. You can also load or save a brush in an IFF format.

Load...

Opens a file requester to load a new brush.

Save...

Opens a file requester to save a brush to a file.

Restore

This is an undo for brushes. You can undo the most recent brush transformation, such as a Shear or Size.

Clipboard

This item displays a submenu containing commands to copy or paste frames of the current brush to the Amiga Clipboard.

Color

This item displays a submenu containing commands to control the palette of the brush.

Remap

Rewrites a brush that was loaded with a palette different from the current palette so that it more closely matches the original appearance of the brush.

Transparency

Sets the transparent color to the paper color.

Paper <-> Pen

Swaps pixels drawn in the paper color with pixels of the pen color.

Paper -> Pen

Merges pixels of the paper color into pixels of the pen color.

Hold

This item displays a submenu for controlling the position of the pointer relative to the brush it is dragging. You can position the pointer at the Center of the brush, at the lower right-hand Corner, or at Any Point.

Size

This item displays a submenu for changing the size of the brush.

Double

Doubles the width and height of the brush.

Halve

Halves the width and height of the brush.

Any Size

Helm will attach the word SIZE to the pointer; the pointer will be positioned at the lower right corner of the brush. Press down on the Selection button and hold it down while moving the mouse to adjust the size of the brush.

To PAL

To NTSC

The To PAL and To NTSC commands adjust the height to the PAL or NTSC aspect ratio. To PAL stretches and To NTSC shrinks. Use these commands to convert art between the PAL and NTSC displays.

FLIP will alter the brush so that it is a vertical or horizontal mirror image of itself.

SHEAR distorts a brush. Shearing is like pushing a rectangle into a parallelogram.

With the ROTATE submenu, you can rotate a brush 90 clockwise or Any Angle. To rotate any degree, select Any Angle and drag a box representing the brush

around to the desired degree of rotation.

1.20 Paint Menu Items

Matte

Stamps all of a brush except for the area of the brush covered by the transparent color. The transparent color is the paper color used when the brush was created.

Color

Stamps a silhouette of the brush in the pen color.

Replace

Stamps a brush just as it appeared when it was created. No masking is done.

Copy

Places the area of the image covered by the next painting operation into the user-defined brush. This paint type works with all paint tools except fill.

Smear

Pushes pixels underneath the brush in the direction in which the brush is dragged.

Dissolve

Stamps the brush onto the page one pixel at a time.

Spare

Stamps pieces of the spare image underneath the brush.

Cycle

Stamps silhouettes of the brush in a sequence of colors ranging from the pen to the paper color.

Cycle 2

Stamps silhouettes of the brush, alternating between the pen and paper colors.

Gradient

Creates a pattern by mixing colors ranging from the pen to the paper color. You can set the amount of mixing in a requester.

Gradient 2

Creates a pattern by mixing only the pen and paper colors.

Tint

Rewrites pixels under the brush to colors with hues similar to the pen color but with intensities similar to the pixels.

Smudge

Makes the pixels under the brush mix with each other.

Chaos

Creates a pattern in the pen color using an iterative system function.

The patterns often look like the patterns in Persian rugs. Set the seed and scale numbers in a requester.

Count

Updates the pixel count array for an area designated by a painting operation. If the Histogram window is open, Helm automatically updates the histogram.

Custom

Transforms the area under a brush with a custom convolution filter. You can use a filter up to 9 by 9. The supplied filters include smoothing filters and gradient filters.

Dither

Eliminates colors and replaces those colors with patterns of only the pen and paper color. Use dither to add textures to images.

Edges

Draws pixels around features in an image. Adjust the edge detection threshold in a requester.

Mosaic

Samples single pixels from areas of an image and then stamps a shape over that area in the sampled color. You can create the shape in an editor or you can load one of the shapes supplied on a disk.

Sample

Stamps a brush silhouette in a color sampled from underneath the pointer. You can set the sampling frequency in a requester.

Brush Tile

Fills the area drawn with repeated stamps of the current brush.

Brush Fill

Fills the area drawn with a resized duplicate of the brush.

Translucent

Redraws pixels having colors in the first half of the palette with corresponding colors in the second half, while rewriting pixels from the second half into the first half. In extra-half bright mode, the image will be lightened or darkened. Similar results occur when the colors of the second half of the palette mirror the first half in hue but have different intensities.

Complement

Complements the bits under the area drawn. Use a requester to choose the bitplanes you want changed.

Lighten

Replaces the colors of existing pixels with lighter colors of similar hues.

Darken

Replaces the colors of existing pixels with darker colors of similar hues.

Negative

Replaces the colors of existing pixels with negative colors. Whites will turn black, and so on.

1.21 Action Types

AmigaGuide®

Blackboard

Displays text in a requester that appears near the activated object.

CDTV Audio

Selects and plays tracks on an audio CD disc inserted into a CDTV machine.

DOS

Executes lines of text as if they were typed into the CLI.

Execute

Executes an ARexx script or an AmigaDOS executable program.

Flip

Changes the animation frame in an imagefield.

Genlock

Controls a genlock device using Release 2 commands.

Go To

Displays a new page within the current book or another book.

Helm Command

Executes a Helm system command.

Layers

Changes the visibility of a layer using a visual effect.

Move

Moves an object to a new position on the page or form.

Music

Plays an external SMUS file or a SMUS file that has been imported into the book.

Musical Notes

Plays a series of notes that are entered as text.

Narration

Uses the Amiga narrator device to read text.

Picture

Shows an IFF-ILBM disk file or a file that has been imported into the book.

Scroll

Scrolls the text in a textfield up or down.

Serial

Sends text to the designated serial device.

Sound

Plays an IFF-8SVX sound file. The file can be located on disk or inside the book.

Testpattern

Displays color bars for adjusting video equipment.

Text

Displays a text file in a window.

Touch Tones

Plays the telephone touch tones for a given phone number.

Visibility

Changes the visibility of a selected object using a visual effect.

1.22 Descriptions of Tool Windows

1. Palette
2. Colors
3. Patterns
4. Paint Tools
5. Paint Types
6. Histogram
7. Magnifier
8. Draw Tools
9. Layers

1.23 Keys

You can quickly perform many operations by using one of Helm's key commands. In most instances, you press a single key. Sometimes, you have to hold down a qualifier key as you press the key. The qualifier keys are shift, control, and ALT.

1. Navigation
2. Painting
3. Drawing
4. Text Editing

1.24 Navigation Keys

Use these keys to browse through a book. You can use the keys at any time. The cursor keys will not work if you have selected an object with one of the draw tools.

q Quit

Return Point
 ? About
 Up go to first page of book
 Down go to last page of book
 Left go to previous page of book
 Right go to next page in book

	Qualifier	
	Shift	Alt
F1	Coordinates	Draw Tools
F2	Title Bar	Layers
F3	Palette	
F4	Colors	
F5	Patterns	
F6	Paint Tools	
F7	Paint Types	Page Info
F8	Histogram	Form Info
F9	Magnifier	Book Info
F10	Toggle tool windows on and off.	
g	toggle grid on and off	
G	toggle display of grid on and off	
Control-C will abort a script.		

1.25 Painting Keys

	Qualifier		
	None	Shift	Control
F1	Matte	Gradient2	Brush Tile
F2	Color	Tint	Brush Fill
F3	Replace	Smudge	Translucent
F4	Copy	Chaos	Complement
F5	Smear	Count	Lighten
F6	Dissolve	Custom	Darken
F7	Buffer	Dither	Negative
F8	Cycle	Edge	
F9	Cycle2	Mosaic	
F10	Gradient	Sample	
1	previous frame		
2	next frame		
!	first frame (shift 1)		
@	last frame (shift 2)		
a	airbrush		
b	brush		
B	restore brush		
c	curve		
d	freehand		
e	ellipse		
E	filled ellipse		

```

f flood
h resize brush to half size
H resize brush to double size
j switch to spare image
J copy to spare image
k clear image
l line
m magnify
p regular polygon
P filled regular polygon
Q Quit
r rectangle
R filled rectangle
s      select object tool
t text
u UNDO
w polygon
W filled polygon
x flip brush horizontally
X resize brush to double width
y flip brush vertically
Y resize brush to double height
z rotate brush 90 degrees
? About Requester
[ Decrement PenColor
] Increment PenColor
{ Decrement PaperColor
} Increment PaperColor
' Swap pen and paper colors (useful for reverse gradients)
< Decrease magnification
> Increase magnification
. Switch to one pixel thick brush
, pick a color
; Show options requester for current paintmode

```

Tab Toggle color cycling on and off

Space Bar Interrupts and cancels painting operations.
 When drawing polygons, closes the last polygon.
 Shift Keys Locks lines to x or y axis

1.26 Drawing Keys Keys

```

ALT +
-----
a Draw Arrow
A Draw Filled Arrow
d Draw Select
l Draw Line
c Draw Curve
b Draw Box
B Draw Filled Box
e Draw Ellipse
E Draw Filled Ellipse

```

s Draw Regular Polygon
S Draw Filled Regular Polygon
w Draw Polygon
W Draw Filled Polygon

5 Book Information Requester
6 Form Information Requester
7 Page Information Requester
8 Display Requester
9 Menu Requester
0 Immediately save current changes to the book

ON SELECTED OBJECTS

Unmodified Cursor Keys

Up Nudge the object up one pixel
Down Nudge the object down one pixel
Left Nudge the object left one pixel
Right Nudge the object right one pixel

Holding down a shift key when double clicking an object brings up the object's action list.

Holding down the control key when double clicking an object brings up the object's script.

Holding down a shift key when choosing a color from the palette changes the pen color of the object.

Holding down the control key when choosing a color from the palette changes the border color of the object.

Pressing the 'o' key will cycle the border number of an object.

1.27 Text Editing Keys

Unmodified Cursor Keys

Up Move the cursor up one line
Down Move the cursor down one line
Left Move the cursor one character to the left
Right Move the cursor one character to the right

Cursor Key + Shift Key

Up Move the cursor to the top line of the field
Down Move the cursor to the last line of the field
Left Move the cursor to the beginning of the current line
Right Move the cursor to the end of the current line

Cursor Key + Alt Key

Left Move the cursor back one word
Right Move the cursor to the next word

RIGHT AMIGA KEY +

u Scroll up one page
d Scroll down one page
m Mark block
x Cut a selected block to the clipboard
c Copy a selected block to the clipboard
v Insert text from the clipboard at the cursor
a Select all text
k Delete the current line
y Delete the text after the cursor to the end of the line
t Jump to the top or bottom of the text
l Jump to the beginning or the end of the line
j Jump to a user requested line number
r Replace text with other text
s Search for matching text
g Repeat last search or replace operation

You can trigger hypertext links on an unlocked textfield by holding down a shift key when you click on the hypertext.

1.28 Common Problems

- | | |
|------------|--|
| Problem 1 | I can't figure out how to save a book. |
| Problem 2 | I can't figure out how to change the color of text. |
| Problem 3 | When I try to paint, nothing happens. |
| Problem 4 | If I paint in an imagefield, the changes are not saved when I return to the page. |
| Problem 5 | When I closed an object's information requester, the object disappeared. |
| Problem 6 | I created an imagefield on the form, but when I move to another page the image is gone and there is an 'X' drawn on top of the imagefield. ← |
| Problem 7 | I created a radio box selector on a form. When I create a new page, the selector reads out a different selection. |
| Problem 8 | When I press on the Menu button, the menus do not appear. |
| Problem 9 | I click on a object, but I cannot select it for editing. |
| Problem 10 | I made a menu, but when I return to the book, the menu is not included. |
-

Problem 11 I draw some objects on the page when I intended to draw the objects on the form.

Problem 12 I cannot paint on some imagefields.

Problem 13 When I use autobrowsing, the jump cursor does not move from object to object in a neat order.

Problem 14 The text in a textfield has disappeared.

Problem 15 When I return to a page with multiple layers, Helm displays all of the layers instead of just the ones I intended.

1.29 Problem 1

I can't figure out how to save a book.

You don't have to save a book. Helm automatically updates the book as you work on it. For instance, when you add a button to the page, Helm will save the button when you move to another page or close the book.

1.30 Problem 2

I can't figure out how to change the color of text.

To change the color of text, highlight the text with the Browse tool and click on a color in the Palette window. The highlighted text will change to the new color.

1.31 Problem 3

When I try to paint, nothing happens.

You can only paint on an image and images reside inside of imagefield objects. To create an imagefield, use the Draw Tools window from the Tools menu. You can draw an imagefield on the page after pressing on the imagefield button (6th row, rightside column) of the Draw Tools window.

1.32 Problem 4

If I paint in an imagefield, the changes are not saved when I return to the page.

You have turned off the Save Changes option in the imagefield's information requester. This option is primarily intended for linked files that you want to load, but do not want to change. Turn on this option and Helm will save all subsequent changes to the image.

1.33 Problem 5

When I closed an object's information requester, the object disappeared.

You have turned on the Invisible setting in the object's information requester. You can retrieve the object by selecting Show All in the Edit menu. This menu command shows all invisible objects. Select the object again and turn off the Invisible setting. Press OK and then turn "Show All" off from the menu. Your object should still be visible.

1.34 Problem 6

I created an imagefield on the form, but when I move to another page the image is gone and there is an 'X' drawn on top of the imagefield.

You have created a non-shared imagefield. This means that the contents of the imagefield are not shared by each page that uses the form. Each page has a different image that Helm puts in the imagefield when it loads the page. For instance, you might want to create an imagefield for identification pictures. Although you have only one imagefield on the form, it contains a picture for each individual in the database.

The 'X' means that you have not yet created the actual image for that particular page. Click on the imagefield and Helm will display a requester so that you can create an image for that page.

If you want the same image to show on all pages that use the form, you need a shared imagefield. You create shared objects by checking the Shared menu item in the Edit menu. You can change a non-shared imagefield to a shared imagefield by clicking on the Share setting in the object's information requester. The image that is currently in the imagefield will become the only image that is displayed.

1.35 Problem 7

I created a radio box selector on a form. When I create a new page, the selector reads out a different selection.

This is similar to the preceding problem. You have created a non-shared selector. To get a selector that stores just one set of data for the form, go into to selector's information requester and check the 'Share' setting.

1.36 Problem 8

When I press on the Menu button, the menus do not appear.

For many applications, the author wants the Menu button for other purposes. For example, the paint tools can use the Menu button for painting with the paper color. You can always get the menus to appear by moving the pointer over the title bar. If the title bar is not visible, the menus will appear if you move the pointer to the top line of the screen.

You can change the Helm's response to the pressing the mouse's menu button from the Form Information requester. If the item labelled "Trap Menu button" is checked, then Helm will not display the menus unless the pointer is over the title bar or is positioned over the top line of the screen. If this item is not checked, the menus will appear whenever you press the Menu button.

1.37 Problem 9

When I change to another display, Helm quits the program.

If there is not enough memory for the requested display or if your hardware does not support the requested mode, Helm may shut down rather than risk the integrity of your book.

1.38 Problem 10

I made a menu, but when I return to the book, the menu is not included.

Menus and menu items are displayed according to the context. The current context is defined as the current user level and the current tool type. In the menu editor, you can set in what context a menu item will appear. If the current context matches the settings of the menu item, Helm will display it. The menus can completely disappear if no menu item matches the current context. In this case you can

1.39 Problem 11

I draw some objects on the page when I intended to draw the objects on the form.

You can use the clipboard to transfer the objects from the page to the form. Use these steps:

- Choose the Selection Tool
- Select Select All.
- Select Cut.
- Select Edit Form.
- Select Paste.

1.40 Problem 12

I cannot paint on some imagefields.

You can use all of Helm's objects as buttons that the user can click on and generate messages. In the case of an imagefield, Helm does not allow the user to paint on the image if it is being used as a button. To paint on it, you have to turn off the "Use as Button" option in the the imagefield's information requester.

1.41 Problem 13

When I use autobrowsing, the jump cursor does not move from object to object in a neat order.

Helm uses the depth of the objects to decide the order of objects for autobrowsing. You can change the order by using the depth menu items in the object menu.

1.42 Problem 14

The text in a textfield has disappeared.

The textfield is not tall enough to show the current line of text. This might happen after resizing a textfield. It might also happen when you change the font of text within the line.

1.43 Problem 15

When I return to a page with multiple layers, Helm displays all of the layers instead of just the ones I intended.

Use the layers window to select the layers that you want visible when the page first appears. Press the snapshot button (it looks like a camera) on the layers window. Helm will restore the current state of layer visibility when you next return to the page.

1.44 Design Tips

1. If you are using Release 2 of the Amiga system software, you can use high quality Compugraphic fonts in a book. Unfortunately, there are a couple of drawbacks to using these fonts. If you plan on distributing your book, you cannot always count on a user having Release 2. Also, the Amiga renders a font into memory when it is first requested. This process is sometimes lengthy (less so on Amigas with faster processors) and can be disruptive to the flow of a presentation. You should make careful judgements about the compromises that using these fonts may require.
 2. Try to avoid the use of abbreviations for the names of buttons. Your books will look more professional if you can spell out the full name. We have followed our own advice by minimizing the number of abbreviations in Helm.
 3. Use a fixed width font for clock selectors. A proportional font will bob around as the time changes. This is particularly bad when the clock is reporting seconds.
 4. When building pages, try to use shapes rather than imagefields. Shapes take less memory and load faster. Use patterns to make pages look more complicated without the overhead of using bitmaps.
 5. For an easy way to create shrubbery, set the pen and paper colors to two different shades of green. Select the ninth built-in brush (third row, third column in the brush menu). Set the painttype to Cycle 2. Select the airbrush and start painting.
 6. In creating Helm's interface we have used many requesters that have multiple views. These views are selected from a group of buttons that are located on the top righthand side of the requester. You might find it useful to follow this convention. In any case, as you create books, try to create a few design rules to follow.
 7. Many books will require two arrows for the user to move to the previous or next page. Try to keep these arrows close together. If they are far apart, the user will have to move the pointer long distances just to go back and forth through the pages. Also, try to keep these arrows in nearly the same place throughout the pages. The user will have less trouble finding and using them.
 8. To create something that looks like graffiti, paint an area with a brick pattern. Then recolor the bricks and airbrush the new pattern
-

over the original bricks. The first two patterns in the default palette work great for this purpose.

9. If you are working in an interlace display mode, avoid the use of thin horizontal lines. Without a deinterlacer, an end user will find these lines annoying.
 10. Do not cram lots of objects on to a single page. Distribute the objects over several pages.
 11. Use a grid when you are laying out objects on a page. Pages will look better if the edges of objects are in alignment with the edges of other objects. By using the grid, you will also find it easier to resize objects so that they have the same size. This will also help the appearance of your pages.
 12. Limit the number of border styles on a page to one or two. If you use too many styles, the page might appear cluttered and sloppy.
 13. Minimize the size of bitmaps as much as possible. Instead of using one large bitmap, use a combination of shapes and small bitmaps. For instance, you can create a face by using an elliptical shape object and small bitmaps for the eyes, nose, and mouth. You can also take advantage of the fact that Helm can display bitmaps with fewer colors than the display.
 14. If you want a background that uses one of Helm's borders, use an empty selector. You can then set the border type in the object info requester. You can even give the background a title.
 15. Connect actions to an object with the SelectUp message. Unless you are toggling highlighting on and off, the user will expect the actions to occur when he releases the mouse button.
 16. If you are running under Version 2.0 of AmigaDOS, you can get much better performance from your floppy disks if you format the disk using the Fast Filing System. Because we do not know if you have Release 2 or not, we have to ship our disks using the Old File System.
 17. Take full advantage of the fact that you can choose what bitplanes are used to display an object. You can dramatically improve the text scrolling by turning off some of the bitplanes of a textfield.
 18. Use Helm's ability to save and load selected objects to create commonly used sets of objects. If the objects are grouped before you save them, you can create designs that you can load and reposition anywhere on the screen.
 19. Timers are useful for creating kiosk like applications. If the kiosk has a main menu, put a timer on the other forms set to a one or two minutes. Connect a action to the timer that tells Helm to go back to the main menu. When the next user approaches the kiosk, the main menu is displayed.
 20. If your application uses a touch screen, you should use the verbs "touch" or "press" instead of "click".
-

21. If you want an object to have audio feedback when it is pressed, use the musical notes action. Put something like "c5" into the textfield of the action. When the user presses the object, Helm will play a sixteenth c note from the octave five.
22. Take advantage of the "First Plane" highlighting option of objects. If this option is selected, the highlighted color of an object is always next to the unhighlighted color in the palette. This makes it easier to create unhighlighted/highlighted pairs of colors within the palette.

1.45 Glossary

ALGORITHM, a series of steps that performs a task or solves a problem.

ANIM, an IFF file format for storing animation. There are several different versions of ANIM. Helm can load, save, and play ANIM-5 files.

APPARENT RESOLUTION, the resolution that you think you see when viewing a picture. A picture may appear to have more colors than it actually does if it is halftoned. A picture may be anti-aliased, which reduces jaggies and makes the image appear to be displayed with smaller pixels.

AREA PROCESS, an image processing routine that uses areas of pixels in making calculations. This is also called group process. The edge detection and custom filter are area processes.

AREXX, an interprocess communication language. ARexx processes and transmits information between programs that have been modified to accept and send commands through ARexx. ARexx is part of Release 2 of the system software but is available for earlier versions.

ARRAY, a list of items, each of a definite size and type, that you can create and manipulate with a computer language translator.

ARTIFACT, the unintended pattern that is created when an image is dithered.

ARGUMENT, an expression used by a function. Multiple arguments are separated by commas.

ASCII, a standard for representing alphanumeric characters as binary numbers. You can use the decimal form of the ASCII character set with the numtochar() function.

ASPECT RATIO, the ratio of the size of horizontal pixels to an equal number of vertical pixels. A display with square pixels has a ratio of one. The closer the aspect ratio is to one, or rather the squarer the pixels are, the easier it is to paint.

ASSIGNMENT, a statement with which a container is given a value: put 12 into x.

BACKUP, a copy of a file that you can use if you lose the original.

BATCH PROCESSING, processing a group of similarly formatted data with the same procedures. You can program Helm to batch process IFF images.

BINARY, a number system that uses two states to represent a number. Binary numbers represent the on and off states that are typical of low level computing.

BIT, (from Binary Digit) the smallest unit used in computers. There are only two binary digits: 0 and 1. These digits often represent on and off states. The number in a Check box or a Multiple Choice selector, for example, should be regarded as a binary number whose bits indicate whether the selector's individual items are selected. If the second bit of the number is 1, then the second item of the selector is on.

BITMAP, the display memory of a graphics picture. It is composed of one or more bit-planes and is located in chip ram of system memory.

BITPLANE, a continuous chunk of memory with each bit of data corresponding to exactly one pixel of the picture. A 320 x 200 display has 64,000 individual pixels. Each of these planes will have 64,000 bits of data (or 8,000 bytes of memory).

BLITTER, (from BLock Transfer) the Amiga's high speed memory mover. The blitter is used primarily for moving graphics and sound data and for disk operations.

BLOCK, a group of program statements that is controlled as a single statement. In Breeze, a block is delimited by the begin and end statements. Note the following example:

```
if z = two begin
  answer "Hello"
  put 23 into z
end
```

In this example, the two statements, answer "Hello" and put 23 into z, constitute a block since they will always be executed together.

BOOLEAN VALUE, a value of either true or false. A bit represents a Boolean value.

BOOK, (1) the root object in Helm's object hierarchy. There can be only one book at a time. All unprocessed messages pass through the book's script. If a book cannot process a message, the message is discarded.

(2) A book is also the application file made by Helm. It contains menus, objects, preferences, actions, and scripts.

BOOKSHELF, a Helm book that contains Go To actions to all books on the system. You should keep a bookshelf on every system that supports Helm.

BOUNDING BOX, a complemented rectangle that is usually used to represent an object as you work with it. A bounding box, for example, is used to represent an object when it is being repositioned by the mouse.

BROWSE, a term used in the Hypertext community to describe moving through

a series of documents by using go to links that chain the documents together. See Hypertext.

BRUSH, a movable bitmap that you can stamp on a page or form. You can size and distort brushes.

CHAOS, an iterative function system that can produce complicated geometric patterns. Helm uses chaos as a painting type.

CHECK BOX SELECTOR, a type of object that you can define in the Create or Script User Levels. The Check box selector puts up a number of items that you can toggle on or off with check mark buttons.

CHIP MEMORY, the Amiga's lowest 512K RAM of system memory. With the enhanced chip set, chip memory is increased to 1024K RAM. This is the only memory that the Amiga's special graphics hardware can access. The display memory must reside in chip memory.

CLIPBOARD, a place where data can be copied so that it can be moved to other pages or applications. Helm allows you to copy, cut, and paste text, images, objects, and pages to and from the Clipboard.

CMY, (for Cyan, Magenta, Yellow) a color model used in four-color process printing.

COLOR REGISTER, a system register where the Red, Green, and Blue values of a color are stored.

COLORMAP, a software structure that stores color definitions. The colors of the colormap are mapped to the actual hardware color registers.

COLOR MODEL, a method of numerically representing a color. Helm supports three models: RGB, HSV, and CMY. There are many more.

COMMAND, an instruction that can be used to start a line of in a script. In Breeze, a command is simply a function that does not return a value.

COMPLEMENT, the changing the colors of an area by reversing all the bits of the area. It is used for highlighting.

CONCATENATION, the process of adding two strings together. Breeze uses the and (&) symbol to concatenate two strings:

```
put last_name & ", " & first_name into full_name
```

CONSTANT, a value that cannot change. All numbers are constants. Containers can never be constants. Breeze has many word constants that stand for numbers, including on for 1, off for 0, two for 2, false for 0, true for 1, up for 2, and down for 3. Other words stand for special ASCII codes: tab, space, and newline.

CONTAINER, a structure that can hold data. A container can hold integers, real numbers, strings, or images. You can manipulate string containers with slicing or string functions. All objects are also containers. Breeze uses containers instead of variables.

CONTEXT-SENSITIVE, the ability of a feature to change according to changes

in other features. In Helm, the menus are context-sensitive. The User Level and the active tool provide the context for displaying specific menus, menu items, or subitems.

CONTROL POINT, a small knob attached to an object used for manipulating the size and shape of the object. Some programmers also call them handles.

CONVOLUTION, a process in which each pixel in an image is altered depending on its relationship with neighboring pixels. The Custom Filter and Edge Detector are implementations of convolution processes.

CURSOR, the vertical line inside a textfield that shows you where the next character you type will appear.

CYCLE SELECTOR, a type of input object that you can define in the Create or Script user level. The Cycle selector performs the same task as a radio box but takes up less room. The cycle selector looks like a button that cycles through a series of selections. The selection displayed is toggled on, all others are toggled off.

DEBUGGING, the process of correcting the mistakes in a program or script.

DECLARATION, a statement that introduces a variable or string to the interpreter.

DEFAULT MENUS, the set of menus that belongs to Helm.

DEFAULT TOOL, the program name and path, kept in a project's Workbench information requester, that identifies the program that uses the project as a support file.

DIGITIZER, a device that turns a video signal into a digitized image.

DITHERING, a method of using patterns of pixels to represent different shades and colors. A dithering routine might reproduce the color orange as a pattern of mixed red and yellow pixels. Dithering is used to extend the colors and shades of an output device such as a monitor or printer.

DOUBLE-CLICK, the act of clicking a mouse button twice in quick succession. For example, you can open a book by double-clicking a filename in the open book requester.

DRAG, to move the pointer while holding down the Selection button. To move a window or object, you must drag it.

DRAW PROGRAM, a graphics program that can be used to create images with vector graphics. Since draw programs regard drawings as a series of x and y coordinates, draw programs can produce highly accurate output.

EDGE DETECTION, the attempt to outline the edges of features in a graphics image. In Helm, edges are detected by measuring gradients of intensity.

8SVX, an IFF file format for storing digitized audio samples. The SMUS files use 8SXV as instruments.

EMPTY SELECTOR, a type of input object that you can define in the Create or Script user level. An Empty selector simply puts up a selector box with

a title. With an empty selector, you can do no selecting at all.

ENHANCED CHIP SET, a set of graphics chips for the Amiga. These chips can directly access 1024K RAM -- CHIP RAM. They also have several new display modes such as Productivity Mode and SuperHires.

EVENT, any occurrence that creates a message. For example, clicking a mouse button and turning a page are events.

EVENT FUNCTION, a specially named function that Helm executes upon receiving a message of the same name as the function. The following event function will flash the border red when it receives a MenuChoose message :

```
on MenuChoose begin
  Set the rgb4 of 0 to 0, 10, 0
  Set the rgb4 of 0 to 0, 0, 0
end
```

EXPRESSION, any combination of words and symbols that, when evaluated, are equivalent to a single string or number. Expressions can consist of containers, constants, properties, and function calls.

EXTRA HALF-BRIGHT, a special Amiga mode in which the 320 x 200 or 320 x 400 display can double its number of colors, making 64 colors. The extra colors in Extra Half Bright mode are half the brightness of the original half. You cannot adjust these extra colors. They are entirely dependent on the first 32 color registers.

FIELD, an object in which you can enter text or paint. See Textfield and Imagefield.

FILTER, the matrix of numbers used by any convolution routine. It often refers to a matrix plus a denominator used in simple convolution algorithms. A filter is also called a kernel or a window.

FIXED-PITCH FONT, a font in which all the characters have the same width. Pitch refers to the number of characters that an output device can print per inch. Also called monospaced font. See proportional-pitch font.

FLOYD-STEINBERG, a popular error diffusion dithering routine.

FLOW CHART, a graphical representation of a program's inner workings.

FORM, an object type just below the book and just above the pages in Helm's object hierarchy. Forms must coexist with pages, since a form sets forth the general form of a group of pages. A form cannot exist without being utilized by at least one page. A page cannot exist without using a form.

On a form, you can put any number of objects or shapes. For example, you can put several fields on a form to hold a name and address. Every page that is then added to that form can hold a different name and address. The result is an address book.

FUNCTION, a grouping of script statements that can be executed from other functions with a function call. Helm recognizes three varieties of functions: event functions, system functions, and user-defined functions.

The names of event functions are reserved words; you define an event function with these existing names. These names correspond to event messages that are produced by an object as the user interacts with it. These functions will execute when a message is sent to a script with a matching event function.

System functions are built-in functions that take arguments and return values.

You give a user-defined function a name. User-defined functions can also take arguments. Functions are very much like mathematical functions. This is an example of a Breeze function definition:

```
flashScreen begin
  Set color zero to green
  Wait 2
  Set color zero to black
end
```

Parentheses must always follow the function name.

FUNCTION SELECTOR, a type of input object that you can define in the Create or Script User Levels. The function selector is a set of buttons.

GHOSTING, the covering of a button, menu item, or screen area with dots to indicate that they cannot be used or manipulated.

GLOBAL CONTAINER, a container that can be referenced or changed from any script in the book.

HALFTONING, turning picture of many tones into an image consisting of dots of one color in various patterns to represent the different intensities of the tones.

HIGHLIGHTING, temporarily changing the appearance of an object, text, etc. to indicate a selection. Buttons can be highlighted. See also Complement.

HUE, the definition of a color as red, green, blue, yellow, cyan, magenta, etc. White, black, and grays are not hues. If saturation is zero, hue is undefined. Hue is usually described in degrees. A hue of 0 degrees (red) is identical to a hue of 360 degrees.

HYPERTEXT, a system in which text is linked to other text or other forms of information. This system was devised so that documents can maintain references to other documents. An electronic term paper, for example, can reference an article in an electronic encyclopedia without having to duplicate any part of that article. Helm does not have links, but go to actions can be used for a similar result.

IEEE, the Institute of Electrical and Electronics Engineers. This organization has set forth a standard in math functions which Commodore-Amiga has followed in its use of three libraries. Helm needs two of these libraries: mathieeedoubbas.library and mathieeedoubtrans.library. If these two files are not in your computer's Libs drawer, Helm will refuse to run.

IFF, (Interchange Format File) refers to a standard file structure for various types of data (graphics, sound, text). It is widely supported by commercial software for the Amiga and IBM. ILBM, 8SVX, SMUS, and ANIM are IFF formats.

INHERITANCE, an object oriented programming technique in which properties of one object are passed to other objects. In Helm, a form can pass menus, objects, a palette, and an effect area to pages.

ILBM, (Interleaved Bitmap) a standard IFF file structure developed by Electronic Arts and Commodore-Amiga for storing bit-mapped images.

IMAGE EDITOR, a sophisticated paint program/image processing package. Image editors are often intended to enhance 8 or 24 bit digitized images for high resolution printers like image setters.

IMAGE ENHANCING, image processing that improves an image, particularly if the process brings out detail or restores a distorted image.

IMAGE PROCESSING, any process that manipulates images. Image processing and computer graphics mean the same thing.

IMAGE SETTER, a very precise and expensive laser printer used by service bureaus to typeset PostScript or desktop publishing files.

INTENSITY, the brightness of a color. Helm defines intensity as the sum of its Red, Green, and Blue values.

INTERLACE, an interlaced picture is displayed with two scans of the video beam. The Amiga displays the odd numbered lines with the first scan. It displays the even numbered lines with the second scan. With many monitors, a flicker may occur because the preceding set of lines begins to fade before the more recent set.

IT, a permanent container for temporary storage of data. The get command will put values into the it container.

ITEM, (1) a division of a container. Within a container, items are separated by commas. Items also refer to the items in a menu or selector.

(2) Any single part in a list, such as an item in a scrolling list.

JIFFY, a unit of time equal to one sixtieth of a second. ANIM frame delays are measured in jiffies.

JAGGIES, the stair-stepped appearance of diagonal lines on the screen. Jaggies are a result of a low resolution display. To reduce jaggies in a picture you can convert the picture to a higher display mode and smooth the image with a filter.

KEYWORD, a word that is reserved for use by a language translator. In Breeze, you cannot use a keyword as a container, message, or function name.

LAYER, a group of objects that will obscure or be obscured by objects in other layers. In Helm, there are two kinds of layers: form layers and page layers. Form layers always rest beneath page layers. Layered pages are

useful in constructing overlays such as those in archaeological maps and medical diagrams.

LOCAL CONTAINER, a container that can be used only within the function in which it was created.

LOGICAL VALUE, a value of only two states: true or false. A bit represents a logical value. Logical values are also called Boolean values.

MASK, a one-plane image that is used to block-out or mask-out an area of a bitmap. The area behind the mask cannot be painted over.

MATRIX SELECTOR, a type of object that you can define in the Create or Script User Level. The Matrix selector puts up a table of fields. You give the number of columns and rows that make up the matrix.

MENU BUTTON, the right button on a mouse. This button is used to choose items from pull-down or pop-up menus. See Selection Button.

MESSAGE, a code sent by an object that tells of an event. Selecting a button object, for example, will cause the button to send out a SelectUp and a SelectDown message.

MIDI, (Musical Instrument Digital Interface) a standard for transmitting music between computerized devices.

MODAL, the property of a window when it changes the overall function of the program. All requesters are modal. In Helm, all tools are nonmodal; they do not interfere with the overall operation of the program.

MULTIMEDIA, the integration of graphics, text, and sound to produce interactive applications. Commodore-Amiga defines multimedia as a method of designing and integrating computer technologies on a single platform that enables the end user to input, create, manipulate, and output text, graphics, audio, and video, utilizing a single user interface.

MUTUALLY EXCLUSIVE, the state of a set of buttons, fields, or items when only one button, field, or item can be active at any single time. Radio Boxes and cycle selectors are mutually exclusive. A set of contiguous menu items or subitems can also be made mutually exclusive. OBJECT, a data type that can respond to messages, as well as send messages to other objects. In Helm, there are seven types of objects: books, forms, pages, page objects, and menus.

OBJECT HIERARCHY, a tree of objects that sets forth how objects inherit environmental attributes and messages. Helm's Object Hierarchy is...

Book | Forms | Pages | Objects, Menus, Hypertext

OBJECT ID, an unique identification number that Helm gives to each object in a book.

OBJECT ORIENTED PROGRAMMING (OOP), abstract programming techniques that use data types that respond to messages, and the creation of new data types that inherit the properties of existing types. Helm has implemented some of these techniques.

OBJECT PROPERTY, a property such as color or border style that belongs to an object. You can retrieve and set properties with the get and set commands.

PAGE, an object type belonging to a form and containing other objects. Pages are the basic object in Helm. They are similar to records in a conventional database.

PALETTE, the set of colors and patterns that can be chosen in the Palette window.

PALETTE SELECTOR, a type of object that you can define in the Create or Script user level. You can use this selector to choose colors in your application.

PAPER COLOR, the color drawn with the right mouse button when painting or drawing.

PARITY, whether a group of bits sent through a message port is either an odd or even number. A parity bit sent with a set of bits, which often corresponds to a character, that makes the set either an odd or even number. If all sets are made odd or even, the device that receives them can detect a communication error if a received set is not of the expected parity.

PATH, a specification of how to find a file in a filing system. Helm's file requester contains a path field in which you can put disk and drawer names. If the path field is empty, the path will revert to the current directory.

PEN COLOR, the color drawn with the left mouse button.

PIXEL, (from PICTURE ELEMENT) the smallest unit of a digital picture.

PIXELATION, a process in which an area of pixels is replaced with a square of color that is the average of the pixels in that area. Mosaic in Helm is like an extended form of pixelation. Note that Mosaic does not use the average of the pixels but the median.

POSTSCRIPT®, a page description language developed by Adobe Systems. Helm creates PostScript for images and pages.

PRECEDENCE, the priority given to operations in an expression so that certain operations will be performed before certain other operations. For example, multiplication has a higher precedence than addition. In an expression that contains both addition and multiplication, the multiplication operation is evaluated first.

PRODUCTIVITY MODE, a new display mode introduced in the enhanced chip set. It is a four-color 640 x 480 display. This may be a good display for word processing, desktop publishing, and drawing programs.

PROPERTY, a value that belongs to an object that defines certain characteristics of the object. There are two types of properties: object and system. The object properties primarily define the characteristics of objects that rest on pages or forms. Using system properties, you should regard the Helm system and the current book as an object. System

properties control the environment.

PROPORTIONAL-PITCH FONT, a font in which individual characters vary in width.

RESERVED WORDS, words in a programming language that are already defined by the translator. In Breeze, the reserved words include if, break, case, and while. An attempt to define these words as a container, message, or function name will cause an error. See Keywords.

RESOLUTION, the relative fineness in detail of a display. Higher resolutions have more detail because of smaller pixel sizes. Lower resolutions have larger pixels.

RGB, (RED GREEN BLUE) the additive primaries which if added together in various proportions can produce a wide range of colors. Equal amounts of each primary produce a gray.

RUN-LENGTH ENCODING, a type of file compression used in the IFF file standard that takes advantage of the fact that many pictures have large areas of the same color.

SATURATION, a value that defines the purity of a hue. A strongly saturated hue is mixed with little or no white light. You cannot perceive hue in a color with zero saturation. Saturation is usually defined as a number between zero and one. One is full saturation. In Helm, saturation is defined as a number from zero to 255.

SCANNER, a device that captures an image from a photograph, print, painting, or some other representation into a digitized computer image.

SCRIPT, another name for a program. Usually scripts refer to a list of commands to be executed in a batch file. Helm's scripts can be used in this fashion, though Breeze can also be used to make complicated programs.

SCROLLING LIST, a type of object that you can define in the Create or Script User Levels. A scrolling list can display a large number of choices. You can select a single item from the list. Helm mutually excludes all other items.

SELECTION BUTTON, the left mouse button. It is commonly used for selecting buttons. Use the menu (right) button to display menus and pop-up menus.

SHARED OBJECT, an object, created on a form, whose settings and data belong to the form. The object will appear exactly the same on every page belonging to that form. When you change the data or settings of a shared object on one page, these changes will appear on all pages of the form. To create a shared object, select Share from the Edit menu while editing a form and then select one of the objects from that menu.

SLICING, the specifying of items, sentences, lines, words, characters, or bits within a container.

SLIDER SELECTOR, a type of object that you can define in the Create or Script User Levels. The sliding selector is like an Intuition proportional gadget. You input a list of numbers in ascending order and the program will adjust the sliding selector proportionally.

SMUS, a simple file format for storing music. A SMUS file stores notes as MIDI note numbers. SMUS was developed primarily to describe music for games.

SOBEL OPERATOR, an edge detection algorithm. The Sobel operator is probably the most popular edge detection algorithm. It is said to make the best edge maps for the least amount of time.

STRUCTURED PROGRAMMING, programming techniques in which blocks of program statements are segregated so that they can be more easily and efficiently accessed. Breeze provides many features for structured programming, including functions and the switch-case control structure.

SUPERHIRES, Amiga display mode offered by the enhanced chip set (ECS). SuperHires is a 1280 x 200 NTSC (1280 x 256 PAL) four-color display.

SYSTEM PROPERTY, a property that belongs to the Helm system. Most system properties define characteristics of the environment.

TEXTFIELD, an object in which you can enter text.

TOGGLE, changing the on-off or true-false value of an object or container. For example, a menu item with a check can be toggled.

TRUNCATE, the removal of the fractional part of a number without rounding. When a number with a fractional part is put into an object container that can hold only an integer, then the fraction is truncated before the number is placed into the object.

USER LEVEL, a setting for an entire book that restricts the user to many features of the book. Helm uses five User Levels: Navigate, Type, Art, Create, and Script.

VALUE, the brightness of a color or the amount of black mixed with the color. Black has a value of zero.

VECTOR GRAPHICS, graphics such as lines, curves, ellipses, and rectangles that are stored as a series of x and y coordinates. Vector graphics take up less memory than bitmapped graphics.

VIEW RECTANGLE, the area on screen where the page is visible. Overscan displays have large view rectangles. In the Display requester, you can set the view rectangle by adjusting numbers in the Left, Right, Top, and Bottom fields. A page can be larger than the view rectangle, but never smaller.

WILD CARDS, symbols used to represent a set of strings that have similar characteristics. Wild cards are used in the pattern field of the load and save requesters. Sometimes the sequence #?.pic is used to display only files that end with the sequence .pic.

1.46 Technical Support

If you are having problems using Helm, you can contact us by telephone, mail, or by electronic mail.

Telephone support is available from Monday through Friday, 1:00 p.m. to 5:00 p.m. (Eastern Time). Call (804) 452-0623.

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