

CLARIS™

AppleWorks® GS

Reference

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AppleWorks GS Reference

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About this Manual

This manual provides step-by-step instructions on carrying out basic tasks with each of the six different applications included in your new AppleWorks® GS software package. Refer to this manual when you want a quick summary on how to perform a procedure—creating a new document, for example—using AppleWorks GS.

When you want an in-depth discussion of the commands and concepts in AppleWorks GS, consult the *AppleWorks GS Reference*. The *AppleWorks GS Reference* contains thorough explanations of each AppleWorks GS command and includes advanced technical information not covered in this manual.

This manual is divided into eight chapters:

- Chapter 1, “AppleWorks GS,” provides information on the procedures common to all six AppleWorks GS applications. This includes procedures for creating and saving documents, for printing, for editing, and for working with windows.
- Chapter 2, “Word Processing,” contains descriptions of procedures in the word processing application such as editing text and working with word processing documents. The chapter includes information on the mail merge features of AppleWorks GS.
- Chapter 3, “Database,” provides information on procedures for using the database application to enter and report on database information.
- Chapter 4, “Spreadsheet,” explains the basic procedures for using the spreadsheet application, including the creation of charts based on spreadsheet information.
- Chapter 5, “Graphics,” describes the procedures for using the graphics application tools and commands to create graphics.

About this Manual

- Chapter 6, "Page Layout," contains information on the procedures in the page layout application to create documents combining text and graphics.
- Chapter 7, "Communications," explains the procedures in the communications application for using your computer to send and receive information.
- Chapter 8, "Integration in AppleWorks GS," details the procedures for sharing information between different AppleWorks GS applications. This chapter also includes a discussion of using AppleWorks GS with files created by other programs.

Throughout this manual, any term that may need further explanation appears in *italics* the first time that it's used. This indicates that more information about the term can be found in the Glossary, which follows chapter 8.

CHAPTER 1

AppleWorks GS

1



AppleWorks GS Commands

Apple Menu



About AppleWorks GS...
Configure...

The Apple menu is the standard Apple II GS Apple menu. It contains a command for telling you about the AppleWorks GS application (About AppleWorks GS), a command for configuring your AppleWorks GS disk for startup, and the names of any desk accessories you install on your AppleWorks GS system disk.

About AppleWorks GS...

This command displays a dialog box containing copyright and authorship information about AppleWorks GS. Click OK to close the dialog box.

Configure...

Configure lets you specify which applications are to be automatically loaded into memory when AppleWorks GS is first started up.

To allow AppleWorks GS to start up quickly, none of the applications are preloaded into memory when you first start the program. As you open existing or new documents with the Open and New commands, AppleWorks GS loads the application for the document type you specify. This way you don't have to wait for AppleWorks GS to load applications that you don't intend to use.

If you do use certain applications more frequently than others and wish to have these applications automatically loaded into memory at startup, choose Configure. A dialog box appears containing icons that represent each of the six AppleWorks GS applications.

Click the icons representing the applications you wish to have automatically loaded; a frame appears around each selected application. To remove a selection, click the selected icon again and the frame disappears.

Click OK to confirm your selections.

AppleWorks GS Commands

File Menu

| File | |
|-------------------|----|
| New... | ⌘N |
| Open... | ⌘O |
| Close | ⌘K |
| Save | ⌘S |
| Save As... | |
| Delete File... | |
| Import File... | |
| Choose Printer... | |
| Page Setup... | |
| Print... | ⌘P |
| Print Merge... | |
| Quit | ⌘Q |

The icons represent the six AppleWorks GS applications

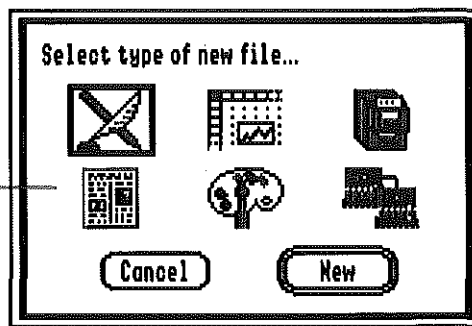
The File menu is the same for all six AppleWorks GS applications. This menu contains commands for creating, opening, saving, and printing documents. The File menu also includes commands for:

- changing printers and page setup before printing
- deleting documents from a disk
- quitting AppleWorks GS to return to the Apple IIGS Finder

New...

The New command creates a new, empty document window for use with one of the six AppleWorks GS applications.

When you choose the New command, a dialog box appears containing six icons representing the six AppleWorks GS applications.



Click the icon that represents the type of new document that you want to create, and then click New. You can also create a new document by double-clicking the icon that represents the new document's application type. A new document of the appropriate type appears in its own window.

If you already have one or more documents open, New places the new document window on top of the other document windows. The new document is temporarily named *Untitled*, followed by a number representing the order in which that untitled document was created. The new document name appears on the document's title bar and on the Window menu followed by a two-letter code in parentheses identifying the type of application.

AppleWorks GS Application Type Codes

| Application: | Type code: | Example: |
|-----------------|------------|----------------|
| Word Processing | WP | Untitled1 (WP) |
| Database | DB | Untitled1 (DB) |
| Spreadsheet | SS | Untitled1 (SS) |
| Page Layout | PL | Untitled1 (PL) |
| Graphics | GR | Untitled1 (GR) |
| Communications | CM | Untitled1 (CM) |

For example, if you've already created two documents and you then create a word processing document with the New command, the new word processing document will be named "Untitled3."

You can open up to 14 AppleWorks GS documents at once. If you choose New with 14 documents already open, a dialog box appears, telling you that only 14 windows can be open at a time. Close one of the open documents and choose New again.

You can also create a new document with the Open command.

Open...

The Open command reads a document previously saved on a disk and displays it in a document window on the screen.

In addition to its own document types, AppleWorks GS directly reads AppleWorks word processing, database, and spreadsheet documents; ASCII text documents; and MultiScribe GS word processing documents. The AppleWorks GS graphics application directly reads documents created with a variety of Apple IIGS graphics programs, including PaintWorks Plus, PaintWorks Gold, Deluxe Paint II, and TopDraw.

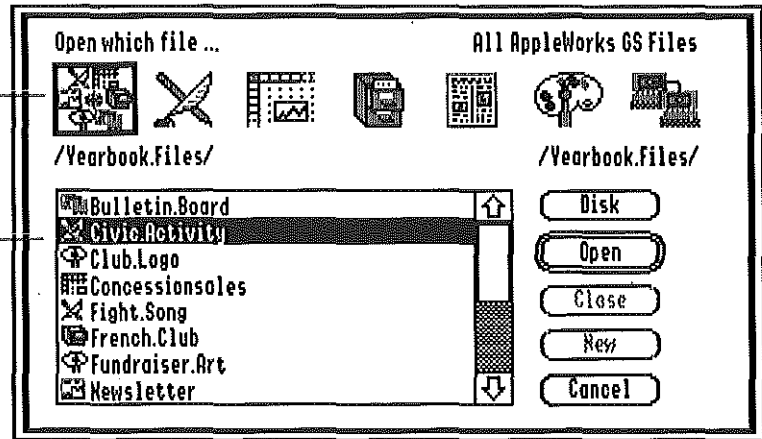
When you choose Open, a dialog box appears, containing icons that represent the different AppleWorks GS applications. The All AppleWorks GS Files icon is surrounded by a frame, indicating that it's currently selected. Clicking one of the icons determines which type of documents are displayed in the list box.

AppleWorks GS Commands

To open a specific document type, click the appropriate icon:

Click to choose the type of document you want to open

Click to choose a document to open



Open Command Dialog Box Icons

| Selecting this icon: | Displays these document types: |
|-------------------------|--|
| All AppleWorks GS Files | AppleWorks GS, AppleWorks, ASCII text, MultiScribe GS, and standard format (APF, Paint, PICT, Screen) graphics documents |
| Word Processing | AppleWorks GS, AppleWorks, ASCII text, and MultiScribe GS word processing documents |
| Database | AppleWorks GS and AppleWorks database documents |
| Spreadsheet | AppleWorks GS and AppleWorks spreadsheet documents |
| Graphics | AppleWorks GS and standard format (Paint, APF, PICT, Screen) graphics documents |
| Page Layout | AppleWorks GS page layout documents |
| Communications | AppleWorks GS communications documents |

To open a document, click the name of the document. If necessary, scroll the list to find the name of the document you want. Click **Open** to open the document. (You can also open a document by double-clicking its name.) When you open a folder, the folder name is appended to the current pathname and documents and folders located on that path appear in the list box.

To close a folder, click **Close** or click the pathname above the list box. The names of the documents and folders on the new pathname are displayed in the list box.

To open a document on another disk, click **Disk** until the name of the disk you want is displayed as the current pathname. To cancel the operation and return to the last active document window, click **Cancel**.

If you already have one or more documents open, the **Open** command places the new document window over the other documents. The document name appears on the **Window** menu followed by a two-letter code in parentheses identifying the type of application.

AppleWorks GS lets you open a maximum of 14 documents at one time. If you choose **Open** with 14 documents already open, a dialog box appears, telling you that only 14 windows can be open at a time. Close a document and choose **Open** again.

In addition to opening existing documents, you can also create new documents using the **Open** dialog box. Click the icon representing the application type of the document you want to create and click **New** (or double-click the icon). A new, untitled document window appears.

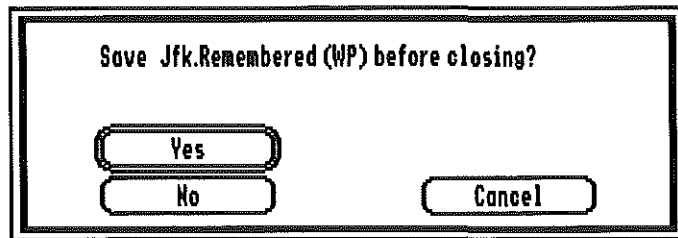
Note: You can only open one communications document at one time.

Close

The **Close** command closes the active document window.

If you've made changes to the document you're closing, AppleWorks GS displays a dialog box asking if you want to save your changes.

AppleWorks GS Commands



When you close a document with two or more documents on the screen, the document window immediately beneath the closed document becomes the new active window. If you close the only document window on the screen, the empty AppleWorks GS desktop appears.

If there are no documents open on the desktop, Close is dimmed on the File menu.

Choosing Close is the same as clicking the close box of the active document window.

Save

The Save command puts a copy of the document in the active window on disk.

If you're saving a new, untitled document, a dialog box appears to let you name the document and tell AppleWorks GS where to save it. (See "Save As," following, for an explanation of this dialog box.) When you've named and saved the document, a copy of the document is written on the disk and its name appears in the title bar, followed by a two-letter code in parentheses identifying the application type of the document.

Once a document has been named and saved, the Save command automatically saves it without prompting you for information.

If there are no documents open on the desktop, Save is dimmed on the File menu.

Use the Save command when you've already named and saved a document and want to save your most recent changes on disk. Use Save As when you want to save a named document with a different name or on a different disk.

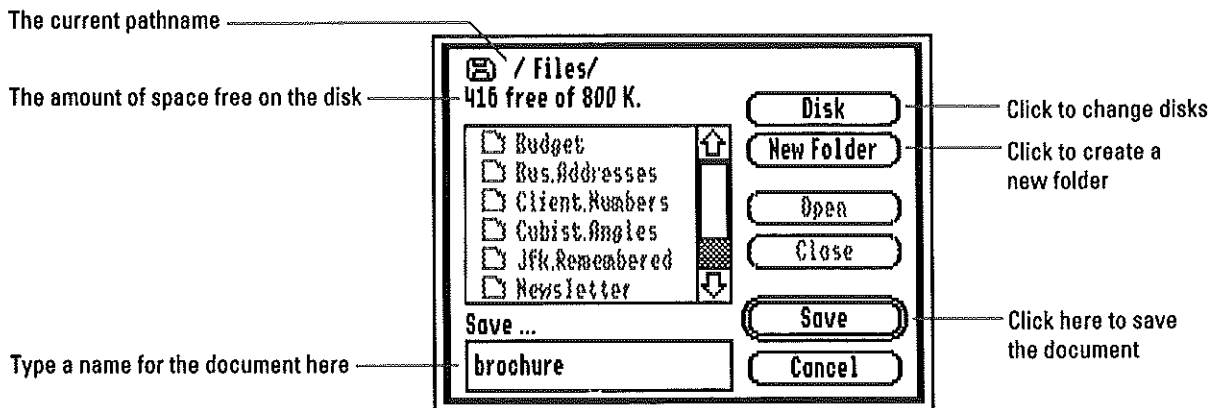
Save As...

The Save As command lets you name or rename a document, save it on a different disk or in a different folder, or save it with a different file format. The types of file formats you can choose depend on the application type of the document you're saving.

Use the Save As command when you want to:

- save a changed document with a new name while retaining the old version of the document
- make a backup or copy of an existing document with a different name or on a different disk

When you choose Save As, a dialog box appears:



If you're saving a new document, the name in the entry box is Untitled, followed by a number representing the order in which that untitled document was created. (For example, if the document was created after two other documents, the document would be named Untitled3.) If you're saving a document that has already been named and saved on disk, the entry box contains the current document name.

AppleWorks GS Commands

If you give the document a name used by a document previously saved on the disk, a dialog box appears, asking if you want the document you're saving to replace the old document of the same name already on the disk. Clicking Yes saves the document under the specified name, replacing the old document of the same name. Clicking No returns you to the Save As dialog box to give the document a different name.

To save the document with a different name, enter a new name in the entry box. You can enter any name that conforms to the GS/OS guidelines for document names. For information on these guidelines, see the *Apple IIGS System Disk User's Guide*.

To save a document on another disk, click Disk until the name of the disk you want is displayed as the current pathname. To save a document in a different folder, click the folder and then click Open (or double-click the folder). You can create a new folder for the document by typing a name in the entry box and then clicking New Folder.

Some AppleWorks GS applications let you save documents with non-AppleWorks GS file formats for use with other software programs. When you can save a document with one of these formats, an appropriate setting appears on the Save As dialog box. A list of the applications supporting non-AppleWorks GS file formats is given below:

Non-AppleWorks GS Formats for Saving Files

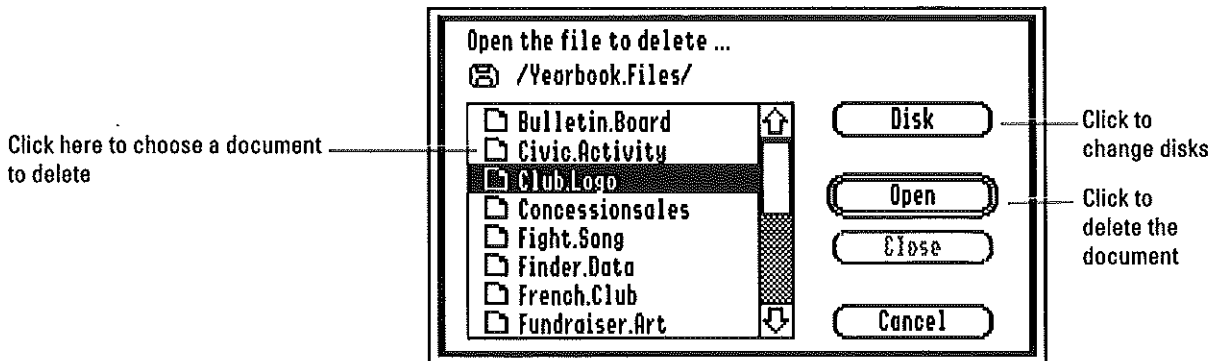
| Application: | Non-AppleWorks GS formats supported: |
|-----------------|---------------------------------------|
| Word Processing | ASCII |
| Database | ASCII, with Tab and Return delimiters |
| Spreadsheet | ASCII, with Tab and Return delimiters |
| Graphics | Apple Preferred Format (APF) |
| Page Layout | None |
| Communications | None |

When you've named the document and specified where to save it, click Save. The document is saved with that name, and a new icon for the document is created in the Finder.

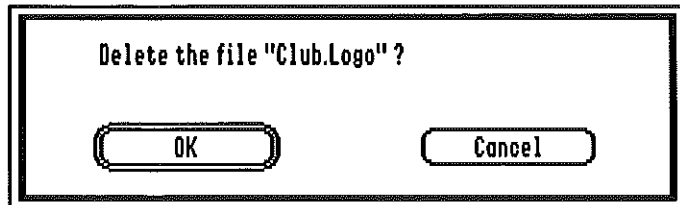
Delete File...

The Delete File command lets you remove a file from a disk without leaving AppleWorks GS. You can delete any file on a disk, including AppleWorks GS documents, system files such as fonts and printer drivers, and even program files. For this reason, you'll want to be very careful when using Delete File.

When you choose Delete File from the File menu, a dialog box appears:



To delete a file, click the name of the file you wish to delete (if necessary, scroll the list or open the appropriate folder to display the file's name). Then click Open to delete the file (or double-click its name). A dialog box appears asking you to confirm that you want to delete the file.



Click OK to complete the file deletion. Clicking Cancel cancels the operation without deleting the document.

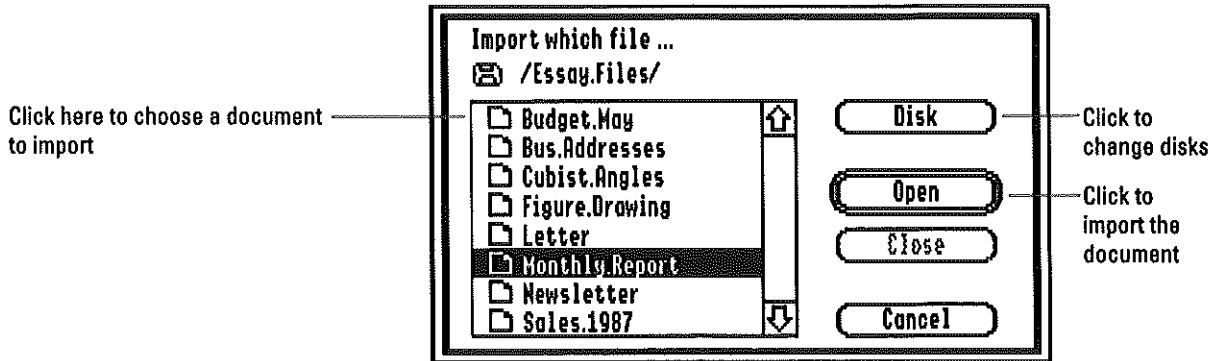
To delete a file on another disk, click Disk until the name of the disk you want is displayed as the current pathname, and then click the name of the file to be deleted and click Open. To delete a file in another folder, click the folder and then click Open (or double-click the folder). Delete File won't delete a folder, even if the folder is empty.

AppleWorks GS Commands

Import File...

The Import File command inserts the contents of an entire document on a disk into an open AppleWorks GS document.

When you choose Import File, a dialog box appears:



To import a document, click the name of the document you wish to import (if necessary, scroll the list or open the appropriate folder to display the document name). Then click Open to import the document (or double-click its name).

To import a document on another disk, click Disk until the name of the disk you want is displayed as the current pathname (or until the name of the document you want to import is displayed in the list box).

All the AppleWorks GS applications let you import documents with non-AppleWorks GS file formats, and some applications import documents of their own file type, as well. For example, the word processing application allows you to import AppleWorks GS word processing documents as well as AppleWorks, MultiScribe GS, and ASCII text documents.

The following chart lists the AppleWorks GS applications and the different file formats they support with the Import File command.

File Formats Imported by AppleWorks GS Applications

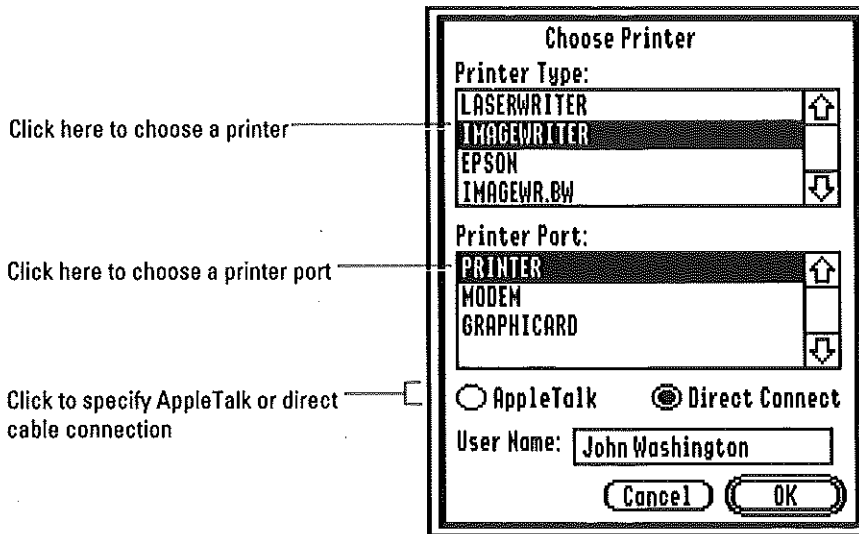
| Application: | File formats supported: |
|---------------------|---|
| Word Processing | AppleWorks GS word processing, AppleWorks word processing, MultiScribe GS, ASCII text |
| Database | <i>Database:</i> ASCII text—tab and carriage return delimiters ASCII text—space and carriage return delimiters ASCII text—carriage return delimiters with number of fields per record specified <i>Graphics:</i> AppleWorks GS graphics, Apple Preferred Format (APF), Paint (PNT), PICT, Screen (320 and 640) |
| Spreadsheet | ASCII text—tab and carriage return delimiters ASCII text—space and carriage return delimiters ASCII text—carriage return delimiters with number of rows specified |
| Graphics | AppleWorks GS graphics, Apple Preferred Format (APF), Paint (PNT), PICT, Screen (320 and 640) |
| Page Layout | <i>Word Processing:</i> AppleWorks GS word processing, AppleWorks word processing, MultiScribe GS, ASCII text <i>Graphics:</i> AppleWorks GS graphics, Apple Preferred Format (APF), Paint (PNT), PICT, Screen (320 and 640) |
| Communications | AppleWorks GS word processing, AppleWorks word processing, MultiScribe GS, ASCII text |

Choose Printer...

This command tells AppleWorks GS what printer and printer port you're using. Once you've provided these settings, you won't have to choose this command again unless you change your printer or the printer port you're using. The preset printer and printer port are ImageWriter and Printer.

AppleWorks GS Commands

When you choose the Choose Printer command, a dialog box appears on the screen:



The Choose Printer dialog box contains two lists—a list of printers and a list of printer ports. Click the name of the printer and printer port you're using (if necessary, scroll the lists until the appropriate printer and printer port appear).

When you've made your selection, click OK. Your settings are saved on the AppleWorks GS program disk.

For more information on setting up your printer for use with AppleWorks GS, see appendix A, "Special Installation Information," in this manual.

If you're using a LaserWriter, be sure to select AppleTalk as your printer port and activate AppleTalk in the Control Panel. If you're printing with the Epson LX/FX printer driver, select as your printer port either GraphiCard or Grappler (the two parallel printer cards supported by AppleWorks GS for use with the Epson printer).

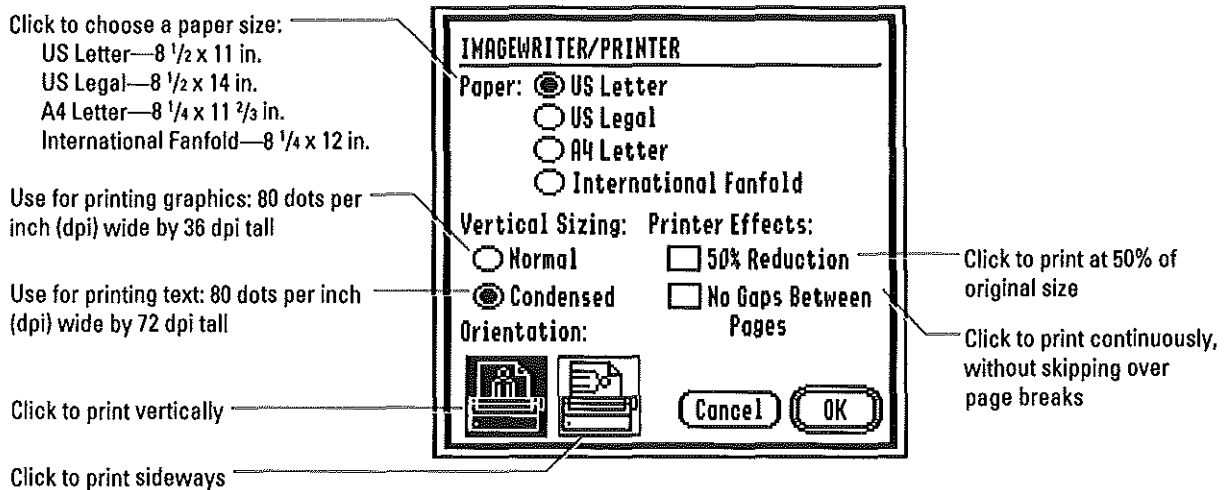
Page Setup...

The Page Setup command lets you specify the size of the paper you'll be printing on and whether to print vertically or sideways. Settings for vertical character sizing and document reduction or enlargement are also provided. Other print options are available, depending on which printer has been selected with the Choose Printer command.

When you choose Page Setup, a dialog box appears. This dialog box differs depending on which printer has been chosen with the Choose Printer command. The ImageWriter and LaserWriter printer drivers are discussed here. For more information on page setup and printer drivers, see chapter 1, "AppleWorks GS," in the *AppleWorks GS User's Guide*.

ImageWriter

If you're using the ImageWriter printer driver, this dialog box appears:



Change the page setup options by clicking the appropriate settings.

The first time you choose Page Setup, the options are preset to the settings shown above for the word processing, database, and spreadsheet applications. The page layout and graphics applications also default to the settings shown above for all options except Vertical Sizing, which is preset to Normal for those applications.

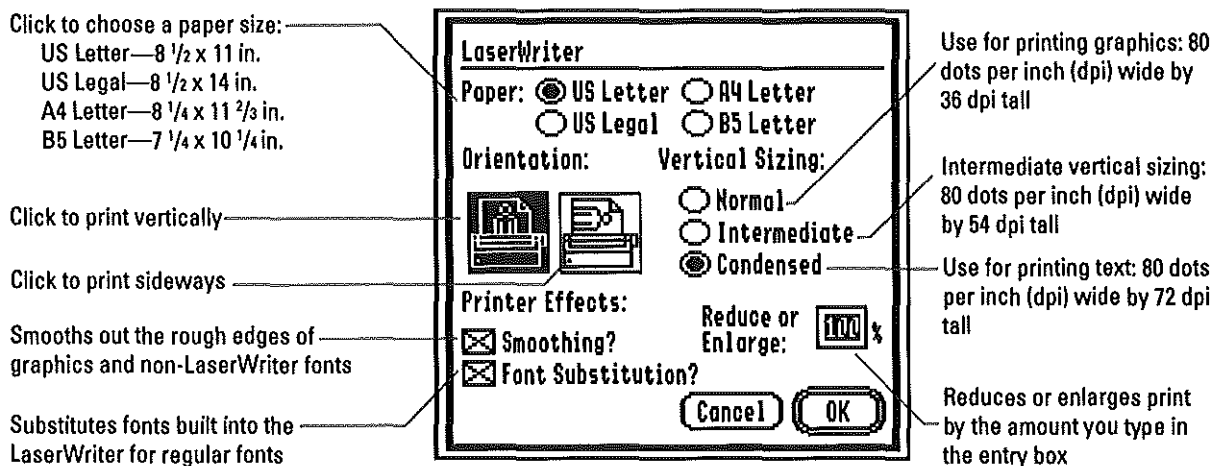
AppleWorks GS Commands

Any changes you make to these settings are saved when you save the document that was active when you made the changes. Activating another document changes the page setup to the settings saved with the document (or to the default settings if it's a new document).

When you've chosen the settings you want, click OK. Clicking Cancel cancels the Page Setup operation and leaves your old settings intact.

LaserWriter

If you're using the LaserWriter printer driver, the following dialog box appears:



Change the page setup options by clicking the appropriate settings.

The first time you choose Page Setup, the options are preset to the settings shown above for the word processing, database, and spreadsheet applications. The page layout and graphics applications also default to the settings shown above for all options except Vertical Sizing, which is preset to Normal.

Any changes you make to these option settings are saved when you save the document that was active when you made the changes. Activating another document changes the page setup to the settings saved with the document (or to the default settings if it's a new document).

When you've chosen the settings you want, click OK. Clicking Cancel cancels the Page Setup operation and leaves your old settings intact.

Choosing Font Substitution when you're using a LaserWriter causes the following font substitutions:

- New York becomes Times
- Geneva becomes Helvetica
- Monaco becomes Courier
- Shaston becomes Helvetica

If you're not using LaserWriter fonts and you choose to print without font substitution, printing time will increase. Bitmapped fonts are created for all other non-LaserWriter fonts and downloaded to the LaserWriter, whether you choose font substitution or not. Choosing Smoothing will speed up printing and make non-LaserWriter fonts look better.

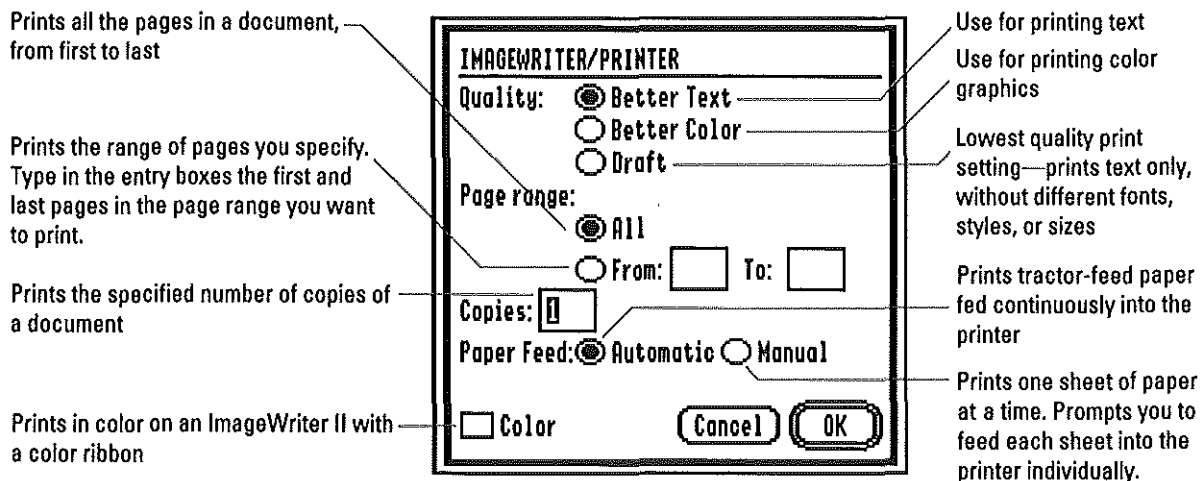
The Page Setup command is dimmed when no documents are open.

Print...

The Print command prints a copy of the current document according to your specifications.

When you choose Print, a dialog box appears. As with Page Setup, this dialog box differs depending on which printer has been selected with the Choose Printer command.

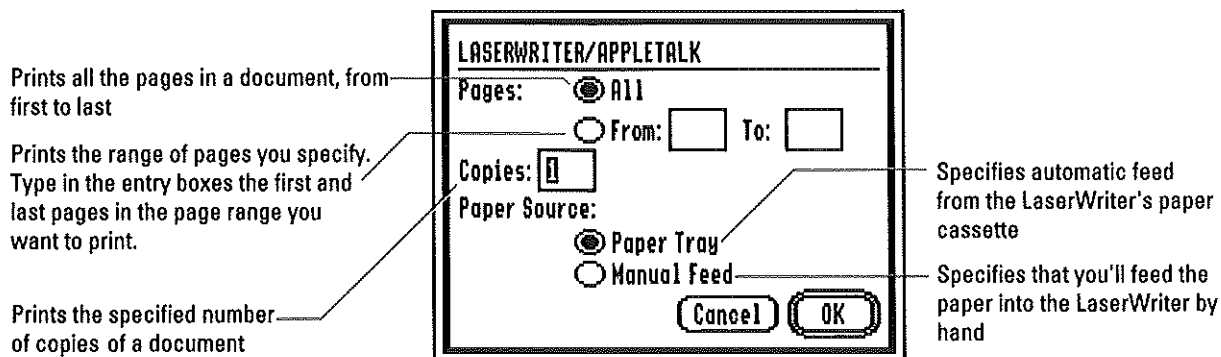
The Print dialog box for the ImageWriter is displayed below.



AppleWorks GS Commands

The option settings shown for the ImageWriter are the defaults. Change the print options by clicking the appropriate settings.

The Print dialog box for the LaserWriter is displayed below. The option settings shown are the defaults. Change the print options by clicking the appropriate settings.



Once you've selected the settings you want, click OK.

The Print command is dimmed when no documents are open.

Print Merge...

This command is only functional in the word processor and otherwise remains dimmed on the File menu. For a complete discussion of the Print Merge command, see "Print Merge" in chapter 2, "Word Processing Commands."

Quit

The Quit command lets you exit AppleWorks GS and return to the Finder. If you've made unsaved changes to the documents open on the AppleWorks GS desktop, a dialog box appears for each document with unsaved changes to let you save your changes before quitting.

Edit Menu

| Edit | |
|------------|----|
| Undo | ⌘Z |
| Cut | ⌘X |
| Copy | ⌘C |
| Paste | ⌘V |
| Clear | |
| Select All | ⌘A |

On the Edit menu you'll find the standard Apple II GS editing commands—Undo, Cut, Copy, and Paste. These commands make use of the Clipboard, where cut or copied information is stored. (The contents of the Clipboard can be displayed by choosing Show Clipboard from the Windows menu.) The Edit menu also contains commands for removing a selection without saving it to the Clipboard and for selecting the contents of an entire document.

In addition to these standard commands, each of the AppleWorks GS applications also contains special editing commands that apply specifically to that application. For example, the Edit menu of the word processor contains a Check Spelling command, the Edit menu of the database application contains the command Field Definition, and so on. For information on the Edit menu commands specific to a particular application, see "Edit Menu" in the chapter of this manual that deals with that application.

Undo

The Undo command lets you undo, or reverse, the most recent changes you've made to a document. Undo reverses different actions in different applications, and not all actions in all applications can be undone. If the effects of an action can't be reversed, the command is dimmed on the Edit menu.

Cut

The Cut command removes a selection from a document and stores the selected material on the Clipboard, replacing the Clipboard's previous contents. The cut material remains on the Clipboard until the next Cut or Copy operation is performed.

This command may be used only after you've made a selection and otherwise remains dimmed on the Edit menu.

AppleWorks GS Commands

Copy

The Copy command copies a selection to the Clipboard, replacing the Clipboard's previous contents.

Like the Cut command, this command may be used only after you've made a selection and otherwise remains dimmed on the Edit menu.

Paste

The Paste command places the contents of the Clipboard in the active document.

The contents of the Clipboard are saved on the disk and are not removed if you choose Quit to exit AppleWorks GS.

If nothing has been cut or copied to the Clipboard, Paste is dimmed on the Edit menu.

Clear

The Clear command deletes a selection. Unlike the Cut command, which also removes a selection from a document, Clear does not store the deleted material on the Clipboard.

If nothing is selected, Clear appears dimmed on the Edit menu.

Select All

This command selects everything in a document at once.

The following table documents the effects of the Select All command in each application.

The Select All Command

| Application: | What gets selected when you choose Select All: |
|---------------------|---|
| Word Processing | All text in the current document |
| Spreadsheet | All cells in the document containing data (may select empty cells as well—selects a rectangular area defined by the rightmost and lowermost cells containing data) |
| Database | All active records in the current document |
| Page Layout | <i>If the insertion point is selected,</i> All text in the current text stream <i>If the insertion point isn't selected,</i> All objects on the current page |
| Graphics | All objects in the current document |
| Communications | All text in the review buffer |

AppleWorks GS Commands

Window Menu

| |
|-----------------------|
| Window |
| Show Clipboard |
| Bus.Addresses (DB) |
| Budget (SS) |
| JFK.Remembered (WP) |
| Cubist.Angles (GR) |
| Brochure (PL) |
| Bulletin.Board (CH) |

The Window menu contains the names of all currently open windows, allowing you to quickly change the active window from the current document to any other open document. In addition, the Window menu also features the Show Clipboard command, to let you view the current contents of the Clipboard.

To make a document the current document, choose the name of that document from the menu. The name of the document is checked on the Window menu, and the document window moves to the front of the screen to become the active window. The menu bar changes to reflect the application of the chosen document.

Show Clipboard/Hide Clipboard

The Show Clipboard command opens a window displaying the current contents of the Clipboard. When this command is chosen, the menu bar contains only the Apple, File, Edit, and Window menus, and the entire Edit menu is dimmed. Show Clipboard changes to Hide Clipboard on the Window menu.

The Clipboard window is similar to other windows in most respects. Although it has no size box, it can be zoomed with the zoom box or closed using the close box. However, the contents of the Clipboard window can only be displayed; you can't edit or change its contents.

Other Common AppleWorks GS Commands

Two of the commands common to more than one application—Edit Colors and Choose Font—are on different menus in different applications. These commands are discussed in the following section.

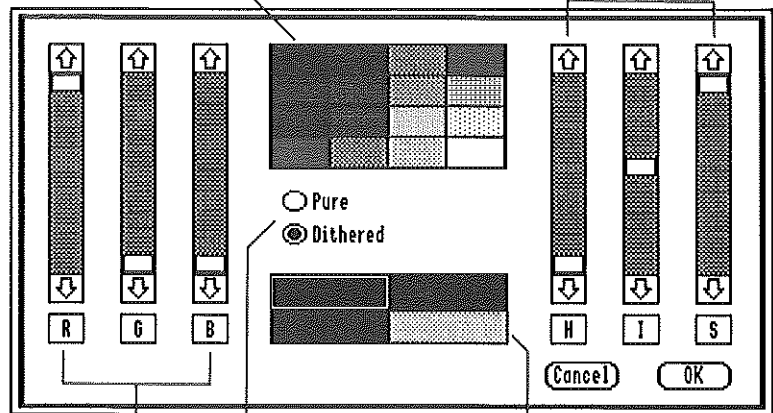
Edit Colors...

This command lets you change the text and graphics colors in an AppleWorks GS document. Edit Colors appears on the Color menu of the word processor and page layout application and on the Edit menu of the database and graphics applications.

When you choose Edit Colors, the AppleWorks GS Color Editor appears:

The 16-color display palette shows the colors as they will appear in your text or graphics

These scroll bars let you edit the current color selection by changing the hue (H), and then varying the intensity (I) and saturation (S) of the selected hue



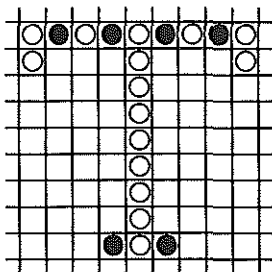
These scroll bars let you edit the current color selection by blending varying amounts of red (R), green (G), and blue (B)

Click to choose between pure and dithered colors

Click to select the color you want to edit

AppleWorks GS Commands

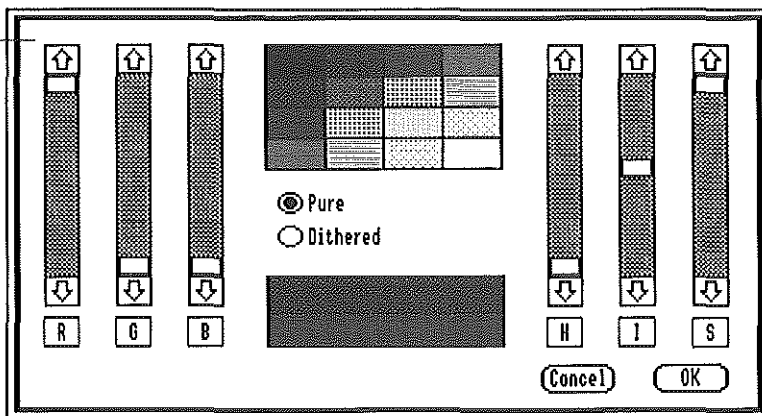
Before you begin editing any of the colors, choose whether to use pure or dithered colors for text and graphics. AppleWorks GS defaults to Dithered, with four colors—red, green, blue, and yellow—in the edit palette. To provide a wide selection of text and graphics color choices, AppleWorks GS mixes colors in odd and even columns on the screen, a process called *dithering*. If you look carefully at the screen when you're using color text, you'll see that the text alternates colors with every column, creating the illusion of another color.



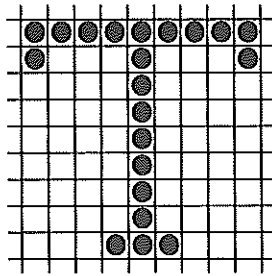
On-screen dithered color text and graphics alternate colors with every column, creating the illusion of another color

When you choose Pure, AppleWorks GS creates a color selection based on four base colors—black, white, and two other colors (the defaults are red and green) that appear in the edit palette.

Color Editor with Pure chosen

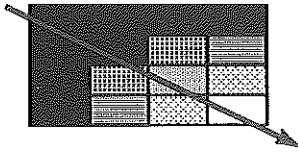


These four colors are dithered in various ways to create eight different colors, which, along with pure black and pure white (for a total of ten colors), appear in the color display palette. Besides black and white, however, two other colors in the color display palette are pure, which means that although they're technically dithered, they're formed by blending a color with itself in even and odd columns.



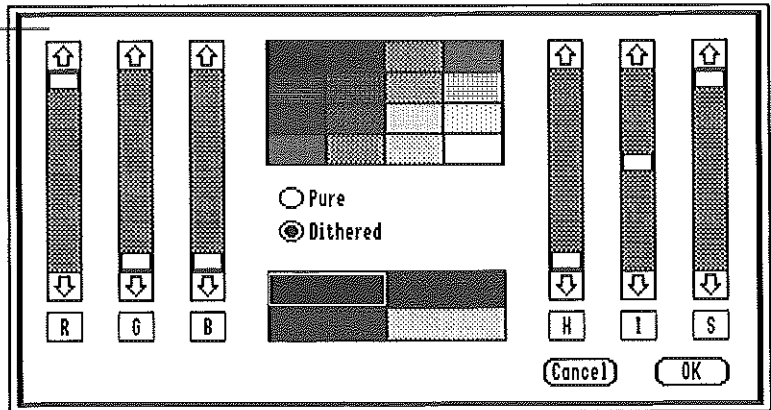
On-screen pure color text and graphics use the same color in every column

The pure colors in the color display palette form a diagonal from the upper-left (black) to the lower-right (white).



When you choose Dithered, AppleWorks GS creates a color selection based on six base colors—black, white, and four other colors (the defaults are red, green, blue, and yellow) that appear in the edit palette.

Color Editor with Dithered chosen



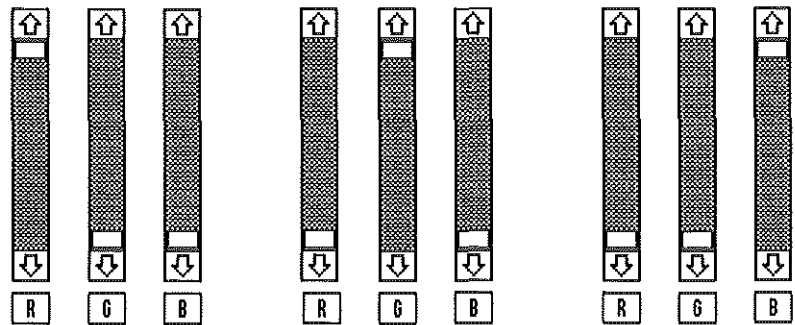
These six colors are dithered in different combinations to create 15 colors (gray is the only duplicated color). Since none of the colors are formed by dithering a color with itself, none of the colors displayed is pure. You can create pure colors with Dithered selected, however, by making two of the colors on the same row in the edit palette the same color; this will cause one of the 15 dithered colors to actually be pure.

AppleWorks GS Commands

The Color Editor provides two different models for editing colors. The first, known as the *RGB model*, allows you to mix varying amounts of red, green, and blue to change the composition of a color. To do this, you'll use the R (red), G (green), and B (blue) scroll bars on the left side of the Color Editor. These scroll bars are arranged vertically, with the top of each scroll bar representing placement of 100% of the scroll bar's color in the selected color and the bottom of each scroll bar representing 0% of the scroll bar's color in the selected color.

To change a selected color to red, for example, you'll want to have red set at maximum and green and blue turned off, so you'll drag the scroll box to the top of the R scroll bar and the scroll boxes in G and B to the bottoms of their respective scroll bars.

To obtain pure red, pure green, and pure blue, set the RGB scroll bars to these settings



Pure red

Pure green

Pure blue

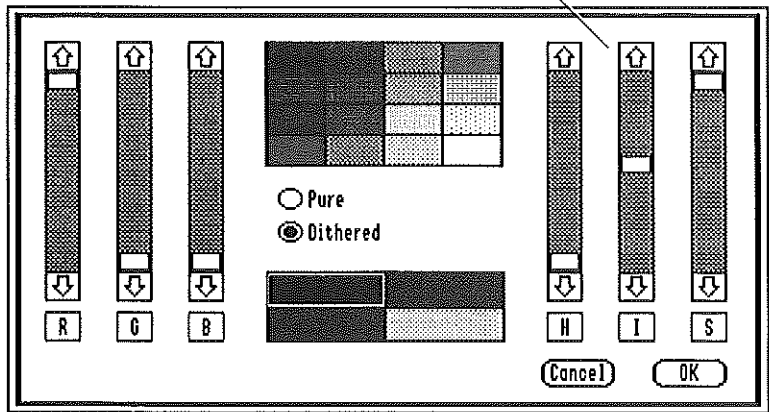
When R, G, and B are all set at the maximum, the selected color changes to white (white light is the combined presence of all three colors); when R, G, and B are all set at the minimum, the selected color changes to black (black is the absence of any color.)

The second method for editing colors, known as the *HIS model* (for *hue*, *intensity*, and *saturation*), lets you edit a color by varying different characteristics of that color.

The first of these characteristics, hue, is the color itself. When you scroll the H scroll bar, the color displayed in the selection box cycles through the current available colors (the colors available on the Apple IIGS at the current intensity and saturation levels).

Intensity is a measure of the brightness of a color—how light or dark that color is. When you move the scroll box toward the top of the I scroll bar, the selected color in the edit palette becomes lighter (until it becomes pure white) as more white is added to the color. When you move the scroll box toward the bottom of the I scroll bar, the selected color becomes darker (until it becomes pure black).

Setting the Intensity scroll bar to maximum changes a selected color to pure white



The third color characteristic, saturation, is a measure of the richness of a color—how strong or pastel a color appears. As you move the scroll box to the top of the S scroll bar, the color in the selection box becomes stronger, until it is the strongest expression of that hue at the current intensity level. As you move the scroll box toward the bottom of the S scroll bar, the color in the selection box becomes lighter, until it becomes pure gray.

To edit a color using the HIS model, first choose a color or hue by scrolling the H scroll bar until the desired hue appears in the selection box, then scroll the I and S scroll bars to modify the intensity and saturation of the selected color. As you scroll the H, I, and S scroll bars, the R, G, and B scroll bars are also adjusted accordingly.

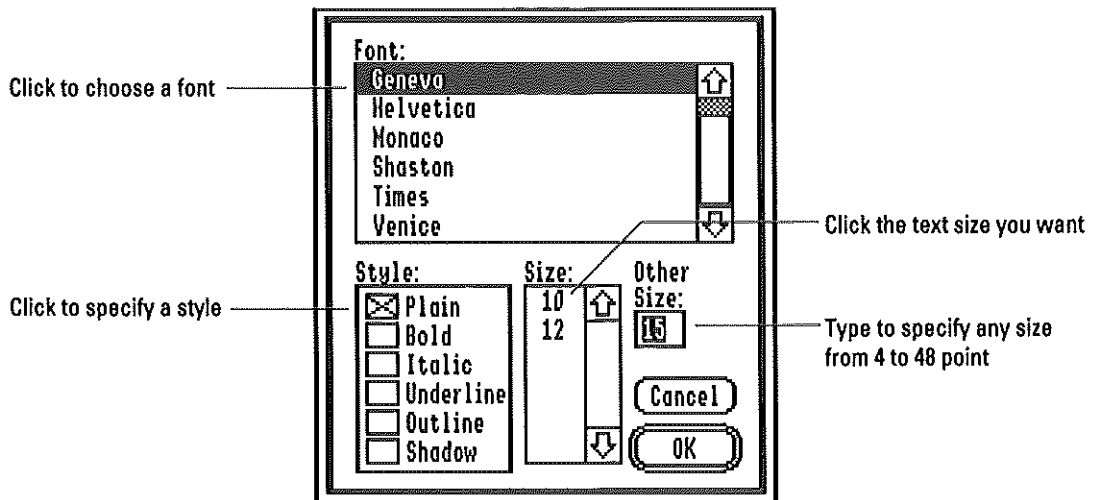
AppleWorks GS Commands

Choose Font...

The Choose Font command lets you choose a font for selected text or for text to be typed at the insertion point. It also lets you choose the style and size of the font. (These same choices regarding style and size are also available under the Size menu and Style menu, but the Choose Font command provides a convenient way to make these choices all at once.)

In addition to allowing you to change font, size, and style of selected text all at once, Choose Font lets you access all the fonts in the System folder of your startup disk, not just those listed on the Font menu. Choose Font appears on the Font menu of the word processor and page layout application, on the Template menu of the database application, and on the Options menu of the graphics application.

When you choose the Choose Font command, a dialog box appears:



When the dialog box appears, the current settings indicate the font, style, and size of the selected text.

To select a font, click the desired font in the Font list box. If necessary, scroll the list to find the name of the font you want.

To select a style, click the check boxes in the Style box to indicate the desired style or combination of styles. For example, if you want your text to appear both boldface and underlined, click the Bold check box and the Underline check box. The only style on the Choose Font dialog box that can't be used in combination with other styles is Plain; when you choose Plain, it removes all other styles from your text.

To select the size of the font to be used, click the desired font size in the Size list box. If necessary, scroll the list until the size you want appears. If the font size you want is not listed in the Size list box, type the size in the Other Size entry box. AppleWorks GS will derive this font size from one of the font sizes that are available on the disk. A font size created in this way may have a rougher appearance than a standard font size.

When you've chosen the settings you want, click OK. Click Cancel to return to your document without making changes to the current font, size, or style.

Note: You can add fonts to your system and remove them by dragging the font files into the Fonts folder of the System folder on your startup disk. See "About the Apple IIGS System Folder," in appendix A, "Special Installation Information," in this manual.

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CHAPTER 2

Word Processing



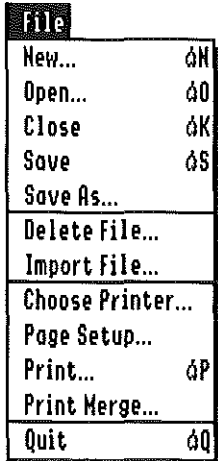
CHAPTER

2



Word Processing Commands

File Menu

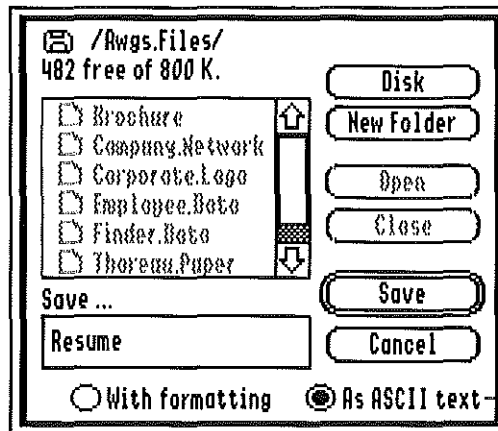


The standard File menu commands—common to all the AppleWorks GS applications—are described in chapter 1, “AppleWorks GS Commands.” Although common to all the AppleWorks GS applications, the Save As command supports special formats for saving word processing documents, so information on these formats is provided here.

Save As...

The Save As command for the AppleWorks GS word processor works the same as in the other applications, except that, in addition to the regular word processing format, documents can also be saved as ASCII text. When you save a document as ASCII text, you’re saving the text only, without formatting, fonts, character sizes, styles, or colors.

When you choose Save As in the word processor, a dialog box appears containing the usual options for saving documents, as well as two settings for saving a document in AppleWorks GS word processing format or ASCII text format. The default is word processing format. To save a document as ASCII text, click As ASCII Text.



For information on the other options provided by the Save As command, see “Save As” in chapter 1, “AppleWorks GS Commands.”

Word Processing Commands

Print Merge...

The Print Merge command prints multiple copies of a merge document created in the word processor, with each copy containing information from a different record of a database document open on the AppleWorks GS desktop. This command can be used for a wide variety of form printing applications, from personalized form letters to mailing labels to employee time sheets.

Print Merge is only functional in the word processor and otherwise remains dimmed on the File menu. A database document must be open on the desktop for use with the merge document.

Print Merge is used in conjunction with two AppleWorks GS word processor commands, Select Merge Database and Add Merge Field, both on the Edit menu. Select Merge Database lets you choose which database document you wish to use with Print Merge. If you choose Print Merge without having first selected a database, AppleWorks GS automatically displays the Select Merge Database dialog box to let you make your selection. If only one database file is open on the desktop when you choose Print Merge, that database file is used, and the Select Merge Database dialog box does not appear.

Add Merge Field lets you specify which fields from the selected database you want to place in your merge document, and where you want to place them. As you place each field, its name appears surrounded by angle brackets (< and >) in the specified location in your merge document. You can also add merge fields to a merge document by directly typing into the merge document a left angle bracket(<), followed by the field name, followed by a right angle bracket(>).

For more information on these commands, see "Select Merge Database" and "Add Merge Field" in this chapter.

Once you've created a merge document and specified which database fields you wish to print with (and where you want them placed in the merge document), adjust the page setup settings for the merge document with the Page Setup command (see "Page Setup," in this manual for complete information about these settings) and choose Print Merge. The Print dialog box appears to let you change the settings used for printing the merge document (see "Print," in chapter 1, "AppleWorks GS Commands," for more information about printing options).

AppleWorks GS uses the database file specified with Select Merge Database to print a different version of the merge document for each record in the current set of active records of the database file.

As each record is printed, AppleWorks GS displays a dialog box giving the total number of records to be printed and the record number of the record being printed.

At each occurrence of a specified field name in the merge document, AppleWorks GS inserts the information contained in the field of that name in the current record of the selected database file. Consider the sample form letter below:

January 1, 1989

<First Name> <Last Name>

<Organization>

<Address>

<City>, <State> <Zip>

Dear <Mr.or.Ms.> <Last Name>:

In this example, the Last Name field appears twice for each record printed, because it's specified twice. You can specify that a field be used as many times as necessary for each record in the database file (and therefore for each merge document you print).

You can use merge documents created with one database file with another, different, database file, provided the field names you specify are common to both database files. If a merge document contains a field name for which there is no corresponding field in the selected database file, the name of the field, surrounded by angle brackets—and not the database information—is printed when the documents are printed.

To cancel printing of a merge document, press the ⌘ and period (.) keys.

Word Processing Commands

Edit Menu

| Edit | |
|--------------------------|----|
| Undo Typing | ⌘Z |
| Cut | ⌘X |
| Copy | ⌘C |
| Paste | ⌘V |
| Clear | |
| Copy Ruler | ⌘[|
| Paste Ruler | ⌘] |
| Select All | ⌘A |
| Select Paragraph | ⌘Y |
| Select Sentence | |
| Select Merge Database... | |
| Add Merge Field... | |

The standard Edit menu commands (Undo, Cut, Copy, Paste, Clear, and Select All) are described in chapter 1, "AppleWorks GS Commands."

The Edit Colors command, on the Color menu of the word processor but on different menus in other applications, is described in "Other Common AppleWorks GS Commands," also in chapter 1.

In addition to the standard commands, the Edit menu in the word processor contains commands for copying and pasting rulers, selecting blocks of text, and creating merge documents.

Copy Ruler

The Copy Ruler command makes a duplicate of the ruler settings for the paragraph containing the insertion point. Use this command in combination with the Paste Ruler command when you want to apply the formatting of one paragraph in a document to a selected paragraph or group of paragraphs elsewhere in the document (see "Paste Ruler" in this chapter for an explanation of this command). The Copy Ruler command does not replace the contents of the Clipboard.

Paste Ruler

The Paste Ruler command applies the ruler settings copied with the Copy Ruler command to the currently selected paragraph(s).

Before the Paste Ruler command can be used, the format settings for a ruler must be copied to the Clipboard with the Copy Ruler command (see "Copy Ruler" in this chapter for an explanation of this command). Then, select the paragraph or group of paragraphs to be formatted (or select the insertion point anywhere inside the paragraph to be formatted) and choose Paste Ruler.

If no ruler settings have been copied to the Clipboard by the Copy Ruler command, Paste Ruler appears dimmed on the menu.

Select Paragraph

This command selects an entire paragraph. When you choose Select Paragraph, the paragraph containing the insertion point is selected.

Select Sentence

The Select Sentence command selects an entire sentence. When you choose Select Sentence, the sentence containing the insertion point, including final punctuation, is selected.

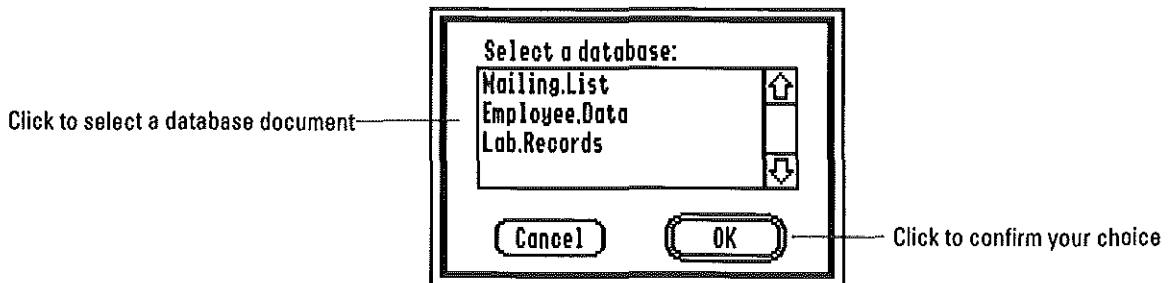
What makes it a sentence? For purposes of the Select Sentence command, AppleWorks GS considers a sentence to be any text separated by any combination of the following: two or more spaces; a Tab character; a carriage return character (thus the start of a paragraph begins a new sentence and the end of a paragraph ends the current sentence). The beginning and end of a document also serve to mark the beginning and ending of sentences. *The easiest way to make sure you're creating a complete sentence is to type two spaces after the period.*

Select Merge Database...

This command lets you specify which database document you wish to use:

- when creating a merge document by specifying merge fields with Add Merge Field
- when you want to get data when printing an existing merge document with Print Merge

When you choose Select Merge Database, a dialog box appears containing a list of database documents open on the AppleWorks GS desktop:



Click the name of the database document you wish to use (scroll the list to display the name, if necessary), and click OK.

If no database documents are open on the desktop, Select Merge Database appears dimmed on the menu.

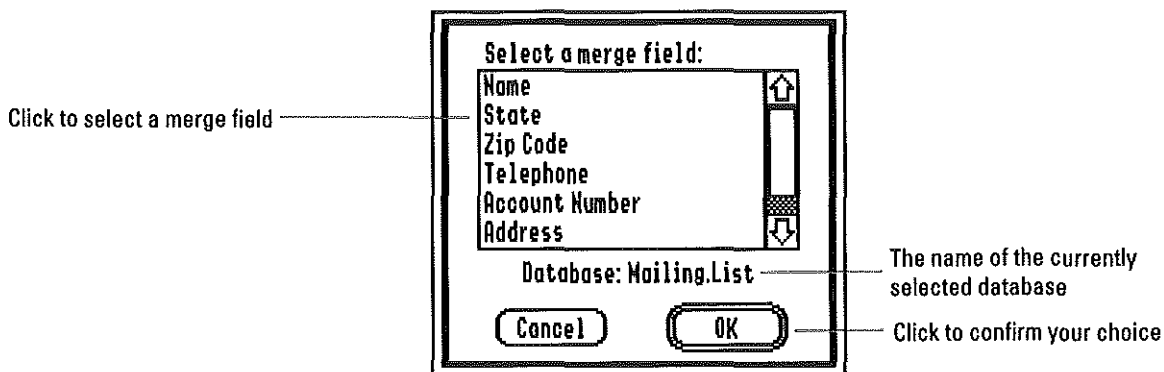
Word Processing Commands

Add Merge Field...

The Add Merge Field command lets you place the name of a field from a selected database in a word processing document to be printed with Print Merge. This field name, surrounded by angle brackets (<, >), reserves space in your document to be completed with information retrieved from the field of the same name in the selected database when the document is printed.

Before using Add Merge Field, select the insertion point at the place in the word processing document where you want the field to appear. Then, use Select Merge Database to choose the database document you want to get information from when you print your merge document. If you haven't selected a database document when you choose Add Merge Field, a dialog box appears to allow you to choose one (see "Select Merge Database" in this chapter for more information about this dialog box).

When you've selected a database document, choose Add Merge Field. A dialog box appears:



The dialog box lists the names of the fields in the selected database. Click the field you wish to insert in your merge document, then click OK (or double-click the merge field name). The field name appears in your document at the insertion point, surrounded by angle brackets. You can insert as many different field names as you want in a merge document, and you can use a single field name as many times as necessary. You can also add merge fields to a document by simply typing a left angle bracket, followed by the field name, followed by the right angle bracket.

For more information on selecting database documents and printing forms, see "Select Merge Database" and "Print Merge" in this chapter.

Search Menu

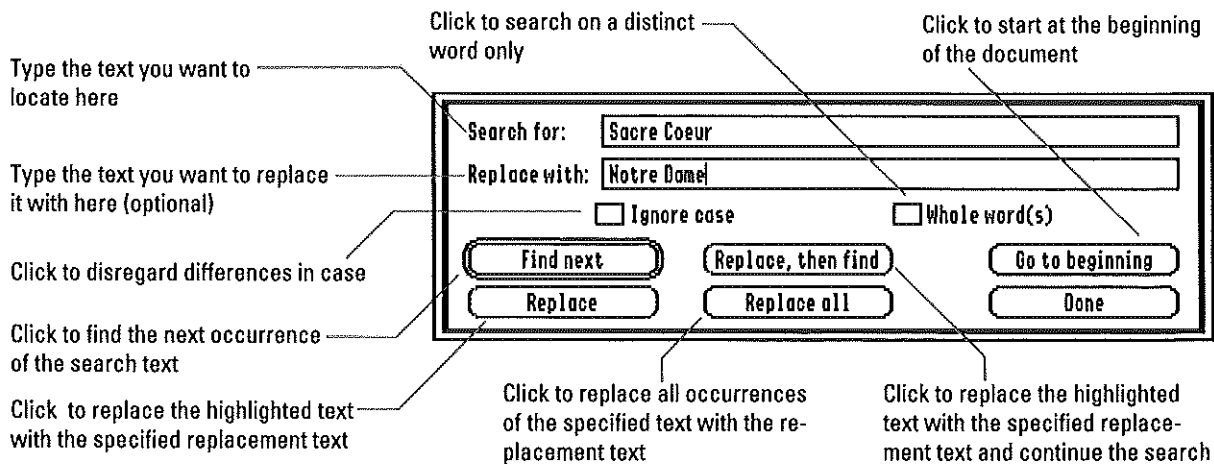
| Search | |
|--------------------|----|
| Find/Replace... | ⌘F |
| Find Again | ⌘F |
| Go To Insertion | ⌘I |
| Go To Page | |
| Go To Beginning | ⌘1 |
| Go To End | ⌘9 |
| Check Spelling... | ⌘" |
| Synonyms... | |
| Edit Dictionary... | |

The Search menu contains commands for finding and modifying specific text and for scrolling to a specific page in a document. In addition, it includes commands for using the on-line 80,000-word spell checker and thesaurus, and for editing the special user dictionary that lets you personalize the spell checker.

Find/Replace...

The Find/Replace command searches for all the occurrences of a specified group of characters in a document from the insertion point to the end of the document. Once the specified text is found, you're given the option of replacing it with different text.

When you choose Find/Replace, a dialog box appears:



Enter in the Search For entry box the sentence, phrase, word, or other text you want to locate. If you want to replace the text you search for with different text, enter the new text in the Replace With entry box. To find or replace carriage returns, type Option-Return; to find or replace tabs, type Option-Tab. You can enter up to 60 characters in each entry box.

AppleWorks GS normally looks for text that matches except with regard to case (the Ignore Case setting is checked by default). If you deselect Ignore Case, AppleWorks GS looks for text that matches the specified text exactly, including uppercase and lowercase letters.

Word Processing Commands

AppleWorks GS normally looks for every occurrence of the specified text, whether it's a distinct word or part of a larger word or phrase. If you choose Whole Word(s), AppleWorks GS looks for every occurrence of the specified text as a distinct word or group of distinct words. A distinct word consists of a group of letters separated from other text by spaces, punctuation, or other special characters.

When you've chosen the settings you want, click Find Next, or click Replace All to replace all occurrences of the specified text with the new text. Replace All can't be reversed with Undo, so be careful with this option (none of the Find/Replace options can be undone, but Replace All can be especially dangerous to a document).

If AppleWorks GS fails to find the specified text—or if it's already found all the occurrences of the text in a document—a dialog box appears to notify you that no more occurrences of the text were found from the insertion point to the end of the document. To search from the beginning of the document, click Go To Beginning before clicking the Find Next button.

If AppleWorks GS finds matching text, the text is selected and the Replace and Replace, Then Find buttons become active.

Whenever you want to end the search, click Done. The specified search and replacement text remains in the dialog box until you enter different text.

Find Again

Find Again lets you quickly search for the text last specified with the Find/Replace command without displaying the Find/Replace dialog box.

When you choose the Find Again command, AppleWorks GS searches for the specified text from the insertion point to the end of the document. If the specified text is found, it's selected. If AppleWorks GS fails to find the specified text, a dialog box appears to notify you that no matching text was found.

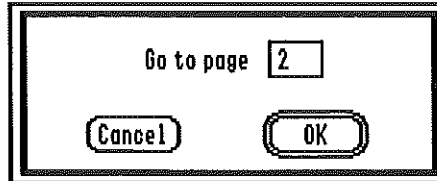
Go To Insertion

This command scrolls a document to the location of the insertion point.

Go To Page

The Go To Page command scrolls to a specified page in a document.

When you choose Go To Page, a dialog box appears:



Type the number of the page you wish to move to in the entry box. Then click OK. The insertion point moves to the beginning of the top line of the specified page, and the new page number appears above the scroll bar.

If you specify a page number smaller than the number of the first page in the document, AppleWorks GS scrolls to the beginning of the document. AppleWorks GS scrolls to the end of a document when you specify a page number greater than the number of the last page in the document.

Go To Beginning

Go To Beginning moves the insertion point to the beginning of a document, scrolling the document to display the top of the first page.

Go To End

This command moves the insertion point to the end of a document, scrolling the document to display the bottom of the last page.

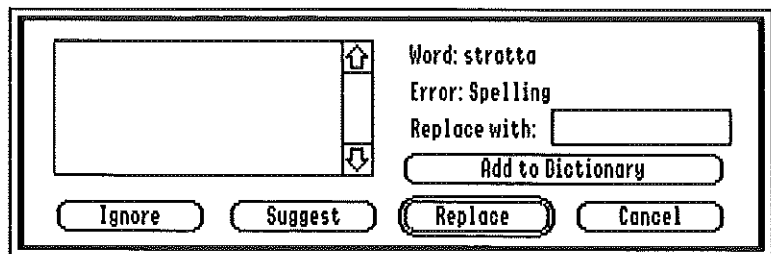
Word Processing Commands

Check Spelling...

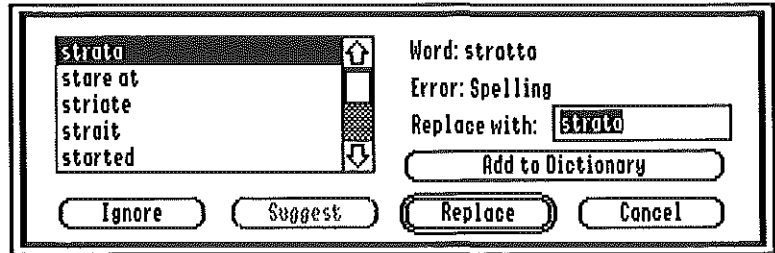
The Check Spelling command lets you correct the spelling of words within a word processing document. AppleWorks GS detects possible misspelled words by reviewing a document and checking each word against the AppleWorks GS dictionary. If a word in a document is not found in the dictionary, AppleWorks GS selects it as a possible misspelled word, suggests possible correct spellings for the word, and lets you replace the selected word with a suggested word or with a word you type in.

The first time you choose Check Spelling during a word processing session, AppleWorks GS looks for the dictionary file. If it can't find the dictionary—originally on the *AppleWorks GS Utilities* disk—it displays a dialog box asking you to open the dictionary.

Once AppleWorks GS locates and loads the dictionary file, the spell checker starts at the current location of the insertion point and checks forward to the end of the document. When the spell checker encounters the first misspelling, it displays a dialog box:



- To replace the word with a different word, type the new spelling and click Replace.
- To leave a word unchanged and display the next misspelling, click Ignore.
- To see a list of suggested spellings for the word, click Suggest. A list of possible spellings appears in the list box.



If necessary, scroll the list until the appropriate spelling appears. Select the spelling you want by clicking it, and then replace the misspelled word in the document by clicking Replace (or by double-clicking the appropriate spelling).

It's possible that the word is not actually misspelled, but is simply not found in the AppleWorks GS dictionary. When this is the case, AppleWorks GS supplies a user dictionary to let you create your own personalized dictionary of words not found in the AppleWorks GS dictionary. To add the word to the user dictionary, click Add To Dictionary. Once added to the user dictionary, the word is no longer flagged as misspelled by the spell checker.

Synonyms...

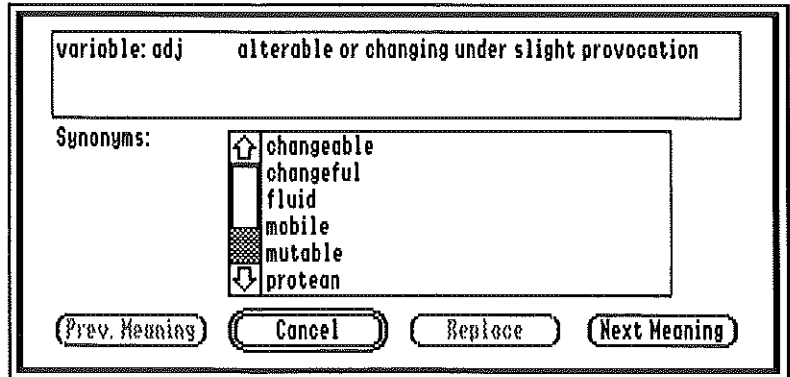
This command lets you replace a word in your document with a word of similar meaning. AppleWorks GS contains a thesaurus that can suggest possible alternative words for selected words in your text. In addition, the thesaurus lets you search for synonyms for multiple definitions of the same word. For example, the three sentences below could all have different synonyms suggested for the same word ("light"), because each sentence contains a different meaning of the word:

- Turn off the *light*. (Noun. Source of illumination.)
- I forgot to *light* the candle. (Verb. To cause something to start burning.)
- This package is too *light*. (Adjective. Having little weight.)

To use the thesaurus, select a word (or place the insertion point within the word) and choose Synonyms. AppleWorks GS looks for the dictionary file. If it can't find the dictionary—located on the *AppleWorks GS Utilities* disk—it displays a dialog box asking you to open the dictionary.

Word Processing Commands

Once AppleWorks GS locates and loads the dictionary file, it begins searching for the selected word. If AppleWorks GS finds the word in the thesaurus, a dialog box appears listing the first definition of the word and possible synonyms:



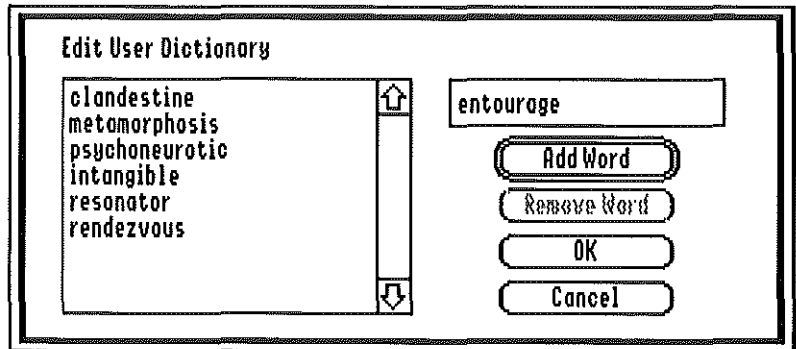
- To replace the selected word with one of the suggested synonyms, click the synonym, and then click Replace (or double-click the synonym).
- If the first definition in the dialog box does not match your use of the word, click Next Meaning until the appropriate definition appears, along with a new list of synonyms.
- To return to a list of synonyms based on a previous definition, click Prev. Meaning until the appropriate definition appears.

To cancel the operation without replacing the selected word, click Cancel.

Edit Dictionary...

This command lets you review, add, or delete words in the user dictionary. A typical use of this command is to delete a misspelled word accidentally added to the user dictionary.

When you choose Edit Dictionary, a dialog box appears:



The dialog box contains a list of the words in the user dictionary.

- To add a word to the user dictionary, type the word in the entry box, and click Add Word.
- To remove a word from the dictionary, click the word to select it (if necessary, scroll the list until the word appears), and click Remove Word.
- To save the changes you've made to the user dictionary and return to the document, click OK.
- To return to the document without making any changes to the dictionary, click Cancel.

Word Processing Commands

Document Menu

| Document | |
|-------------------|----|
| Normal View | ⌘W |
| ✓View Header | |
| View Footer | |
| Show Ruler | ⌘R |
| Pages... | ⌘E |
| Insert Page Break | ⌘- |
| Insert Page # | |
| Insert Date | |
| Insert Time | |
| Statistics | |

The commands on the Document menu define the format of an entire document. This menu contains commands for creating and modifying headers and footers and for specifying on which pages you want headers and footers to appear when you print. It also contains commands for showing and hiding the ruler, inserting page breaks, and displaying statistical information about the number of characters, words, lines, pages, and paragraphs in a document.

Normal View

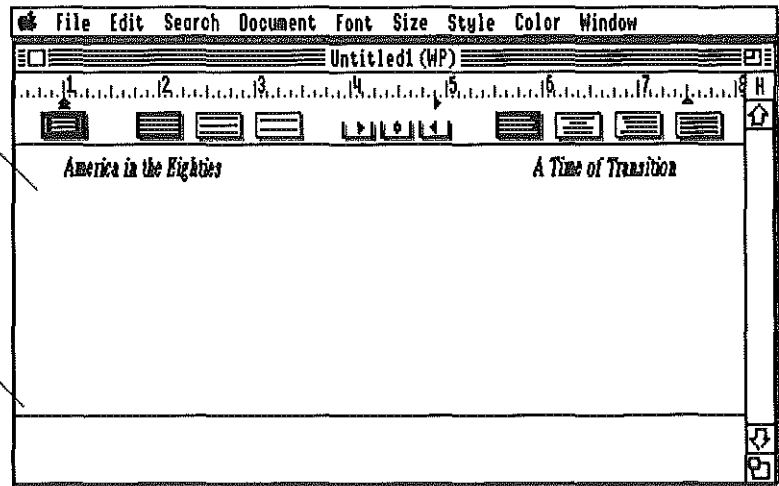
The Normal View command lets you view an entire document in the window, including headers and footers. Headers and footers can't be edited in Normal View, however. Normal View is usually selected on the menu, unless you choose View Header or View Footer.

View Header

The View Header command opens the header for a document, allowing you to set the top margin of the document and to place any combination of text, the current page number, the current time, and the date at the top of each page of the document. The header information is displayed along with the rest of the text in a document when you return to the document with the Normal View command, but you won't be able to select or edit it as you can when View Header is chosen.

Document window with header displayed

End-of-header line



When you choose View Header, only the information contained in the header appears in the document window, along with a horizontal line indicating the end of the header.

You can type past this end-of-header line, but only the text above the line will appear in the document. The number of lines that fit in the header area is determined by the size, style, and font of the text you create.

To create a top margin for each page in a document, create as many blank lines as you like for the header. You can later change the size of the margin by adding or deleting lines or by changing the line spacing and point size of text. The preset value for the top margin is one blank line.

To create text for the header, type as you would in any other part of a word processing document. You can change the characteristics of header text as you would any text in a document—using the Font, Size, Style, and Color menus.

When you choose View Header, a check mark (✓) appears next to View Header on the Document menu, and the letter H appears in the page number box above the scroll bar. In addition, the Insert Page #, Insert Date, and Insert Time commands become active on the Document menu, allowing you to place the current page number, date, and time in the header. For more information on these commands, see “Insert Page #,” “Insert Date,” and “Insert Time,” in this chapter.

You can format the header text by changing the settings on the ruler in the same way that you format text in the main document window—by selecting the text to be formatted and then adjusting the ruler settings.

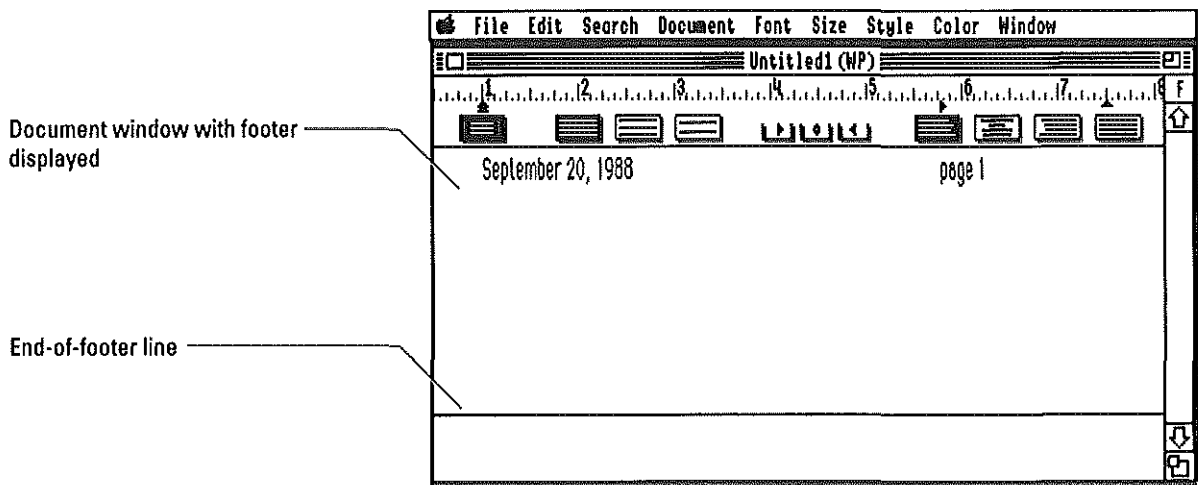
When you’ve completed the header, you close it by choosing the Normal View command. The check mark beside View Header is removed from the Document menu and Normal View is again checked. AppleWorks GS returns to the active document window.

Word Processing Commands

View Footer

The View Footer command opens the footer for a document, allowing you to set the bottom margin of the document and to place any combination of text, the current page number, the current time, and the date at the bottom of each page of the document. The footer information is displayed along with the rest of the text in a document when you return to the document with the Normal View command, but you won't be able to select or edit it as you can when View Footer is chosen.

When you choose View Footer, only the information contained in the footer appears in the document window, along with a horizontal line indicating the end of the footer.



You can type past this end-of-footer line, but only the text above the line will appear in the document. The number of lines that fit in the footer area is determined by the size, style, and font of the text you type.

To create a bottom margin for each page in a document, create as many blank lines as you like for the footer. You can later change the size of the margin by adding or deleting lines or by changing the line spacing and point size of text. The preset value for the bottom margin is one blank line.

To create text for the footer, type as you would in any other part of a word processing document. You can change the characteristics of footer text as you would any text in a document—using the Font, Size, Style, and Color menus.

When you choose View Footer, a check mark (✓) appears next to View Footer on the Document menu, and the letter F appears in the page number box above the scroll bar. In addition, the Insert Page #, Insert Date, and Insert Time commands become active on the Document menu, allowing you to place the current page number, date, and time in the footer. For more information on these commands, see “Insert Page #,” “Insert Date,” and “Insert Time,” in this chapter.

You can format the footer text by changing the settings on the ruler in the same way that you format text in the main document window—by selecting the text to be formatted and then adjusting the ruler settings.

When you’ve completed the footer, you can close it by choosing the Normal View command. The check mark beside View Footer is removed from the Document menu and Normal View is again checked. AppleWorks GS returns to the active document window.

Show Ruler/Hide Ruler

The Show Ruler command displays the ruler. The margin, tab, alignment, and spacing settings for the paragraph containing the insertion point are shown on the ruler. When you choose Show Ruler, the command changes to Hide Ruler on the Document menu.

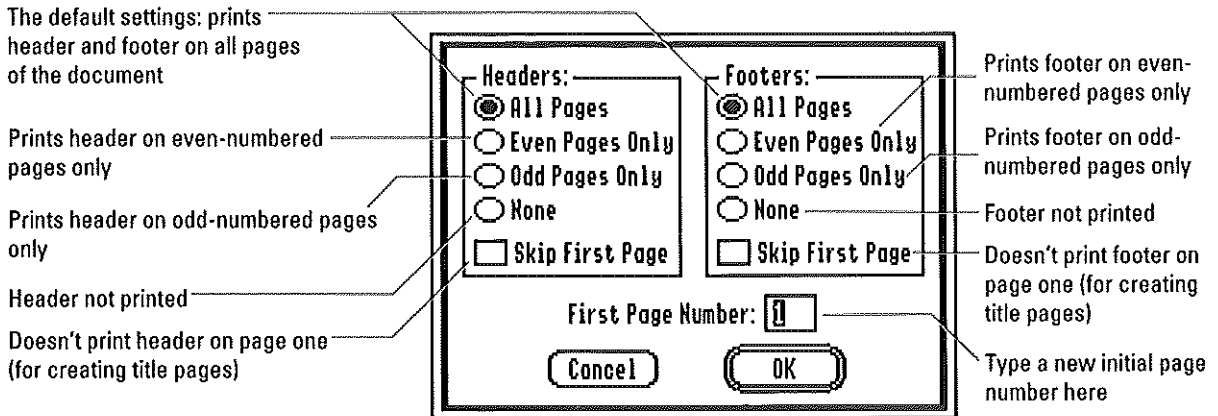
Hide Ruler removes the ruler from the screen, allowing you to see more of a document at once. The current ruler settings remain active, even though the ruler is no longer visible. When you choose Hide Ruler, the command changes back to Show Ruler on the menu.

Word Processing Commands

Pages...

The Pages command lets you set the initial page number of a document and specify which pages you want to print headers and footers on.

When you choose Pages, a dialog box appears:



Click the appropriate settings to specify on which pages of the document you want to print the header and footer (the default settings are displayed above). If you'd like the page numbering of your document to start with a number other than one (the preset initial page number), type the page number in the entry box. The pages in your document will be renumbered according to the number you type.

Insert Page Break

The Insert Page Break command starts a new page at the insertion point, making the insertion point and the text following it appear at the top of a new page. Subsequent pages are renumbered automatically.

After the new page is created, the old page contains blank space at the bottom of the page. You can add text in this blank space without affecting the text on the new page following it, until you reach the end of the old page. You can also delete text in the blank space without affecting the text on the new page following it.

Insert Page #

Insert Page # inserts the current page number into a document header or footer at the insertion point. Insert Page # can only be chosen if you're displaying the header or footer with either View Header or View Footer and otherwise remains dimmed on the menu. (For more information on these commands, see "View Header" and "View Footer.")

When you choose Insert Page #, the number 1 (representing the page number) is placed in the header or footer at the insertion point. The appropriate page number will appear at that location in each page of the document.

The page number can be placed anywhere in a header or footer. The page number takes the font, size, style, and color of the text surrounding it, but you can select it and change it as you would any other text. For example, you can delete it by selecting it and pressing Delete.

Insert Date

The Insert Date command places the current date at the location of the insertion point in the header or footer. Insert Date can only be chosen if you're displaying the header or footer with either View Header or View Footer and otherwise remains dimmed on the menu. For more information on these commands, see "View Header" and "View Footer."

The date can be placed anywhere in a header or footer. It uses the format, Month, Day, Year, with the name of the month spelled out and the year displayed in full. For example, the date 01/01/89 would be displayed as *January 1, 1989*.

The date assumes the font, size, style, and color of the text surrounding it, but you can select it and change it as you would any other text. Although the date is displayed as a group of characters, AppleWorks GS treats it as one character; if you select the insertion point after the date and press Delete, the entire date is deleted.

Word Processing Commands

AppleWorks GS gets the date from your computer's clock. The date is updated each time you open the document, and each time you print the document, as well. If the date isn't accurate, you can adjust it using the Clock option in the Control Panel of your Apple IIGS. For more information on the Control Panel and the Apple IIGS Clock, see appendix A, "The Control Panel Program," in the *Apple IIGS Owner's Guide*.

Insert Time

The Insert Time command places the current time at the location of the insertion point in the header or footer. Insert Time can only be chosen if you're displaying the header or footer with either View Header or View Footer and otherwise remains dimmed on the menu. For more information on these commands, see "View Header" and "View Footer."

The time can be placed anywhere in a header or footer. It uses the format HH:MM AM/PM, with no leading zeros before the hour when the hour is a single digit. For example, eight-thirty in the morning would be displayed as 8:30 AM.

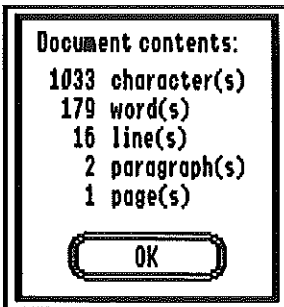
The time assumes the font, size, style, and color of the text surrounding it, but you can select it and change it as you would any other text. Although the time is displayed as a group of characters, AppleWorks GS treats it as one character; if you select the insertion point after the time and press Delete, the entire group of characters is deleted.

AppleWorks GS gets the current time from your computer's clock. The time is updated whenever you open the document, and each time you print the document, as well. If the time isn't accurate, you can adjust it using the Clock option in the Control Panel of your Apple IIGS. For more information on the Control Panel and the Apple IIGS Clock, see appendix A, "The Control Panel Program," in the *Apple IIGS Owner's Guide*.

Statistics

The Statistics command provides information about the number of characters, number of words, number of lines, number of paragraphs, and number of pages in a document.

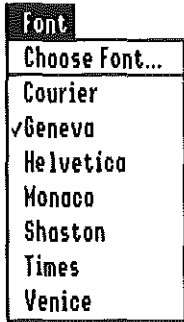
When you choose Statistics, a dialog box appears:



Click OK to return to your document.

Word Processing Commands

Font Menu



The Font menu lets you choose different fonts, or typefaces, for selected text or for text to be typed at the insertion point. In addition, the Font menu includes the Choose Font command (see "Choose Font" in chapter 1, "AppleWorks GS Commands"), which provides access to all the fonts in the System folder of your startup disk and lets you select the style and size of a font at the same time that the font is chosen. The preset font is Geneva.

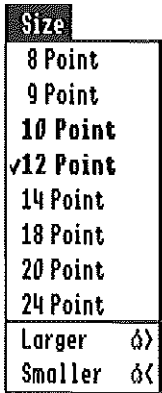
Below the Choose Font command on the Font menu is a list of fonts. This list shows the first fifteen fonts in the System folder of your startup disk; to see others, use the Choose Font command.

When you choose a font, a check mark (✓) appears beside that font on the Font menu. If you move the insertion point to a different font in your text, the font where the insertion point is positioned is the chosen font and it appears checked on the Font menu. If selected text is all of one font, that font is checked on the Font menu; otherwise, no font is checked.

If you use the mouse or arrow keys to position the insertion point between text of two different fonts, the chosen font is the font of the text to the right of the insertion point.

When you cut or copy text, the text retains its font along with its size, style, and color.

Size Menu



The Size menu lets you choose point sizes for selected text or for text to be typed at the insertion point. The minimum point size is 4 points; the maximum is 48 points. The preset size is 12 points.

If a font for a specific point size is in the System folder of your AppleWorks GS startup disk, that size appears in boldface on the Size menu; otherwise, that size appears in plain text.

When you change font sizes, AppleWorks GS checks to see if the newly chosen font size is in the System folder of the startup disk. If it is, there will be a short pause the first time that font size is loaded into memory. If AppleWorks GS can't find the point size you specify as a font file, the point size is derived, or approximated, based on the characteristics of a different size of the font.

When you choose a font size, a check mark (✓) appears beside that font size on the Size menu, and selected text or text typed at the insertion point is changed to the specified point size.

If you move the insertion point to a place in the text with a different point size, the size where the insertion point is positioned is the chosen size and is checked on the Size menu. If selected text is all of one size, that size is checked on the Size menu; otherwise, no size is checked.

If you use the mouse or arrow keys to position the insertion point between text of two different sizes, the chosen size is the size of the text to the right of the insertion point.

When you cut or copy text, the text retains its size along with its font, style, and color.

Word Processing Commands

Larger

The Larger command lets you increase the size of selected text in 1-point increments, up to 48 points.

If the new font size you specify is not one of the sizes on the Size menu, no check mark appears on the menu. To see the font size of selected text when the size isn't displayed on the menu, choose the Choose Font command. The size is displayed in the Choose Font dialog box.

If you specify a font size for which there is no font file in the System folder of the startup disk, AppleWorks GS derives the specified size from the standard font sizes that are available. The appearance of derived font sizes may be rougher than standard font sizes.

Smaller

The Smaller command decreases the size of selected text in 1-point increments, down to 4 points.

If the new font size you specify is not one of the sizes on the Size menu, no check mark appears on the menu. To see the font size of selected text when the size isn't displayed on the menu, choose the Choose Font command. The size is displayed in the Choose Font dialog box.

If you specify a font size for which there is no font file in the System folder of the startup disk, AppleWorks GS derives the specified size from the standard font sizes that are available. The appearance of derived font sizes may be rougher than standard font sizes.

Style Menu

| Style | |
|------------------|----|
| ✓Plain | ⌘T |
| Bold | ⌘B |
| <i>Italic</i> | ⌘I |
| <u>Underline</u> | ⌘U |
| Outline | |
| Shadow | |
| Superscript | ⌘H |
| Subscript | ⌘L |
| UPPERCASE | |
| lowercase | |
| Title | |

The Style menu lets you choose a style or combination of styles for selected text or for text to be typed at the insertion point. The preset style is Plain.

When you choose a style, a check mark (✓) appears beside the style on the menu. You can mix styles in any combination you wish; as each new style is chosen, it appears checked on the Style menu. For instance, you can select Bold and Underline from the Style menu, and your text will appear both boldface and underlined. You deselect a style by choosing the selected style again. To remove all styles, choose Plain.

Examples of the different styles offered by AppleWorks GS are shown below:

| |
|--|
| Plain removes all text styles |
| The Bold command changes selected text to boldface |
| <i>Italic changes a selection to italic text</i> |
| <u>Use the Underline command to create Underlined text</u> |
| Outline creates white characters outlined in black |
| Shadow creates text with three-dimensional shadows |
| Use Superscript for superscripted symbols such as footnotes ¹ |
| Use Subscript to create subscripted text—like formulas (H ₂ SO ₄) |
| UPPERCASE CHANGES A SELECTION TO ALL UPPER CASE |
| the lowercase command changes selected text to all lowercase |
| Title Converts The First Letter Of Every Word In A Selection To Uppercase |

A few styles can't be used in certain combinations:

- Plain can't be used in combination with Bold, Italic, Underline, Outline, or Shadow, since Plain removes those styles from text.
- Superscript and Subscript can't be used in combination since they're mutually exclusive.
- Uppercase, Lowercase, and Title can't be used in combination since they're also mutually exclusive. (Also, unlike the other styles, these commands can only be used for selected text and not for text to be typed.)

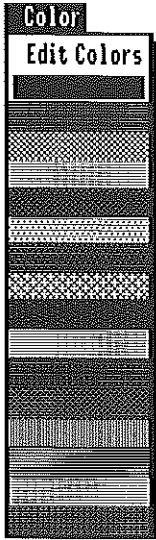
Word Processing Commands

If you move the insertion point to a different style in your text, the style where the insertion point is positioned is the chosen style and is checked on the Style menu. If selected text is all of one style, that style is checked on the Style menu; otherwise, nothing appears checked on the menu.

If you use the mouse or arrow keys to position the insertion point between text of two different styles, the chosen style is always the style of the text to the right of the insertion point.

When you cut or copy text, the text retains its style along with its font, size, and color.

Color Menu



The Color menu lets you choose colors for selected text or for text to be typed at the insertion point. In addition, the Color menu contains the Edit Colors command, which lets you choose text colors from the 4096 colors of the Apple IIGS. The Edit Colors command is common to other AppleWorks GS applications and is therefore covered in detail in “Common AppleWorks GS Commands on Different Menus,” in chapter 1, “AppleWorks GS Commands.”

When you choose a color, the color is surrounded on the menu by a black frame.

Fifteen text colors are available; the preset color is black. The colored text appears on your screen and will appear on your printout if you're printing with a color ribbon on an ImageWriter II (or compatible printer).

If you move the insertion point to a different color in your text, the color of the text where the insertion point is positioned is the chosen color and that color appears selected on the Color menu. If a selection contains more than one text color, no color is selected on the menu.

If you use the mouse or arrow keys to position the insertion point between text of two different colors, the chosen color is the color of the text to the right of the insertion point.

When you cut or copy text, it retains its color along with its font, size, and style.

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CHAPTER 3

Database

3



Database Commands

File Menu

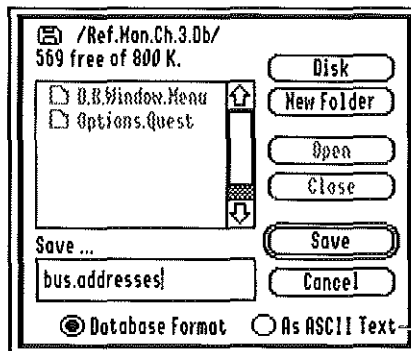
| file | |
|-------------------|----|
| New... | ⌘N |
| Open... | ⌘O |
| Close | ⌘K |
| Save | ⌘S |
| Save As... | |
| Delete File... | |
| Import File... | |
| Choose Printer... | |
| Page Setup... | |
| Print... | ⌘P |
| Print Merge... | |
| Quit | ⌘Q |

The standard File menu commands—common to all the AppleWorks GS applications—are described in chapter 1. The Print Merge command is only available in the word processor, so it's dimmed on the File menu. Although common to all the AppleWorks GS applications, the Save As command supports a special format for saving database documents, so additional information on this command is provided here.

Save As

The Save As command for the AppleWorks GS database works the same as in the other applications, except that, in addition to the regular database format, database documents can be saved with a special format—ASCII text with tabs delimiting fields and carriage returns delimiting records. This option allows you to save an AppleWorks GS database document in a format that can be read by other database managers.

When you choose Save As in the database application, the Save As dialog box appears containing the usual options for saving documents as well as two settings for saving documents in AppleWorks GS database or ASCII-delimited format. The default is AppleWorks GS database format. To save as ASCII-delimited, click As ASCII Text.



Click to save as ASCII-tab/
carriage return delimited

For information on the other options provided by the Save As command, see "Save As" in chapter 1, "AppleWorks GS Commands."

Database Commands

Edit Menu

| Edit | |
|---------------------|----|
| Undo Add Field | ⌘Z |
| Cut | ⌘X |
| Copy | ⌘C |
| Paste | ⌘V |
| Clear | |
| Select All | ⌘A |
| Edit Colors... | |
| Field Definition... | |
| Field Format... | |
| Field Formula... | |
| Insert Record | ⌘I |

The standard Edit menu commands (Undo, Cut, Copy, Paste, Clear, and Select All) are described in chapter 1, "AppleWorks GS Commands." The Edit Colors command, on the Edit menu of the database but on different menus in other applications, is described in "Other Common AppleWorks GS Commands," also in chapter 1.

In addition to the standard commands, the Edit menu in the database application contains commands for defining and formatting fields and for inserting records.

Field Definition...

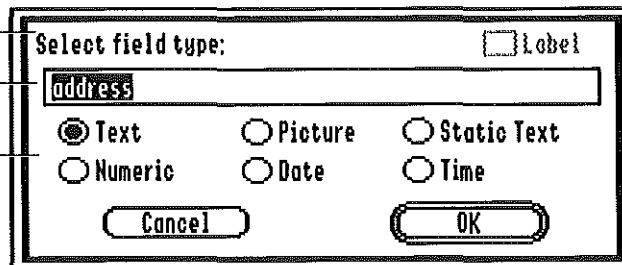
The Field Definition command lets you specify the name of a field and the type of data that can be entered into the field. You can use the Field Definition command to modify both data fields and label fields.

To use the Field Definition command, a field must first be selected while the form definition screen is displayed; otherwise the command appears dimmed on the menu. When you choose Field Definition, a dialog box appears to let you specify the name and type of data to be entered into the field. This is similar to the dialog box that appears when you first create a field, except that the Label setting is dimmed and the Numeric, Date, and Time format options are dimmed if the field is a label.

Data Field Definition dialog box

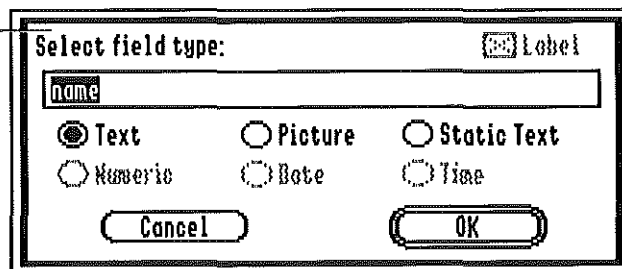
Type a new name for the field here

Click here to specify what type of data the field is to contain



The dialog box is titled "Select field type:". It features a text input field containing the word "address". To the right of the input field is a checkbox labeled "Label", which is currently unchecked. Below the input field are six radio button options: "Text" (selected), "Picture", "Static Text", "Numeric", "Date", and "Time". At the bottom of the dialog are two buttons: "Cancel" and "OK".

Label Field Definition dialog box (notice that the Label box is checked)



The dialog box is titled "Select field type:". It features a text input field containing the word "name". To the right of the input field is a checkbox labeled "Label", which is currently checked. Below the input field are six radio button options: "Text" (selected), "Picture", "Static Text", "Numeric", "Date", and "Time". At the bottom of the dialog are two buttons: "Cancel" and "OK".

If you change the field's data type, any information that has been previously entered in that field in the database will be lost. If you attempt to change the data type of a data field after data has been entered in the field, AppleWorks GS displays a dialog box warning you that the operation will cause a permanent loss of data and allowing you to continue or cancel the operation.

Field Format...

The Field Format command lets you specify the format for the contents of a selected data or label field.

To use the Field Format command, a field must first be selected while the form definition screen is displayed; otherwise the command appears dimmed on the menu. When you choose Field Format, a dialog box appears. The dialog box will change to reflect the data type of the selected field.

Some of the format options are common to all or most of the data types:

- **Style**—lets you specify special text characteristics of values in fields. Styles offered may include Bold (boldface display), Italic, Underline, and Border (to display borders around fields when the database form is displayed and printed). The underline style is not displayable with some fonts (8 point Shaston, for example).
- **Alignment**—lets you specify how to align values in fields. Choose from left-aligned, centered, and right-aligned text.
- **Color**—lets you choose from one of 15 dithered or four pure colors for field text (for more information on using pure and dithered colors, see “Edit Colors” in chapter 1, “AppleWorks GS Commands”).
- **Display**—lets you specify format options unique to the data type. For example, numeric data can be displayed as dollars, percents, and so on.

Database Commands

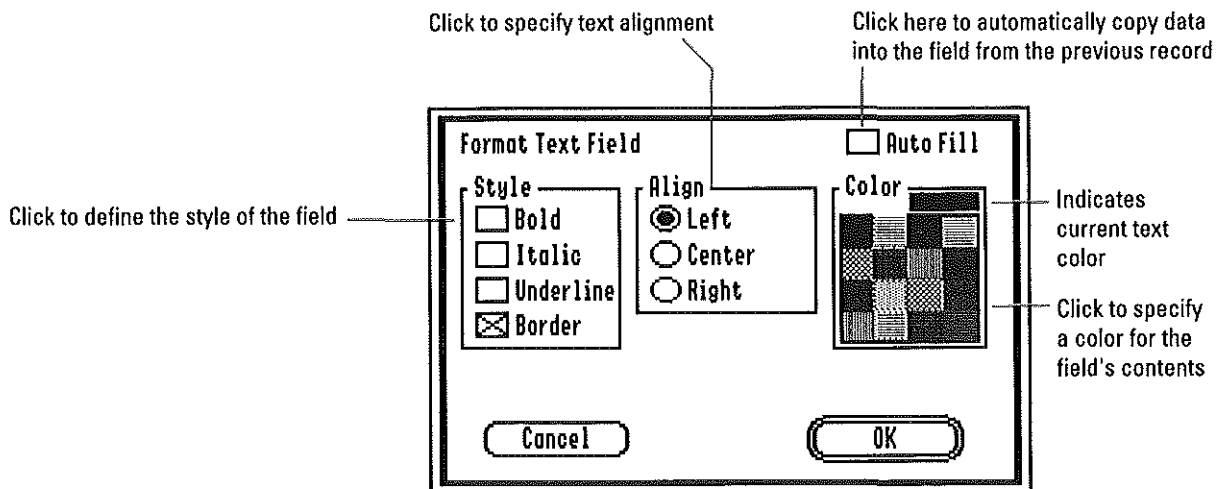
- **Auto Fill**—specifies that this field in each new record automatically contains the same data value it contained in the previous record. For example, if you've entered nine records, a field with Auto Fill selected in the tenth record will contain the same value as that field contains in record nine. If you insert a record after record four, the Auto Fill field in that record will have the same value that the field does in record four.

Auto Fill is especially helpful when a field contains identical information through several records (a common city for address records, for example). The auto fill value is just a default value for the field; to change it, just type a different value. The new value is then used as the default value for the field in the next record.

The sections below describe the different dialog boxes and the format options they provide for each data type. The default settings are shown.

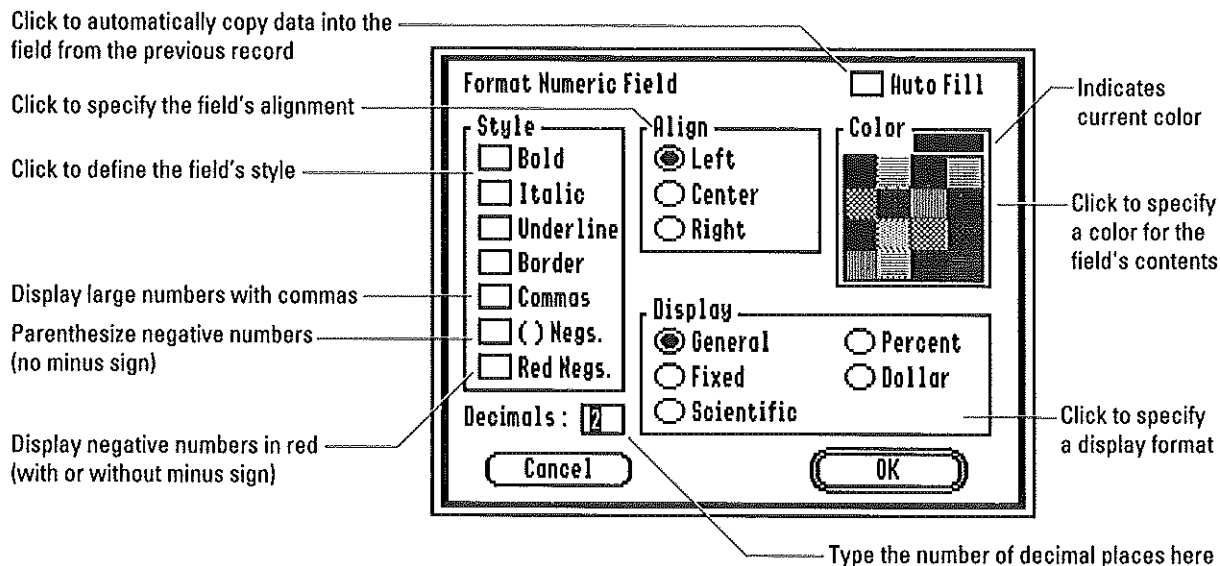
Text Fields

If the selected field contains text when you choose Field Format, the Format Text Field dialog box appears:



Numeric Fields

If the selected field contains numeric data, the Format Numeric Field dialog box appears:



You can specify one of five unique number formats for numeric fields (1's are used as placeholders only):

Numeric Field Display Formats

| Format: | Display: | With commas: | With commas and two decimal places: |
|------------|----------|--------------|-------------------------------------|
| General | 1111 | 1,111 | 1,111.11 |
| Fixed | 1111 | 1,111 | 1,111.11 |
| Scientific | 1e+3 | 1e+3 | 1.11e+3 |
| Percent | 111111% | 111,111% | 111,111.11% |
| Dollar | \$1111 | \$1,111 | \$1,111.11 |

General display is the default setting; it shows the number with as much accuracy as possible given the dimensions of the field's display box. If a numeric value is too large to be displayed in the field it automatically appears in *scientific notation*.

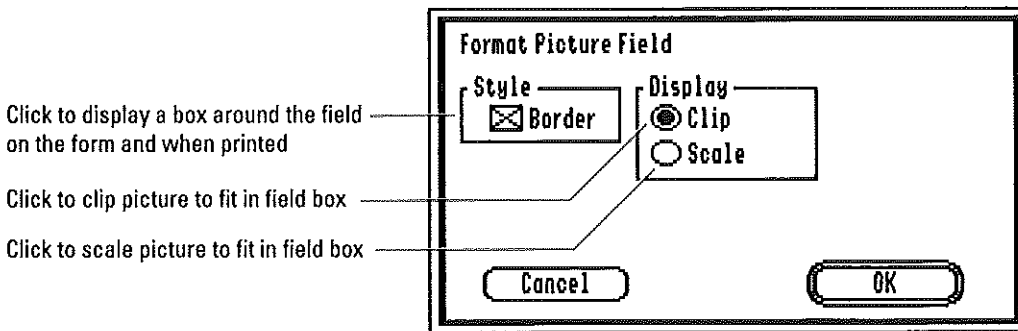
Database Commands

Fixed displays the numeric value with a given number of digits after the decimal point. Scientific displays a number field in scientific notation. Percent displays a numeric value as a percentage (the number multiplied by 100, followed by a percent sign). Dollar displays the field as a fixed value preceded by a dollar sign.

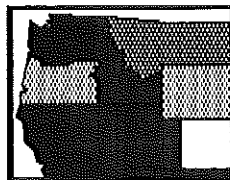
What the ##? If a numeric field value can't be displayed in its entirety, it appears as two “#” symbols. Resizing the field box (or column, when the List screen is displayed) may provide room to display the value.

Picture Fields

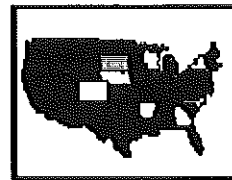
If the selected field is a picture field, the Format Picture Field dialog box appears:



Picture fields feature two unique display options, Clip and Scale. When you select Clip, only that part of a picture that fits within the field's box on the Form screen is displayed (the upper-left corner of the picture starts at the upper-left of the field box). When you select Scale, a picture is reduced so that the entire picture appears in the field box.



Clipped graphic field

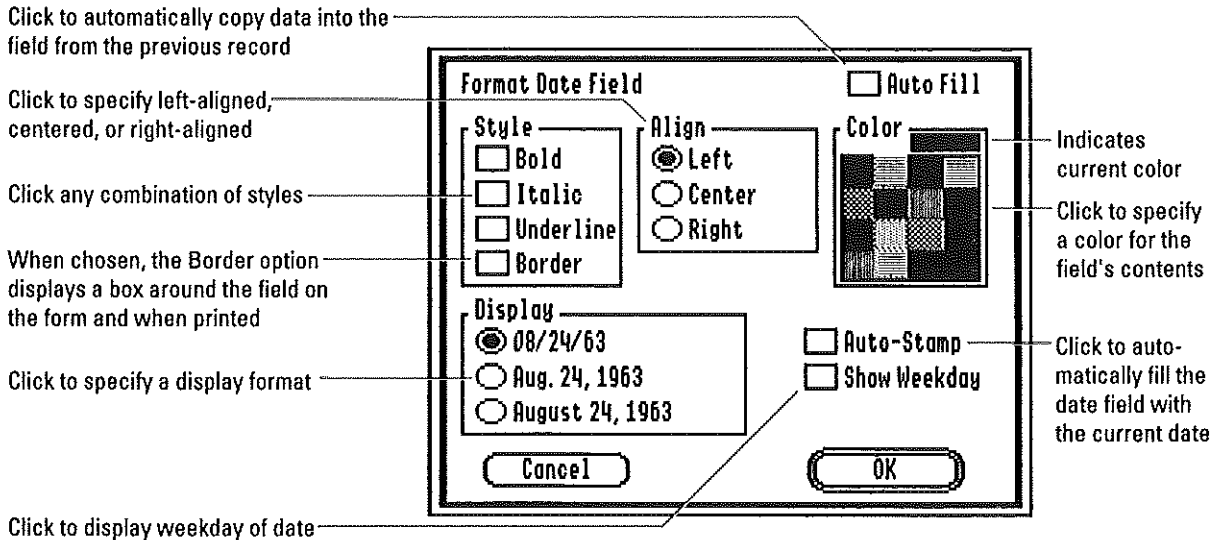


Scaled graphic field

Is my picture ruined? These options are for the display of picture fields only. The entire picture is stored in the field regardless of the display option you select.

Date Fields

If the selected field is a date field, the Format Date Field dialog box appears:



In addition to options for Style, Alignment, Color, and Auto Fill—which are discussed above—this dialog box also contains three different options for displaying the date, as well as check boxes for Auto-Stamp and Show Weekday.

Auto-Stamp automatically fills the date field with the current date. This date is provided by the system clock of your Apple IIGS. Auto-Stamp takes precedence over Auto Fill if Auto Fill is also selected.

If Show Weekday is checked, the weekday of the date will be displayed before the date, separated from it by a comma.

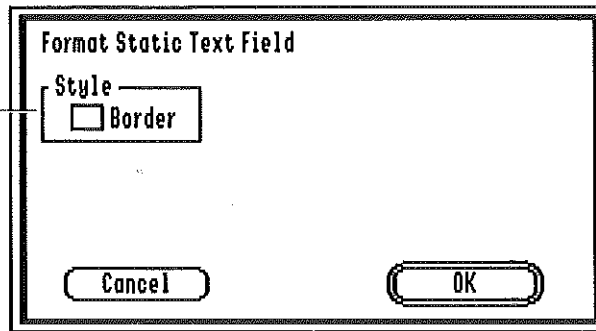
What's the range for dates? Dates in AppleWorks GS must fall in the range of January 1, 1900 to December 31, 2155. If your date falls outside this range, use a text field rather than a date field to record the data.

Static Text Field

If the selected field is a static text field, the Format Static Text Field dialog box appears. The only formatting option for static text fields is a check box for Border, to display a border around the field.

Database Commands

When chosen, the Border option displays a box around the field on the form and when printed



Time Field

If the selected field is a time field, the Format Time Field dialog box appears:

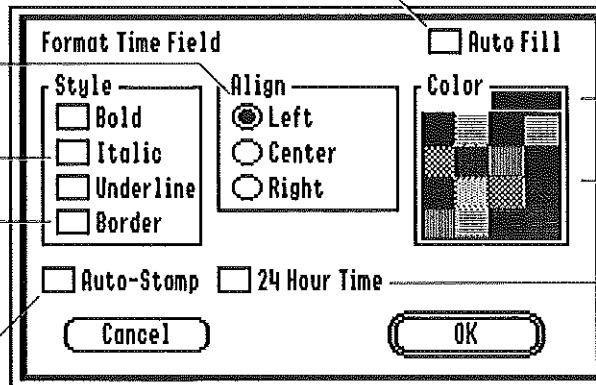
Click to automatically copy data into the field from the previous record

Click to specify left-alignment, centering, right-alignment

Click any combination of styles

When chosen, the Border option displays a box around the field on the form and when printed

Click to automatically fill the time field with the current time



Indicates current color

Click to specify a color for the field's contents

Click to display 24-hour time

In addition to options for Style, Alignment, Color, and Auto Fill—which are discussed above—this dialog box also contains check boxes for Auto-Stamp and 24 Hour Time.

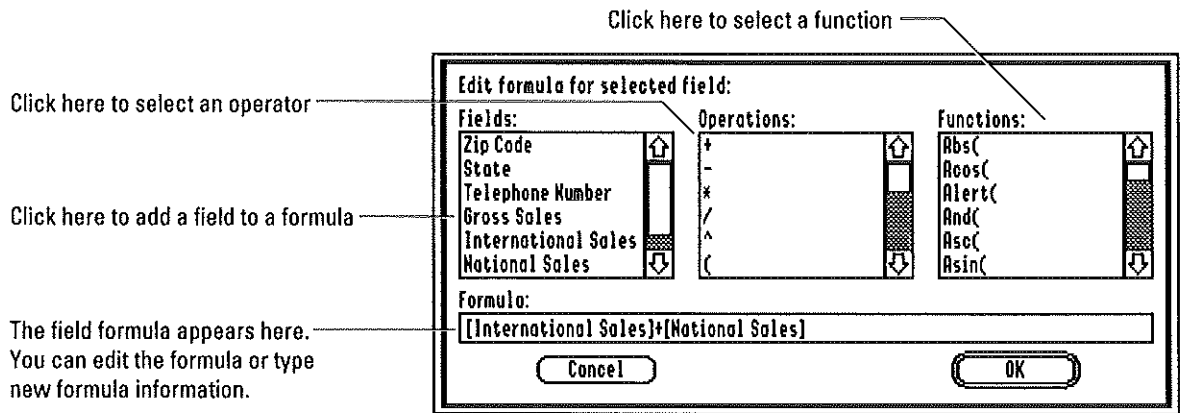
Auto-Stamp automatically fills the time field with the current time. The time is provided by the system clock of your Apple IIGS. Auto-Stamp takes precedence over Auto Fill if Auto Fill is also selected.

If 24 Hour Time is selected, all time values contained in the field are displayed in 24-hour time (for example, 11 p.m. would be displayed as 23:00).

Field Formula

The Field Formula command lets you make a field a *calculated field* by specifying a formula to be used to calculate the value displayed in the field. Any text, numeric, date, or time field can be a calculated field. A field must be selected while the form definition screen is displayed before you can use the Field Formula command; otherwise, it remains dimmed on the menu.

When you choose Field Formula, AppleWorks GS displays a dialog box:



The dialog box contains scrollable lists of fields, operations, and functions—the three elements you can use to create calculated fields. The Fields list contains the names of all the data fields in the database. The Operations list contains the operators you can use in formulating expressions. The Functions list contains the various functions available for creating formulas. For more information on the many different functions AppleWorks GS offers, see appendix B, “Functions and Formulas,” in this manual.

Below the lists is an entry box for the field formula. You can type the formula directly into this box, or enter elements of the formula from the list boxes by double-clicking each element you need for the formula.

Remember those brackets! If you're typing in the formula, be sure to place square brackets ([and]) around all field names (square brackets are automatically placed around field names if you double-click from the Fields list).

Database Commands

For example, suppose that the current field is a numeric field named Total\$, and your form contains two other numeric fields named Savings and Checking. You can make Total\$ display the sum of Savings and Checking by

- double-clicking Savings in the Fields scroll list,
- double-clicking the plus sign (+) in the Operations scroll list,
- double-clicking Checking in the Fields scroll list.

You could also type the following:

[Savings]+[Checking]

When the formula is complete, click OK. AppleWorks GS examines the formula to determine that it doesn't contain any errors—for example, if you forgot to include square brackets around a field name. If AppleWorks GS does detect an error, it displays a dialog box to warn you that the value won't be accepted.

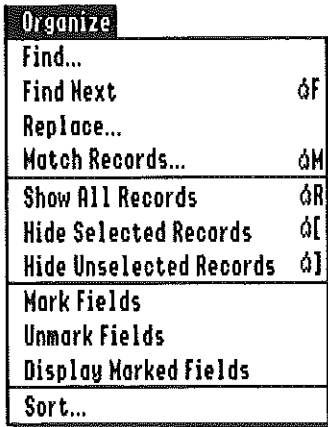
▼ **Warning:** If you create a field formula for a field in which you've already entered data, a dialog box appears to warn you that accepting the formula will destroy the data.

Insert Record

This command inserts a new record immediately before the current record (the record containing the active cell) in a database.

Note: The new record is not necessarily empty—any Auto-Stamp or Auto Fill fields will contain data.

Organize Menu



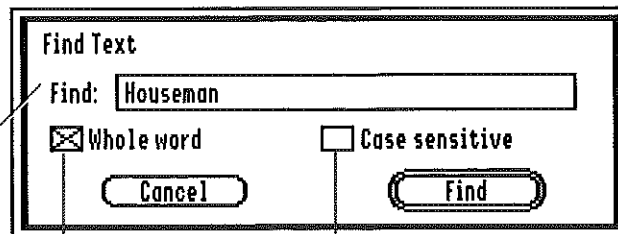
Type the characters to be searched for here

The Organize menu contains commands for searching, sorting, and manipulating the information in a database file.

Find...

The Find command searches for and selects the first field in a database document that contains a specified set of characters. Only the active records in the database are searched. Text fields are always searched; if the specified characters are numbers, or if they're in time or date format, then fields with those data types are searched as well.

When you choose Find, AppleWorks GS displays a dialog box:



Click here to search by separate word only

Click here to search for data that matches exactly—including uppercase and lowercase

Type in the entry box the characters you want to search for, select the appropriate settings, and click Find. The first occurrence of the specified characters in the database is displayed.

If AppleWorks GS fails to find the specified characters, a dialog box appears to notify you that no matching text was found.

Whole Word

If Whole Word is selected, AppleWorks GS searches for the first field where the specified characters appear as a separate word. If Whole Word is not selected, AppleWorks GS searches for the first occurrence of the characters either as a separate word or as part of a larger word.

Case Sensitive

If Case Sensitive is selected, AppleWorks GS searches for the first field containing the specified characters exactly as you typed them. If Case Sensitive is not selected, AppleWorks GS searches for the first field where the specified characters appear, ignoring differences in case.

Database Commands

Find Next

Find Next lets you quickly search for the characters last specified with the Find command without displaying the Find dialog box again. Find Next is dimmed on the menu until a successful search has first been conducted with the Find command.

When you search for characters with the Find command, only the first record that contains the specified characters is displayed. With the Find Next command, you can locate each subsequent occurrence of the specified characters until there are no further occurrences of the characters in the database.

If AppleWorks GS fails to find the specified characters, a dialog box appears to notify you that no matching text was found.

Replace...

The Replace command lets you search the active records in a database for a specified set of characters and replace them with another set of characters. Text fields are always searched; if the specified characters are numbers or are in time or date format, then fields with those data types are searched as well.

When you choose Replace, a dialog box appears:

Type the characters to be searched for here

Type the characters to replace them with here

Click here to search for characters that match exactly—including upper-case and lowercase

Find & Replace Text

Replace: Chicago

With: Illinois

Case sensitive

Confirm changes

Cancel Replace

Click here to prompt for confirmation before each replacement

Type in the upper entry box the characters that you want to search for, and in the lower entry box type the characters that you want to replace them with. AppleWorks GS will search for records that contain the characters in the Replace entry box and then replace those characters with the characters in the With entry box.

If AppleWorks GS fails to find the specified value, a dialog box appears to notify you that no matching text was found.

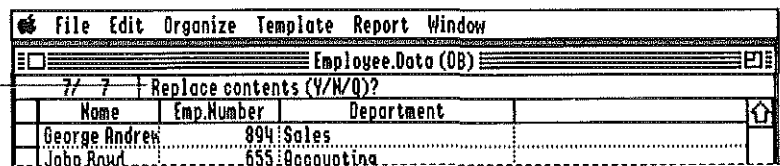
Case Sensitive

If Case Sensitive is selected, AppleWorks GS searches for the first field containing the specified characters exactly as you typed them. If Case Sensitive is not selected, AppleWorks GS searches for the first field where the specified characters appear, ignoring differences in case.

Confirm Changes

If you select the Confirm Changes option, AppleWorks GS allows you the option of replacing each occurrence of the search characters as it's found. The field containing the characters is selected and a message appears in the entry bar asking if you want to replace the selected characters. Type Y to replace the characters, N to ignore this occurrence of the search characters and continue the search, or Q to quit the search.

Confirm Changes message
in the entry bar



If the Confirm Changes box is not checked, AppleWorks GS will automatically find all occurrences of the search characters and replace them with the replacement characters without asking for confirmation.

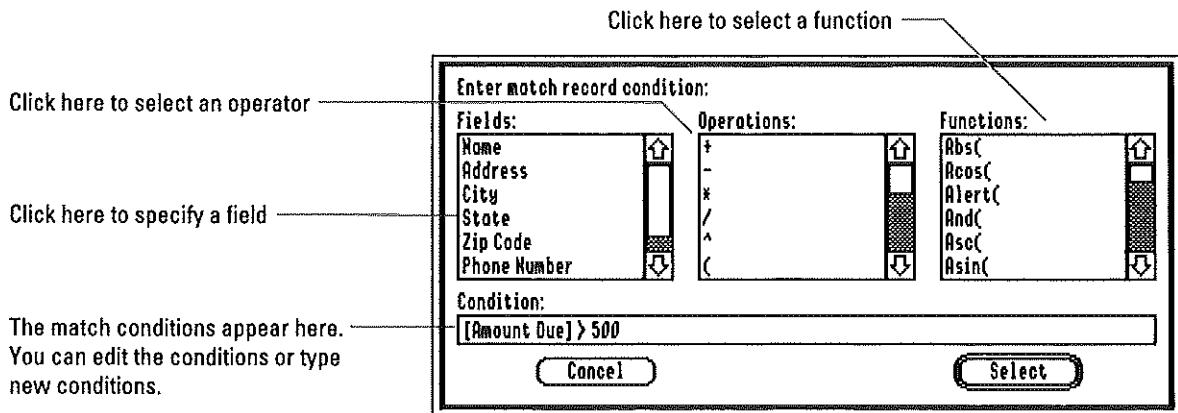
▼ **Warning:** You can't undo the Replace command. Be careful when using Replace.

Database Commands

Match Records...

The Match Records command selects all active records in a database that meet a specified set of conditions. For example, you could use Match Records to find all records in a database in which a field contained a value greater than 500. The Match Records command can only be used when information has been entered in the database; otherwise it remains dimmed.

When you choose Match Records, a dialog box appears:



The Match Records dialog box is similar to the Field Formula dialog box (see "Field Formula" in this chapter), with one major exception—you enter a logical expression rather than a formula in the entry box. For example, if you wanted to match all records that contained a value greater than 500 in an Expense field, you would enter the following statement:

[Expense] > 500

Other than this one exception, the dialog box is used much like the Field Formula dialog box. It contains scrollable lists of field names, conditions, and functions. The Fields list contains the names of all the data fields in the database. The Operations list contains the operators you can use for establishing conditions to be met. The Functions list contains the different functions you can use to create conditions dependent on calculated values. (For more information on the functions provided by AppleWorks GS, see appendix B, "Functions and Formulas," in this manual.)

Below the lists is an entry box where you type in the criteria for the match. You can type the match conditions directly into this box, or you can enter elements of the match criteria from the scrollable lists above by double-clicking each element individually.

When you've finished entering the match conditions, click OK. AppleWorks GS searches the database and selects all records that match the specified conditions. If you like, you can choose Hide Unselected Records from the Organize menu to display only the records selected in the match.

Show All Records

The Show All Records command returns all records in a database to the document window, including those "hidden" with Hide Selected Records or Hide Unselected Records.

Hide Selected Records

The Hide Selected Records command conceals all selected records. When you choose this command, all selected records in the active database are hidden from view and aren't used for searches, sorts, or reports.

To display all the records in the database again, choose Show All Records from the Organize menu.

This command is dimmed when no records are selected.

Hide Unselected Records

The Hide Unselected Records command conceals all unselected records from the current active database. When you choose this command, all unselected records in the active database are hidden from view and aren't used for searches, sorts, or reports.

To display all the records in the database again, choose Show All Records from the Organize menu.

This command is dimmed when there are no unselected records (when no records exist or when all existing records are selected).

Database Commands

Mark Fields

This command lets you identify or “mark” selected fields. When a field is marked, it’s hidden from view in the document window. Certain fields in a database may contain sensitive information, and the Mark Fields command can be used together with the Display Marked Fields command to hide those fields from view.

If the Display Marked Fields command is selected (checked on the menu) when you choose Mark Fields, marked fields are displayed, although the fields appear shaded. Otherwise, the marked fields are concealed from view.

If you wish to unmark fields later, you can do so with the Unmark Fields command.

For more information about marked fields, see “Display Marked Fields” and “Unmark Fields,” in this chapter.

Unmark Fields

The Unmark Fields command removes from a selected marked field the mark used to control the field’s visibility in the database.

To unmark a marked field, the field must be visible. Use Display Marked Fields to show all the fields in the database, and select the fields you wish to unmark before choosing the Unmark Fields command. Unmark Fields returns a marked field to its original state; the field and its values will again be visible in the database at all times.

Display Marked Fields

The Display Marked Fields command controls whether marked fields are visible in a database. When checked, marked fields are visible, though shaded to distinguish them from unmarked fields. When you choose the checked command, the check mark is removed, and marked fields are concealed from view. Choosing the unchecked command again displays the marked fields.

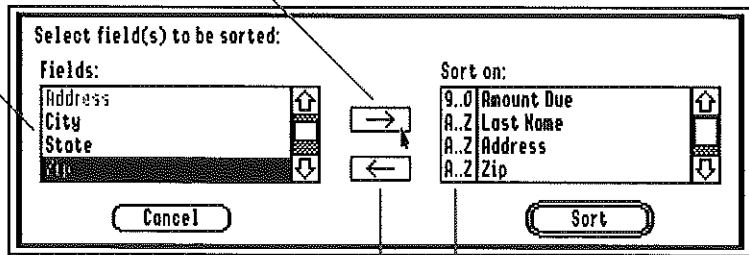
Sort...

The Sort command lets you arrange the active records in a database document according to the values in specified fields. To use Sort, the database must contain information; if you haven't entered any records (or if you've only entered one), the command is dimmed on the menu.

When you choose Sort, AppleWorks GS displays a dialog box:

Click to specify selected field as a sort field

Click field name to select a field



Click to deselect sort field

Sort order box: click to change sort order

The Fields list box displays a list of all the fields in the current database. You can sort on any type of field except picture or static text (fields that you can't sort on are dimmed). The Sort On list box displays the fields you select to sort on and their progressive sort order—the primary sort field is at the top of the list box, the secondary sort field is immediately beneath it, and so forth. When you first choose Sort for a database, the Sort On list is empty.

To select a field as a sort field, click the field name in the Fields list box, then click the right arrow button (or double-click the field or press the Right Arrow key). The field's name is displayed in the Sort On list box and dimmed in the Fields box.

Database Commands

Beside the field name in the Sort On box is a small box displaying the sort order of the field. This allows you to specify whether you want to sort on the field using ascending or descending sort order. For text fields, ascending order means in alphabetical order from A to Z and descending order means in reverse alphabetical order from Z to A. For numeric, date, and time fields, ascending order means 0 to 9 and descending order means 9 to 0. To change the sort order of a field, click the sort order box.

Clicking a field's sort order box
changes the sort order of the field

| | | |
|------|------------|---|
| A..Z | Last Name | ↑ |
| A..Z | Address | |
| 0..9 | Zip | |
| 9..0 | Amount Due | ↓ |

After you've specified the first field to be used for the sort, you can add additional sort fields in the same way. For example, if you specify a second field to be used as a secondary condition in the sorting process, that field serves as a tie-breaker when two or more records contain the same information in the first field—the records are arranged based on the data stored in the second field.

To remove a field name from the list in the Sort On box, click the field name in the Sort On box and click the left arrow box (or press the Left Arrow key or double-click the field name). The field name is removed from the box and AppleWorks GS won't sort the database on that field.

When you've specified the fields to be used for the sort operation, click Sort. The active database is sorted according to the conditions you've specified.

For a table showing the order in which text fields are sorted, see appendix C, "Sort Order for Text," in this manual.

Template Menu

| Template | |
|---------------------------|----|
| ✓ Show Definition | ⌘/ |
| Show Form | ⌘> |
| Show List | ⌘< |
| Open Template... | |
| Save Template... | |
| Grid | ⌘# |
| Grid Size... | |
| Display Preferences... | |
| Return Key Preferences... | |
| Choose Font... | |

The Template menu provides commands that let you define the environment of a database—what a data entry form looks like, what fields the database contains, how you view the information in the database, what's printed on reports. This menu contains commands for creating and saving *templates*—documents that include everything in the database except the actual data.

About templates... A template is an AppleWorks GS database environment containing the form definition and report format for each database that you create. A database's template maintains certain formatting information—which fields are marked, which fields are hidden, the database's form definition, and so forth.

Show Definition

The Show Definition command displays the form definition screen of a database. When the form definition screen is displayed, you can make changes to data fields and labels and modify the form's header and footer areas.

When you create a database, AppleWorks GS automatically displays the form definition screen. This is the only way you can create or modify fields. Once you've created a field, you can choose Show Form or Show List to display the form or list screens for data entry.

Important! At least one field must exist before you can enter data.

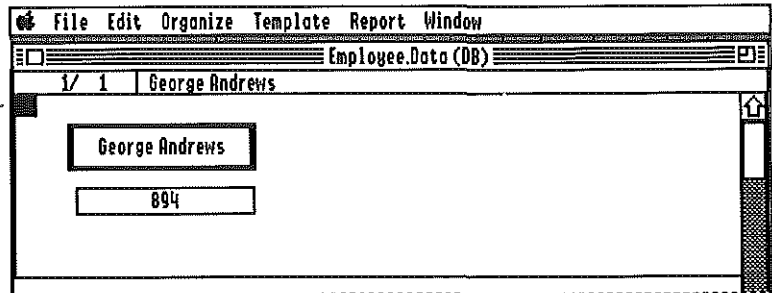
Database Commands

Show Form

The Show Form command displays a database using the form you created in the form definition screen (see "Show Definition").

A select box is displayed in the upper-left corner of each record; clicking the select box selects the entire record for an operation.

Click the select box to select a record



If no records are selected, the database is displayed starting with the first record in the database. If one or more records are selected, the database is displayed starting with the first selected record.

You can scroll to other records in a database using the scroll bar at the right of the document window.

Show List

Show List displays a database in tabular format similar to the AppleWorks GS spreadsheet. Each record in the database is displayed as a row in the table; each field appears as a column. The List screen lets you view, select, and work with multiple records at one time.

A select box is displayed to the left of each record; clicking the select box lets you select the entire record for an operation.

Click the select box to select a record

The screenshot shows a window titled "Employee.Data (DB)" with a menu bar containing "File", "Edit", "Organize", "Template", and "Report". Below the menu bar, it displays "7/ 7". The main area contains a table with the following data:

| | Name | Emp.Number | Department |
|--------------------------|---------------|------------|------------------|
| <input type="checkbox"/> | George Andrew | 894 | Sales |
| <input type="checkbox"/> | John Boyd | 655 | Accounting |
| <input type="checkbox"/> | Jenny Hayes | 124 | Shipping |
| <input type="checkbox"/> | Lou Harris | 222 | Customer Service |

Important! Picture fields and static text fields aren't shown when you're using the List display. Instead the message "Picture..." appears in picture fields, and the message "Text..." appears in static text fields.

Open Template...

The Open Template command lets you open a previously saved template.

When you save your database, this template is saved, along with the actual data values in the database. The Open Template command lets you open and use a template saved with one database to store new information for a different database document.

Open Template works much like the Open command on the File menu. Select a template from the list, and click Open. (For more information, see "Open" in chapter 1, "AppleWorks GS Commands.")

Save Template...

The Save Template command saves the current template without saving data. This command is useful when you want to save a template quickly and then continue to work on the database. It's also helpful for saving a copy of a template with a different name for use with a different set of data records. You can also use Save Template to save one report format for a data file and then create another report format for the same data.

Saving the template saves the current form definition, the current report format, and other special formatting information used by AppleWorks GS to maintain the environment of that particular database.

The Save Template dialog box is similar to the dialog box used by the Save As command on the File menu. Type a name for the template, and click Save. (For more information, see "Save As" in chapter 1, "AppleWorks GS Commands.")

Database Commands

Grid

The Grid command controls whether the form grid is turned on or off. The grid is an invisible set of horizontal and vertical lines on a form that you can use to control the placement of fields. These invisible lines, which are set apart from each other in regular increments (see "Grid Size" for information on changing these increments), can be used to align objects in a document precisely. When the grid is on, fields that you're creating, moving, or reshaping will "snap," as if magnetically, to the nearest grid line.

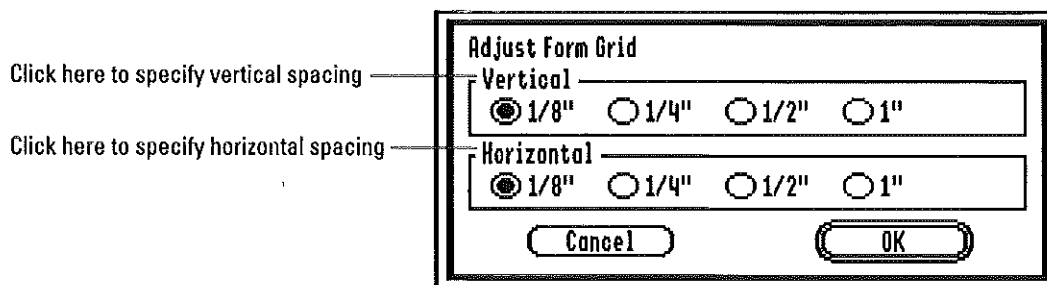
When the Grid command has a check mark (✓) beside it, the grid is on. (When you create a new database, the Grid command is checked and the grid is on.) When you choose the checked Grid command, the check mark is removed and the grid is turned off.

Changing the size of the grid increments with the Grid Size command won't affect the placement of a field already on the form unless you move or reshape the field.

Grid Size...

The Grid Size command lets you control the spacing between grid lines.

When you choose Grid Size from the Template menu, a dialog box appears:



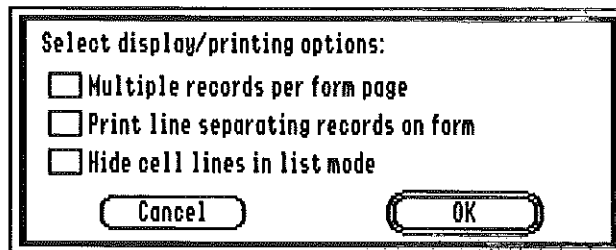
Click the appropriate buttons to specify the amount of space you want between vertical and horizontal lines in the grid.

For example, if you click the 1" button in the Vertical box and the 1/2" button in the Horizontal box, the resulting grid will consist of vertical lines spaced one inch apart and horizontal lines spaced one half-inch apart.

Display Preferences...

The Display Preferences command provides options for changing the way database information is displayed.

When you choose Display Preferences, a dialog box appears:



Multiple records per form page

This check box lets you display as many whole records on a form page as will fit. (The precise number of records that will fit depends on your form definition.) If you don't select this option, AppleWorks GS displays only one record on a form page at a time.

Print line separating records on form

When you click this check box, AppleWorks GS displays a line between records on the form screen and prints a line separating each record when a report is printed.

Hide cell lines in list mode

This check box controls whether the tabular lines separating records and fields in List View are displayed or hidden. When this option is selected, the lines are hidden.

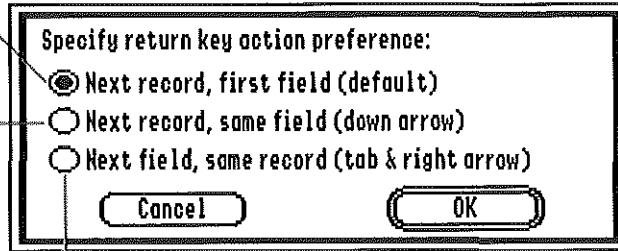
Database Commands

Return Key Preferences

This command lets you tell AppleWorks GS what action to take when you press the Return key.

Click to advance the active cell to the first field in the next record when you press Return. This is the default setting.

Click to advance the active cell to the same field in the next record when you press Return



Click to advance the active cell to the next field in the same record when you press Return

You can move the active cell to the next field or the previous field in a record by pressing the Right Arrow key or Left Arrow key, respectively. When you reach the end or beginning of a record, the arrow keys won't move the active cell to the next or previous record (the Tab key will move the active cell to the next record, however).

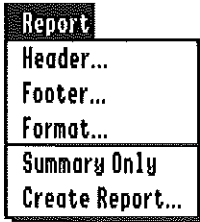
You can move the active cell to the same field in the next record or the previous record by pressing the Down Arrow key or the Up Arrow key, respectively.

Choose Font

The Choose Font command lets you select the font, character size, and style for an entire database document. This command appears in several of the AppleWorks GS applications and is explained in detail in "Other Common AppleWorks GS Commands," in chapter 1.

By the way... Styles specified with the Choose Font command may have little impact on the overall style of a database document, as the style of each field in a database can be modified with the Field Format command. The field format always takes precedence over font selections made with Choose Font.

Report Menu



The Report menu contains commands for creating, modifying, and embellishing reports.

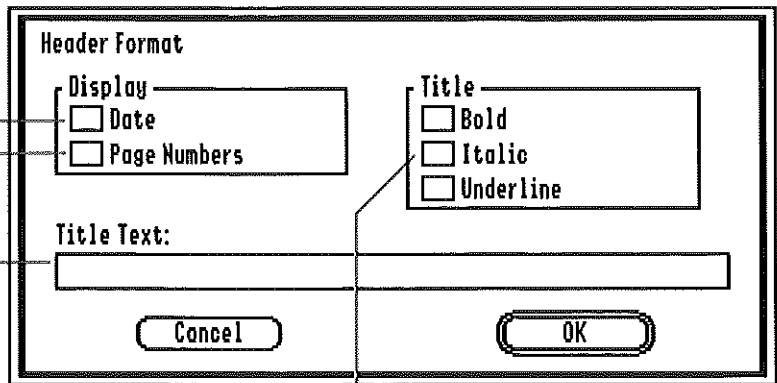
Header...

The Header command lets you type a line of header information to appear at the top of each page on a report. Header text can be any combination of boldface, italicized, and underlined text. AppleWorks GS also includes options for automatically displaying the current date and page number in the header.

Click to print current date in header

Click to include page number in header

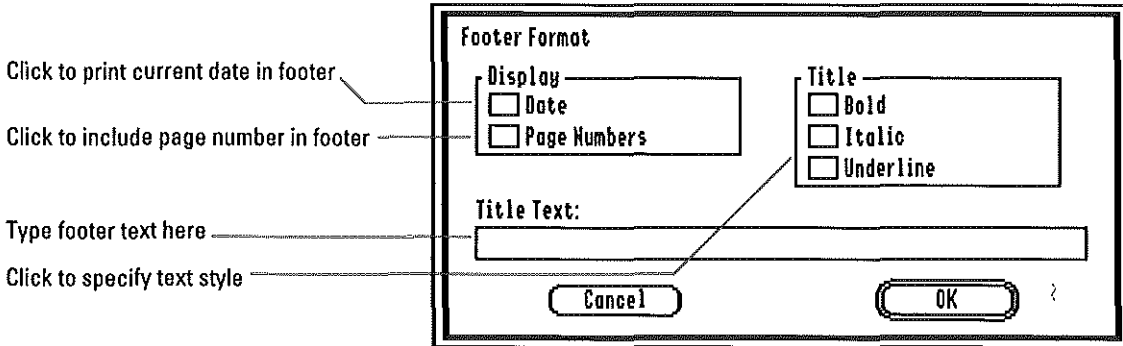
Type header text here



Click to specify text style

Footer...

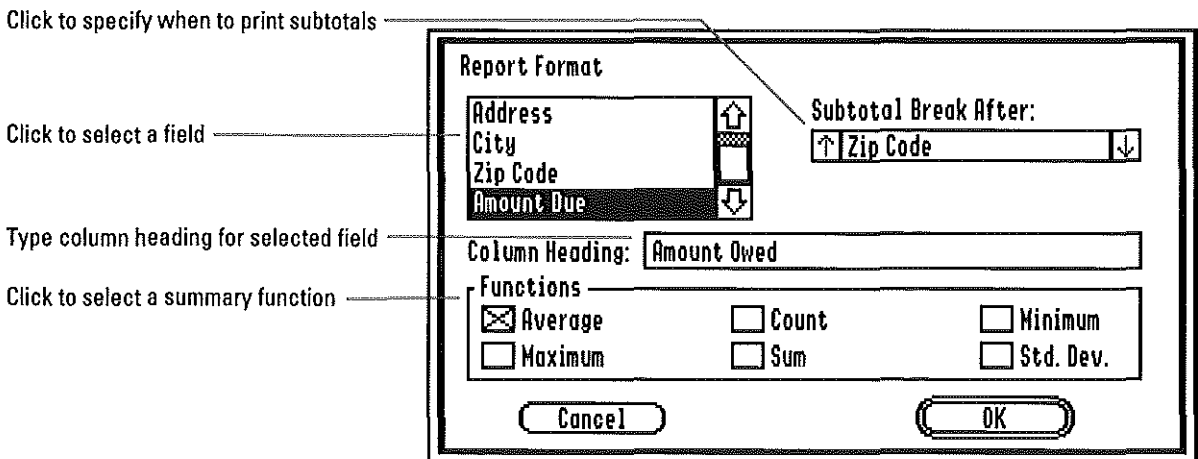
The Footer command lets you type a line of footer information to appear at the bottom of each page on a report. Footer text can be any combination of boldface, italicized, and underlined text. AppleWorks GS includes options for automatically displaying the current date and page number in the footer.



Format...

The Format command lets you specify the names to be used for column headings in a report as well as subtotalling information for fields in the report.

When you choose Format, a dialog box appears:



Column Headings

When AppleWorks GS creates a database report, field values appear in columns and AppleWorks GS automatically generates column headings for each field in the report. The default heading is the field name, but you can give the field any heading you want (up to 40 characters).

To create or edit a column heading, click the name of the field you're creating the heading for (scroll the list, if necessary). The current heading for the field appears in the Column Heading entry box. Type a new heading for the field. The heading you specify will be used as the column heading for that field in the report.

Subtotals

You can perform calculations on the information contained in the fields of a database report and display these calculated values, or subtotals, at specified places in the report. With the Format command, you can specify when you want subtotals to be displayed and the type of calculations to be performed.

Unless you specify otherwise, AppleWorks GS displays these calculated values only at the end of a report (indicated by the *Totals Only* setting in the Subtotal Break After list box). You can, however, create a break in a report by specifying that you want subtotal information to appear whenever the value in a specified field changes.

Important! Breaks can only be made on sorted fields.

To create a subtotal break, scroll down the list of sorted fields in the Subtotal Break After box until the field you want to break on appears.

As you scroll down the list, the fields you specified as sort fields with the Sort command are displayed (see "Sort," in this chapter) in order of sort precedence, primary sort field to last. (If you haven't selected any sort fields, the box will only display the *Totals Only* setting.) The field name in the box is the field on which breaks will occur. Subtotal information will be displayed in the report whenever the value in this field or a sorted field of higher precedence changes.

Database Commands

Summary Functions

The Function check boxes let you specify the type of calculations to be performed on the data in the report.

The subtotal functions are described below:

- Average—calculates the average of the values in a specified numeric, date, or time field.
- Maximum—displays the largest value in a specified numeric, date, or time field.
- Count—calculates the total number of non-empty values in a specified field.
- Sum—calculates the sum of the values in a specified field.
- Minimum—displays the smallest value in a specified numeric, date, or time field.
- Std. Dev.—calculates the standard deviation of the values in a specified numeric field.

Not all of the functions work with all types of data. Only the Count function is available for text, picture, and static text fields, and you can't use Sum and Std. Dev. with time and date fields. When a function can't be used with a certain data type, the function is dimmed.

Summary Only

The Summary Only command tells AppleWorks GS to produce only a summary report when you choose the Create Report command. A summary report doesn't print any of the records in the database, but rather prints just the column headings and subtotal information specified with the Format command. Summary reports are useful when you just want to know the results of calculations you perform on your data and don't need record-by-record detail.

When you choose Summary Only, a check mark (✓) appears to the left of the command on the Report menu. To return to printing detailed reports, choose the Summary Only command again. The check mark is removed and complete reports (including record as well as summary information) will again be produced when you choose Create Report.

Create Report...

This command creates a report based on the criteria you specify with the Format, Header, and Footer commands. The report is generated in memory as an AppleWorks GS word processing document and appears, completely formatted, in a word processing document window. The report document can be edited with any of the word processing commands and printed like any other word processing document.

For more information on printing, see "Print" in chapter 1, "AppleWorks GS Commands."

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CHAPTER 4

Spreadsheet



4



Spreadsheet Commands

File Menu

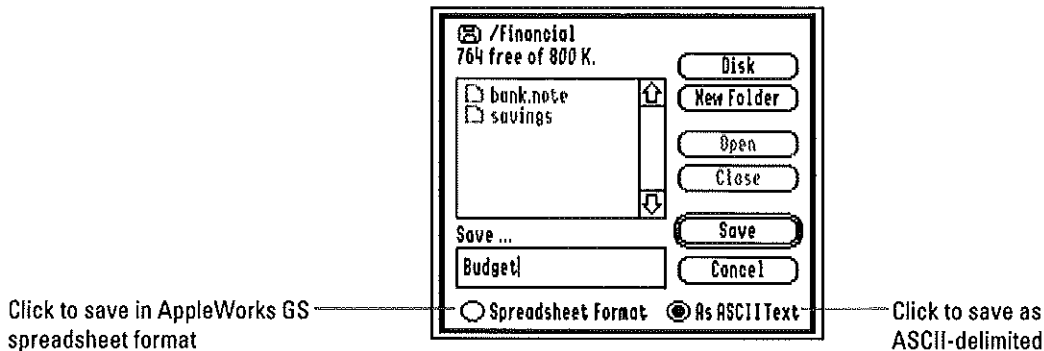
| File | |
|-------------------|----|
| New... | ⌘N |
| Open... | ⌘O |
| Close | ⌘K |
| Save | ⌘S |
| Save As... | |
| Delete File... | |
| Import File... | |
| Choose Printer... | |
| Page Setup... | |
| Print... | ⌘P |
| Print Merge... | |
| Quit | ⌘Q |

The standard File menu commands—common to all the AppleWorks GS applications—are described in chapter 1, “AppleWorks GS Commands.” The Print Merge command is only available in the word processor, so that command is dimmed on the spreadsheet File menu. Although common to all the AppleWorks GS applications, the Save As command supports a special format for saving spreadsheet documents; information on this format is provided here.

Save As...

The Save As command for the AppleWorks GS spreadsheet works the same as in the other applications, except that spreadsheet documents can be saved with a special format—ASCII text with tab/carriage return delimiters—in addition to the regular spreadsheet format. This special format allows you to save an AppleWorks GS spreadsheet in a format that can be read by other spreadsheet programs.

When you choose Save As in the spreadsheet application, the Save As dialog box appears containing the usual options for saving documents, as well as an additional setting for saving a spreadsheet in the ASCII-delimited format.



For information on the other options provided by the Save As command, see “Save As” in chapter 1, “AppleWorks GS Commands.”

Edit Menu

| Edit | |
|-------------------|----|
| Undo | ⌘Z |
| Cut | ⌘X |
| Copy | ⌘C |
| Paste | ⌘V |
| Clear | |
| Paste Format Only | |
| Paste Values Only | |
| Select All | ⌘A |
| Insert | ⌘I |
| Delete | ⌘D |
| Move... | ⌘M |
| Fill | ⌘F |
| Transpose | ⌘T |

The standard Edit menu commands (Undo, Cut, Copy, Paste, Clear, and Select All) are described in chapter 1, “AppleWorks GS Commands.”

In addition to the standard commands, the Edit menu contains commands for editing, inserting, and deleting spreadsheet cells.

Paste Format Only

The Paste Format Only command assigns the format (but not the contents) of a copied cell to a selected cell or range of cells.

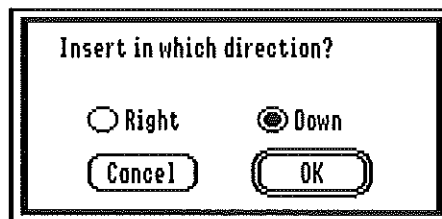
Paste Values Only

The Paste Values Only command assigns the value or label of a copied cell or range of cells to a selection.

Insert

This command inserts a blank cell or range of cells into a spreadsheet.

To use the Insert command, select the cell or cells where you want to insert a corresponding number of blank cells. When you choose Insert, AppleWorks GS inserts the same number of blank cells you selected, shifting the remaining cells in the spreadsheet to make room for the new blank cells. When you insert an entire row (or rows), AppleWorks GS shifts the remaining cells down; when you insert an entire column (or columns), the remaining cells are shifted to the right. If you’re inserting a single cell or a selection that is neither entire rows nor entire columns, a dialog box appears to let you choose how you want the cells shifted:

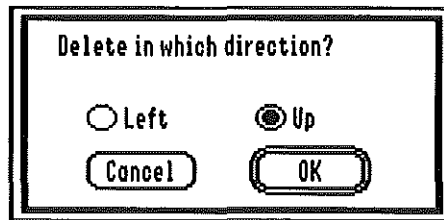


Choose the way you want the cells shifted, and click OK. The blank cells are inserted and the other cells are shifted. The formulas in the shifted cells are adjusted to accommodate cell dependencies.

Delete

The Delete command removes a selection of cells from a spreadsheet.

When you delete a selection, AppleWorks GS shifts the remaining cells in the spreadsheet to fill the space left by the selection. When you delete an entire row (or rows), AppleWorks GS shifts the remaining cells up; when you delete an entire column (or columns), the remaining cells are shifted to the left. If you're deleting a single cell or a selection that is neither entire rows nor entire columns, a dialog box appears to let you choose how you want the cells shifted:



Choose the way you want the cells shifted, and click OK. The selection is deleted and the remaining cells are shifted. The formulas in the shifted cells are adjusted to accommodate cell dependencies. References to deleted cells produce an error on evaluation.

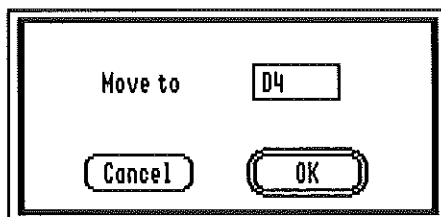
Pressing the Delete key does not produce the same effect on a selection as choosing the Delete command. When you press the Delete key, the selection is removed, but the remaining cells are not shifted to fill in the empty space. In other words, the Delete key works like the Clear command rather than the Delete command.

Spreadsheet Commands

Move...

The Move command lets you quickly move a selected cell or range of cells to a new position in the spreadsheet.

Before using Move, select the range of cells you want to move. When you choose Move, a dialog box appears:



Type in the entry box the reference for the cell that you'd like to make the upper-left cell of the selection in its new location, and click OK. The selection is moved to the new position.

When you move cells, the formulas in the moved cells are adjusted to accommodate cell dependencies. References to moved cells are also adjusted. If you move cells onto cells that are referenced by formulas in other cells, however, those formulas will evaluate to N/A. This is also true if you move cells onto either endpoint of a range of cells referenced by a formula in another cell, but not onto cells elsewhere in the range. For example, moving cells to the cell A1 affects references to the range A1..B2, but not references to A2..B1 (although both ranges include these cells).

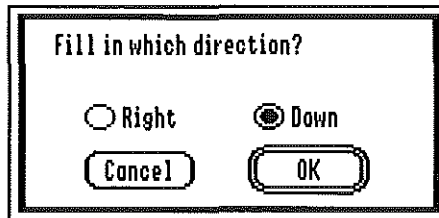
"Point-and-Shoot..." You can also move a selection by holding down the \mathcal{C} key and clicking in a new location in the document. The selection moves to the new location, with the top-left cell in the selection occupying the cell you click. See chapter 4, "Spreadsheet," in the *AppleWorks GS User's Guide* for more information on this "point-and-shoot" method for moving cell selections.

Fill

The Fill command copies the cell or cells in the leftmost column or uppermost row of a selection into the other cells in the selection. If the remaining cells in the selection aren't empty, Fill replaces the information in those cells.

To fill a row of cells with a value, select the range of cells to be filled, with the leftmost cell containing the fill value, and choose Fill from the Edit menu. To fill a column of cells with a value, select the range of cells to be filled, with the uppermost cell containing the fill value, and choose Fill.

If you select a range that contains both rows and columns, AppleWorks GS displays a dialog box:



If you want the selection to be filled to the right—filled with the values in the leftmost column—click Fill Right. If you want the selection to be filled down—filled with the values in the uppermost row—click Fill Down.

If the fill value is a formula, the formula is copied into the remaining cells in the selection and recalculated for each particular cell. If the formula in the fill value cell contains relative addresses, the formulas in the new cells will also contain relative addresses, and the results in each new cell will reflect those relative addresses. If the formula in the first cell contains absolute addresses, the copies of the formula in the remaining cells retain those absolute addresses.

Spreadsheet Commands

Transpose

The Transpose command exchanges the positions of selected rows and columns, changing row values into columns and column values into rows. When you transpose a selection, the formulas in the transposed cells are adjusted to accommodate cell dependencies. References to transposed cells are also adjusted.

Selected range before Transpose command—in columns

| Range | A | B | C | D | E | F |
|-------|---------------------|-------------|---|---|---|---|
| 1 | SALES FIGURES--1988 | | | | | |
| 2 | | | | | | |
| 3 | JAN | \$63,525.00 | | | | |
| 4 | FEB | \$45,609.25 | | | | |
| 5 | MAR | \$59,834.23 | | | | |
| 6 | APR | \$72,653.95 | | | | |
| 7 | MAY | \$75,420.45 | | | | |
| 8 | JUN | \$84,923.65 | | | | |
| 9 | JUL | \$79,023.85 | | | | |
| 10 | AUG | \$89,762.25 | | | | |
| 11 | SEPT | \$74,234.75 | | | | |
| 12 | OCT | \$92,355.95 | | | | |
| 13 | NOV | \$78,850.35 | | | | |
| 14 | DEC | \$61,012.50 | | | | |

Selected range after Transpose command—transposed into rows

| Range | A | B | C | D | E | F |
|-------|---------------------|-------------|-------------|-------------|-------------|-------------|
| 1 | SALES FIGURES--1988 | | | | | |
| 2 | | | | | | |
| 3 | JAN | FEB | MAR | APR | MAY | JUN |
| 4 | \$63,525.00 | \$45,609.25 | \$59,834.23 | \$72,653.95 | \$75,420.45 | \$84,923.65 |
| 5 | | | | | | |
| 6 | | | | | | |

Format Menu

| Format | |
|------------------------|-----|
| Bold | ⌘B |
| Underline | ⌘U |
| ✓Align Left | |
| Align Center | |
| Align Right | |
| ✓General | ⌘# |
| Fixed | ⌘. |
| Dollars | ⌘\$ |
| Percentage | ⌘% |
| Scientific Notation | ⌘E |
| Set Decimal Places... | |
| Commas | ⌘, |
| ✓Red negative #'s | ⌘R |
| ✓Parenthesize neg. #'s | ⌘(|
| Set Default Format... | |

The Format menu contains commands for changing the style, alignment, and numeric formatting of a cell or range of cells.

Bold

The Bold command changes the style of a selected cell or range of cells to boldface.

When you choose Bold, a check mark (✓) appears to the left of the command on the Format menu and the characters or numbers in the selected cell(s) are changed to boldface. To return a cell or group of cells to non-boldface, select the cell(s) and choose the Bold command again.

The Bold command can be used with the Underline command to display values that are both underlined and boldface.

Underline

The Underline command underlines the contents of a selected cell or range of cells.

When you choose Underline, a check mark (✓) appears to the left of the command on the Format menu and the characters or numbers in the selected cell(s) are underlined. To return a cell or group of cells to non-underlined display, select the cell(s) and choose the Underline command again.

The Underline command can be used with the Bold command to display values that are both boldface and underlined.

Align Left

The Align Left command aligns the contents of selected cells with the left edge of each cell.

Note: Only cells containing text values are affected by this command.

Spreadsheet Commands

Align Center

The **Align Center** command centers the contents of a selected cell or range of cells.

Note: Only cells containing text values are affected by this command.

Align Right

The **Align Right** command aligns the contents of selected cells with the right edge of each cell.

Note: Only cells containing text values are affected by this command.

General

The **General** command displays numeric values in selected cells with the default numeric format. This general numeric format removes trailing zeros to the right of the decimal point and doesn't display dollar signs or percent signs. If a number is too large to fit in a cell, the number is rounded until it fits; if an integer won't fit in a cell, it's displayed in scientific notation. If a number is too large to fit in a cell in any other format, the number is replaced with two pound symbols (##).

General format disregards the number of decimal places specified with the **Set Decimal Places** command and instead uses as many decimal places as are necessary (and as many as will fit in the cell) to express the number. If a decimal value is less than 1, the general format includes a zero before the decimal point. For example, the value 98.60 is displayed as 98.6, and the value \$67.50 is displayed as 67.5. The decimal value .54 is displayed as 0.54.

Fixed

The **Fixed** command displays numeric values in selected cells with a fixed number of places to the right of the decimal point. The number of decimal places is initially two (or the last number you specified with the **Set Default Format** command), but you can change it with the **Set Decimal Places** command.

Dollars

The Dollars command displays numeric values in selected cells as dollar values, with a dollar sign to the left of the value and the number of decimal places last specified with the Set Decimal Places command.

Percentage

The Percentage command displays numeric values in selected cells as percentage values. The numeric values in the selected cells are multiplied by 100 and displayed with the number of decimal places last specified with Set Decimal Places. A percent sign is displayed to the right of the value.

For example, if the number of decimal places is set to two, the value .54 is displayed as 54.00%, and the value 1 is displayed as 100.00%.

Scientific Notation

The Scientific Notation command displays numeric values in selected cells in scientific notation, with the number of decimal places last specified with Set Decimal Places. This is especially useful when you're formatting very large or very small numbers.

Scientific notation displays a numeric value as a decimal value multiplied by a power of ten. For example, the value 1530 can be expressed as 1.53×10^3 , and the value 0.635 can be expressed as 6.35×10^{-1} . This notation provides a shorthand which is convenient when working with very large or very small numbers. For example, the value 256,323,122,332 can be written in scientific notation as 2.56×10^{11} .

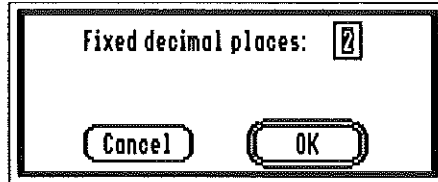
AppleWorks GS displays scientific notation a little differently. Since every value written in scientific notation contains the characters "x 10", these characters are replaced by the letter "e." (The letter "e" stands for exponent.) As a result, the value 1.53×10^3 is displayed in AppleWorks GS scientific notation as 1.53e+3, and the value 6.35×10^{-1} would be displayed in AppleWorks GS as 6.35e-1.

Spreadsheet Commands

Set Decimal Places...

The Set Decimal Places command lets you specify the number of decimal places displayed to the right of decimal values when you choose Fixed, Dollars, Percentage, or Scientific Notation format.

When you choose Set Decimal Places, a dialog box appears:



Type in the entry box the number of decimal places that you want to display (the default is two, but this can be changed with the Set Default Format command), and click OK.

Commas

The Commas command tells AppleWorks GS whether or not to display selected numeric values with commas. Initially, numeric values are displayed without commas, but you can change this with the Set Default Format command.

When you choose the Commas command, a check mark (✓) appears beside the command on the menu and the numeric values in the selected cells are displayed with a comma separating each set of three digits to the left of the decimal point. To remove commas from the values in a selection, choose Commas again; the command is unchecked and the values are again displayed without commas.

Red Negative #'s

The Red Negative #'s command displays the negative numeric values in a selection in red (or in a distinct pattern if you're using a monochrome monitor). Initially, Red Negative #'s is selected on the menu—indicated by a check mark (✓) to the left of the command—and all negative numeric values are displayed in red. (This can be changed with the Set Default Format command.) You can change the negative value display to black by choosing the checked Red Negative #'s command; the check mark is removed from the menu and negative numbers appear in black.

The Red Negative #'s and Parenthesize Neg. #'s commands can be combined to display negative values in red and surrounded by parentheses.

Parenthesize Neg. #'s

This command displays selected negative numeric values in parentheses. (A standard accounting practice shows negative dollar values by surrounding them with parentheses, rather than using a minus sign before the value.) For example, the value -76.54 would be shown as (76.54).

Initially, Parenthesize Neg. #'s is selected on the menu—indicated by a check mark (✓) to the left of the command—and all numeric values are enclosed in parentheses. (This can be changed with the Set Default Format command.) You can change the negative value symbol to a minus sign by choosing the checked Parenthesize Neg. #'s command; the check mark is removed from the menu and negative numbers appear with minus signs and no parentheses.

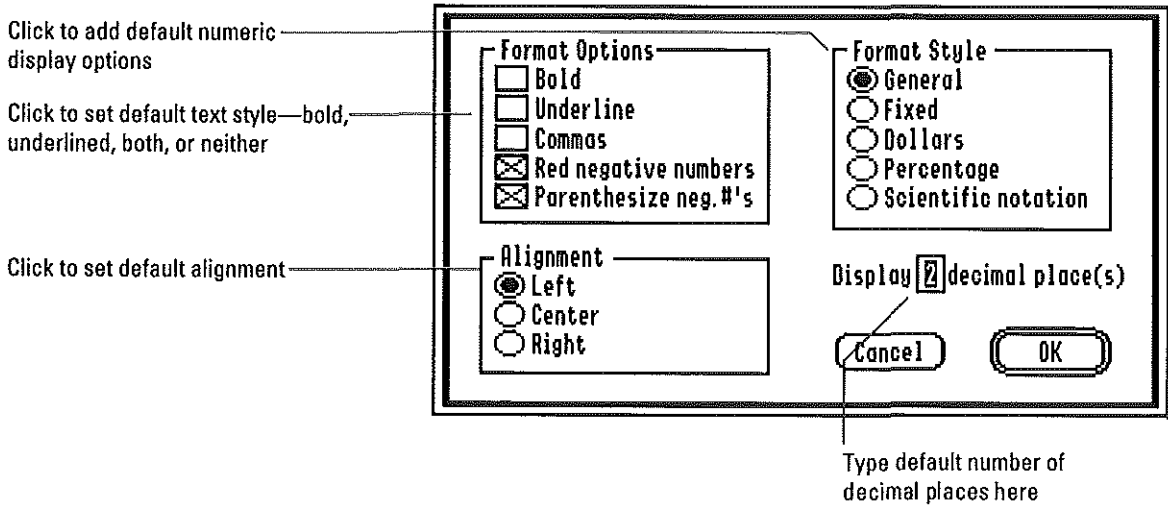
The Parenthesize Neg. #'s and Red Negative #'s commands can be combined to display negative values in red and surrounded by parentheses.

Spreadsheet Commands

Set Default Format...

The Set Default Format command lets you change the formatting options that are automatically used when you add new values to a spreadsheet document. You can use this command to change the defaults for any command on the Format menu.

When you choose Set Default Format, AppleWorks GS displays a dialog box:



When you've specified the default settings you want, click OK. The new defaults will be used for any new values you add to the spreadsheet.

The original defaults on the Format menu are always the same for new documents. These defaults are displayed in the chart on the facing page.

Initial Spreadsheet Formatting Defaults

| Formatting option: | Default: |
|---------------------------|---|
| Bold | Not chosen |
| Underline | Not chosen |
| Align Left | Chosen for text |
| Align Center | Not chosen |
| Align Right | Not chosen (numbers always aligned right) |
| General | Chosen |
| Fixed | Not chosen |
| Dollars | Not chosen |
| Percentage | Not chosen |
| Scientific Notation | Not chosen |
| Number of decimal places | Two |
| Commas | Not chosen |
| Red Negative #'s | Chosen for negative numbers |
| Parenthesize Neg. #'s | Chosen for negative numbers |

Spreadsheet Commands

Options Menu

| Options | |
|--------------------------|----|
| Manual Calculation | |
| Recalculate | ⌘= |
| View Formulas | |
| List Functions... | ⌘L |
| Change Default Width... | |
| Restore Width to Default | |
| Set Titles... | |
| Hide Cell Lines | |

The Options menu provides commands that control spreadsheet recalculation, the viewing of formulas in the spreadsheet, and column width.

Manual Calculation/Auto Calculation

These commands control whether you want to decide when AppleWorks GS recalculates a spreadsheet or have the spreadsheet recalculated automatically.

Normally, AppleWorks GS automatically recalculates those spreadsheet cells affected when a new value is entered. (Unlike some spreadsheet programs, AppleWorks GS doesn't update all cells in the spreadsheet—even those unaffected by the change—whenever a change is made.) This automatic, intelligent recalculation is powerful and convenient, but the time required for calculation grows as more spreadsheet cells are filled. The Manual Calculation command tells AppleWorks GS to recalculate the spreadsheet only when you choose the Recalculate command.

When you choose Manual Calculation, the name of the command changes to Auto Calculation and any values you enter into the spreadsheet have no immediate visible effect. When you're ready for AppleWorks GS to recalculate the spreadsheet, choose Recalculate. The spreadsheet is updated to reflect any changes made since you chose Manual Calculation or the last time you chose Recalculate.

To return to automatic recalculation, choose Auto Calculation. The name of the command changes back to Manual Calculation.

Recalculate

The Recalculate command lets you manually recalculate a spreadsheet.

This command is used only when you've chosen Manual Calculation; otherwise, it remains dimmed on the menu (see "Manual Calculation" in this chapter for more information on this command). Normally, there's no need to choose Recalculate, because AppleWorks GS uses automatic calculation to update the affected cells in a spreadsheet each time a new value is entered. The time required for calculation grows as more spreadsheet cells are filled, however, so there may be times when you want to use manual calculation to speed up entry of new values.

Like the automatic recalculation of the AppleWorks GS spreadsheet application, the spreadsheet's manual recalculation uses intelligent recalculation, which means that only the cells that have been changed (or affected by a change in another cell) since the last recalculation are recalculated. When you choose Recalculate, any cells containing new values—or references to other cells with new values—are updated.

View Formulas/View Data

These commands control whether AppleWorks GS displays the actual formulas of cells that contain formulas, rather than the calculated values of the formulas (which are normally displayed).

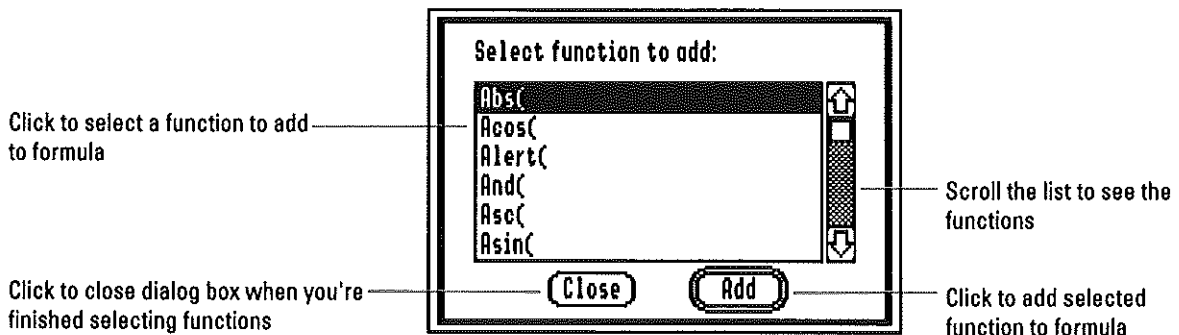
When you choose View Formulas, the formulas are displayed and the command changes to View Data on the Options menu. To display the calculated values of the formulas again, choose View Data.

The View Formulas and View Data commands affect all cells in the spreadsheet.

List Functions...

The List Functions command displays a list of all the functions offered by the AppleWorks GS spreadsheet and lets you use this display to add functions to formulas.

When you choose List Functions, AppleWorks GS displays a dialog box:



Spreadsheet Commands

If you want to add a function to a formula, click the function name in the list (scroll the list, if necessary), then click Add. The function, followed by an open parenthesis, appears in the active cell. You can also add a function to a formula by double-clicking the function name in the list.

You can continue to add as many function names to the formula as you like. While this dialog box is displayed, you can also enter data into the active cell by typing on the keyboard. This lets you build an entire formula quickly and easily, without typing function names and without exiting the List Functions dialog box.

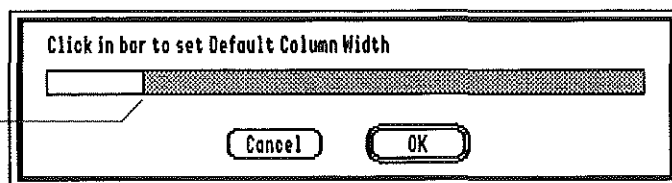
When you're finished, click Close. The List Functions dialog box disappears and AppleWorks GS returns to the document window.

Change Default Width...

The Change Default Width command lets you change the default width of all columns in the spreadsheet. Initially, the default width is 80 pixels, approximately one inch.

When you choose Change Default Width, a dialog box appears:

Drag the vertical bar to increase or decrease the default column width



The entry box graphically displays the current default column width as a yellow column cell (if you're using a monochrome monitor, the column cell is displayed as a light pattern). Create a new value for the default width by dragging the vertical bar on the right side of the yellow bar (as you would normally drag to manually change the size of a column in the spreadsheet). Drag the bar to the left to decrease the default column width; drag to the right to increase the default width. When you've set the cell to the width you want, click OK. Any columns in the spreadsheet that haven't been manually resized assume the new width.

If you save the spreadsheet after changing the default column width, the new default width is saved with the document. This command doesn't change the default column width for any new spreadsheet documents you create. They still use 80 pixels as the default width.

Use the Restore Width to Default command on the Options menu to set selected columns (including those that have been resized manually) in the spreadsheet to the default width.

Restore Width to Default

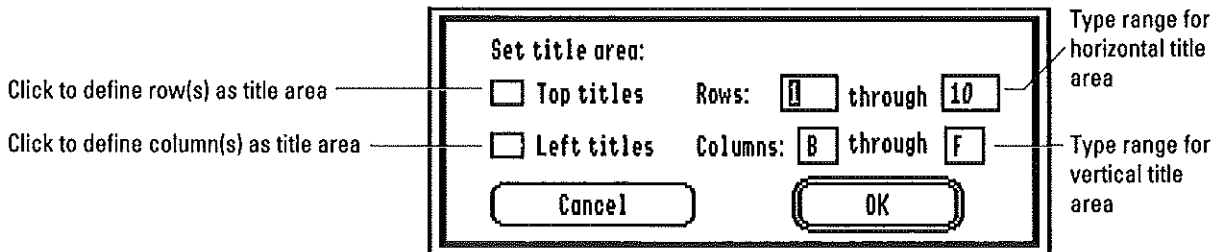
The Restore Width to Default command sets selected columns in a spreadsheet to the default column width.

When you begin an AppleWorks GS spreadsheet, the default column width is 80 pixels (approximately one inch). You can use the Change Default Width command to change the default width to a new value (see "Change Default Width," in this chapter for more information).

Set Titles...

The Set Titles command lets you define areas of a spreadsheet as titles. Once an area is defined as a title, it's "frozen" in the document window—it remains displayed even when you scroll or move to another part of the document. You can define both rows and columns as title areas.

When you choose Set Titles, AppleWorks GS displays a dialog box:



To set aside an area at the top of the document window as a title area, click Top Titles and type the range of rows for the title area in the Rows entry boxes. To set aside an area on the left side of the document window as a title area, click Left Titles and type the range of columns for the title area in the Columns entry boxes.

Spreadsheet Commands

You don't have to choose both top and left title areas and in fact you may find you do so only rarely; typically you'll find one or the other appropriate to the task at hand.

Click OK when you've chosen the appropriate settings. The top title area is defined by a thick horizontal line and the left title area is defined by a thick vertical line. When you scroll, the title areas remain in the document window while the rest of the document scrolls by.

This vertical line defines the left title area

This horizontal line defines the top title area

| B2 | A | A | B | C | D | E | F |
|----|---------------------------|-----------|-----------|----------|----------|---------|--------|
| 1 | FALL SEMESTER TEST SCORES | | | | | | |
| 2 | | | | | | | EXTRA |
| 3 | NAME | NAME | SEPT TEST | OCT TEST | NOV TEST | AVERAGE | CREDIT |
| 4 | BLANCHARD | BLANCHARD | 94 | 92 | 94 | 93 | 2 |
| 5 | CHAPMAN | CHAPMAN | 92 | 87 | 90 | 89 | 1 |
| 6 | DANIELS | DANIELS | 89 | 98 | 95 | 94 | 2 |
| 7 | EARNHART | EARNHART | 98 | 89 | 90 | 92 | 4 |
| 8 | FLANDERS | FLANDERS | 94 | 88 | 78 | 81 | 2 |
| 9 | HART | HART | 94 | 75 | 85 | 84 | 1 |
| 10 | KELLY | KELLY | 76 | 82 | 84 | 80 | 2 |
| 11 | WATSON | WATSON | 86 | 85 | 80 | 85 | 1 |

When you use set titles, the top and left title areas are "frozen" in place and won't be affected by scrolling

| B2 | A | B | C | D | E | F | G | |
|----|---------------------------|-----------|----------|----------|---------|--------|-------|-------|
| 1 | FALL SEMESTER TEST SCORES | | | | | | | |
| 2 | | | | | | | EXTRA | FINAL |
| 3 | NAME | SEPT TEST | OCT TEST | NOV TEST | AVERAGE | CREDIT | SCORE | |
| 4 | BLANCHARD | 94 | 92 | 94 | 93 | 2 | 95 | |
| 5 | CHAPMAN | 92 | 87 | 90 | 89 | 1 | 90 | |
| 6 | DANIELS | 89 | 98 | 95 | 94 | 2 | 96 | |
| 7 | EARNHART | 98 | 89 | 90 | 92 | 4 | 96 | |
| 8 | FLANDERS | 94 | 88 | 78 | 81 | 2 | 83 | |
| 9 | HART | 94 | 75 | 85 | 84 | 1 | 85 | |
| 10 | KELLY | 76 | 82 | 84 | 80 | 2 | 82 | |
| 11 | NOLAN | 86 | 85 | 89 | 86 | 1 | 87 | |
| 12 | PASSMORE | 99 | 94 | 95 | 96 | 4 | 100 | |
| 13 | | | | | | | | |

You can change the contents of a title area by selecting and editing the contents of the cells making up the title.

To remove titles, choose the Set Titles command again and click to deselect the Top Titles or Left Titles check boxes. When a title check box is unchecked, that area will not be defined as a title area.

Hide Cell Lines/Show Cell Lines

These commands control whether cell lines are displayed or hidden from view. Initially, cell lines are displayed.

When you choose Hide Cell Lines, all the cell lines in a spreadsheet are hidden and only the contents of the cells are displayed. The command changes to Show Cell Lines on the Options menu.

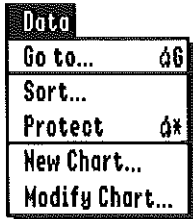
Cell lines hidden from document.
Only values displayed.

| F19 | A | B | C | D | E | F | G |
|-----|----------------------------------|---------|----------|----------|----------|-----------|---|
| 1 | WHEAT TONNAGE FIRST HALF 1986 | | | | | | |
| 2 | | | | | | | |
| 3 | | IDAHO | S.DAKOTA | N.DAKOTA | MISSOURI | KANSAS | |
| 4 | JANUARY | 75,281 | 36,745 | 25,743 | 30,530 | 84,210 | |
| 5 | FEBRUARY | 70,210 | 38,254 | 27,654 | 56,280 | 78,620 | |
| 6 | MARCH | 69,371 | 31,290 | 23,588 | 41,250 | 80,200 | |
| 7 | APRIL | 58,597 | 40,985 | 26,877 | 45,980 | 78,560 | |
| 8 | MAY | 69,721 | 61,789 | 42,561 | 46,852 | 75,230 | |
| 9 | JUNE | 72,541 | 63,981 | 48,369 | 48,662 | 84,250 | |
| 10 | | | | | | | |
| 11 | TOTALS | 415,721 | 273,044 | 194,792 | 269,554 | 481,070 | |
| 12 | GRAND TOTAL FOR SIX MONTH PERIOD | | | | | 1,643,181 | |
| 13 | | | | | | | |

To restore the cell lines to the document, choose Show Cell Lines.

Spreadsheet Commands

Data Menu

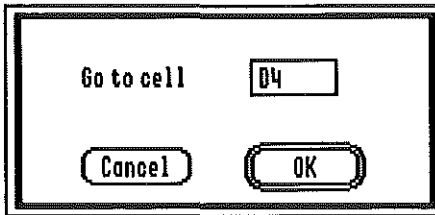


The Data menu contains commands to sort and manipulate the data in a spreadsheet.

Go To...

The Go To command finds, selects, and displays a specified cell anywhere in a spreadsheet.

When you choose Go To from the Data menu, a dialog box appears:

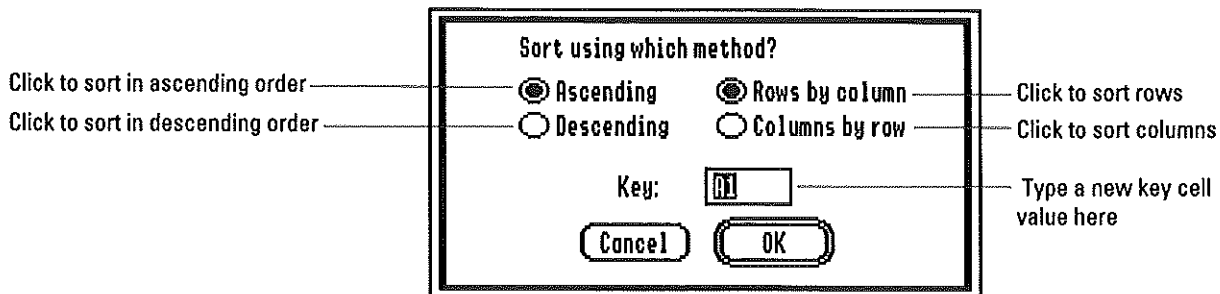


Type the cell number you want to move to, and click OK. AppleWorks GS scrolls the spreadsheet document to display and select the specified cell.

Sort...

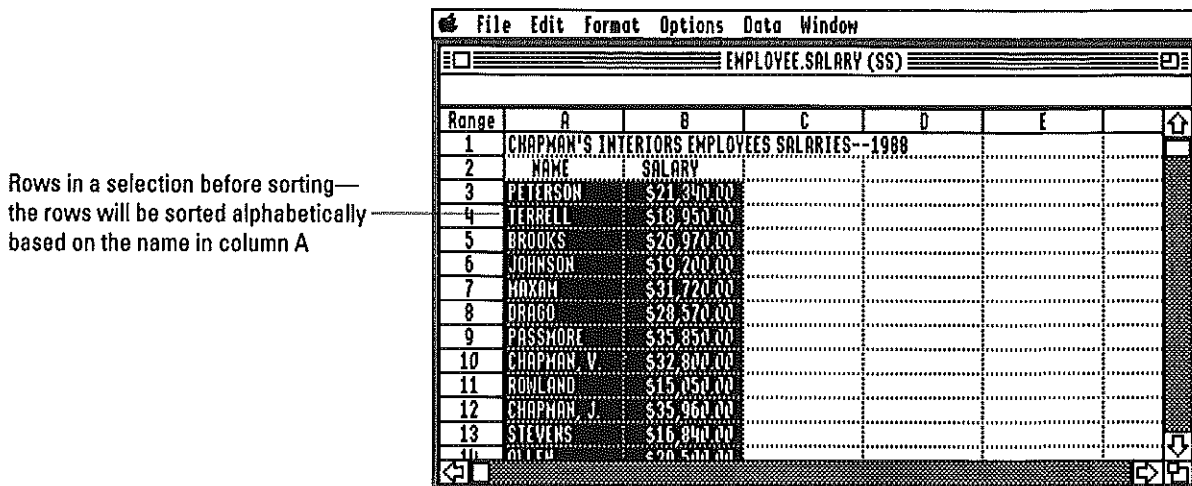
The Sort command lets you arrange a selection of cells in a spreadsheet document according to the values in the cells. Text values are sorted alphabetically, number values in numeric order. If the selection combines text and numeric values, the text is sorted alphabetically and placed at the top of the selection. Numbers are sorted numerically and placed beneath the text values, followed by cells containing N/A's and errors (indicated by "Error" in red—or a distinct pattern on a monochrome monitor). Blank cells are displayed at the bottom of the selection.

When you choose Sort, AppleWorks GS displays a dialog box:



AppleWorks GS uses a cell in the selection, called the *key cell*, as the basis for the sorting operation. The key cell tells AppleWorks GS which row or column contains the values that you'll use to sort the selection. The upper-left cell of a selection is the key cell by default, but you can type a new key cell value (any cell in the selected range) in the Key Cell entry box.

Specify whether you want to sort the rows or the columns in the selection. When you sort the rows in a selection, AppleWorks GS sorts the values in the column containing the key cell and rearranges the rows in the selection according to this sorted column.



Spreadsheet Commands

The same rows after sorting—the rows are now sorted alphabetically by name

| Range | A | B | C | D | E | F | G |
|-------|---|-------------|---|---|---|---|---|
| 1 | CHAPMAN'S INTERIORS EMPLOYEE SALARIES--1988 | | | | | | |
| 2 | NAME | SALARY | | | | | |
| 3 | ALLEN | \$29,500.00 | | | | | |
| 4 | BROOKS | \$26,970.00 | | | | | |
| 5 | CHAPMAN, J. | \$35,960.00 | | | | | |
| 6 | CHAPMAN, V. | \$32,800.00 | | | | | |
| 7 | DRAGO | \$28,570.00 | | | | | |
| 8 | JOHNSON | \$19,200.00 | | | | | |
| 9 | MAXAM | \$31,720.00 | | | | | |
| 10 | PASSMORE | \$35,850.00 | | | | | |
| 11 | PETERSON | \$21,340.00 | | | | | |
| 12 | ROWLAND | \$15,050.00 | | | | | |
| 13 | STEVENS | \$16,840.00 | | | | | |
| 14 | TROBELL | \$10,000.00 | | | | | |

When you sort the columns in a selection, AppleWorks GS sorts the values in the row containing the key cell and rearranges the columns in the selection according to this sorted row.

Columns in a selection before sorting—the columns will be sorted alphabetically based on the names in row 3

| Range | A | B | C | D | E | F | G |
|-------|---|-------------|-------------|-------------|-------------|-------------|-------|
| 1 | CHAPMAN'S INTERIORS EMPLOYEE SALARIES--1988 | | | | | | |
| 2 | NAME | PETERSON | TERRELL | BROOKS | JOHNSON | MAXAM | DRAG |
| 3 | SALARY | \$21,340.00 | \$19,050.00 | \$26,970.00 | \$19,200.00 | \$31,720.00 | \$28, |
| 4 | | | | | | | |
| 5 | | | | | | | |

The same columns after sorting—the columns are now sorted alphabetically by name

| Range | A | B | C | D | E | F | G |
|-------|---|-------------|-------------|-------------|-------------|-------------|---------|
| 1 | CHAPMAN'S INTERIORS EMPLOYEE SALARIES--1988 | | | | | | |
| 2 | NAME | | | | | | |
| 3 | NAME | ALLEN | BROOKS | CHAPMAN, J. | CHAPMAN, V. | DRAGO | JOHNSON |
| 4 | SALARY | \$29,500.00 | \$26,970.00 | \$35,960.00 | \$32,800.00 | \$28,570.00 | \$19, |
| 5 | | | | | | | |

Finally, specify whether you want to sort in Ascending or Descending order. When you click Ascending, text values are sorted in alphabetical order from A to Z and numeric values are sorted from 0 to 9. If you click Descending, text values are sorted from Z to A and numeric values are sorted from 9 to 0. For a table showing the order in which text values are sorted, see appendix C, “Sort Order for Text,” in this manual.

When you’ve made the sort settings you want, click OK. The cells in the selected range are rearranged in the specified order, and all formulas are adjusted to accommodate cell dependencies.

Protect

This command controls whether cell protection for a selected group of cells is turned on or off. When you protect a cell, the contents of the cell can’t be modified or deleted.

When you choose Protect, a check mark (✓) appears beside the command on the menu, indicating that the cells in the current selection are protected. The contents of the selected cells can’t be changed.

To remove cell protection, select the protected cell(s) and choose Protect again. The check mark is removed and the contents of the cells can be edited once more.

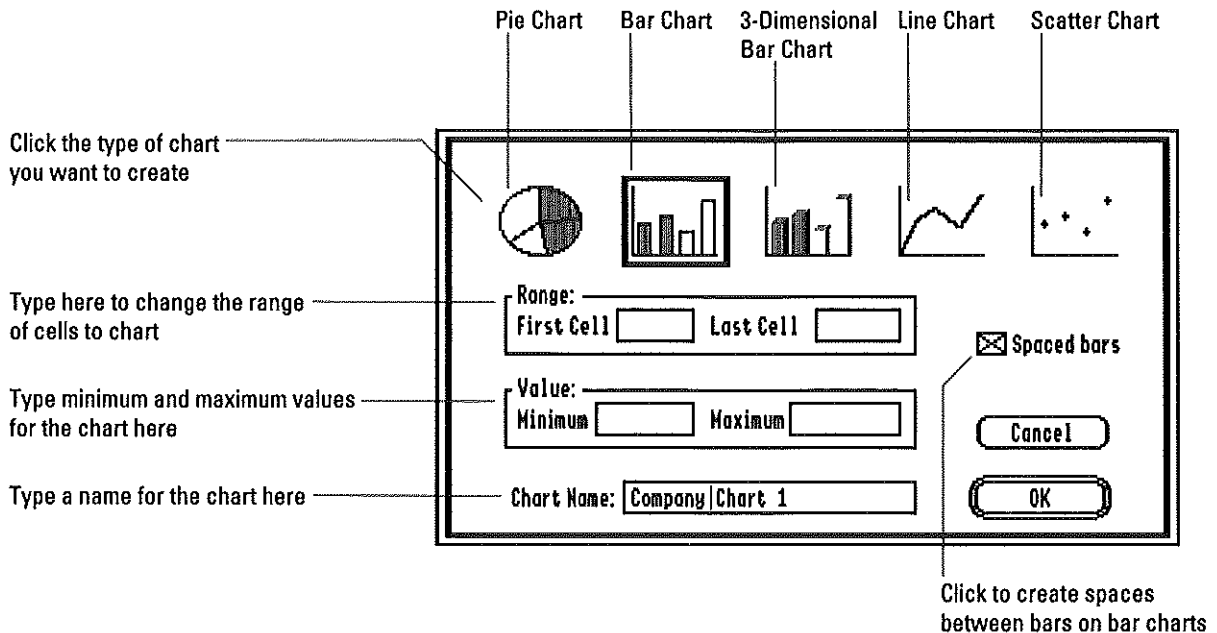
Spreadsheet Commands

New Chart...

The New Chart command generates a chart that graphically represents a selection of cells. The chart is created as a new AppleWorks GS graphics document.

Before choosing the New Chart command, select the range of cells you want to create a chart for. AppleWorks GS generates the chart based on the column or row selected. If the selection includes both rows and columns, the chart is based on the uppermost row of cells in the selection. (If you choose more than one row to create the chart, the values in the extra rows are ignored.)

When you choose New Chart, a dialog box appears:



Click the icon that shows the type of chart you want to create.

If you choose the bar chart or 3-dimensional bar chart icons, the Spaced Bars check box becomes active (otherwise it's dimmed). This check box controls whether the bars in bar charts are spaced apart or placed adjacent to one another. It's initially set on.

For all chart types except pie charts, AppleWorks GS creates the chart using zero as the minimum value and uses the largest positive value in the selection as the basis for the maximum value. If you'd like to change the chart's maximum and minimum values, type the new values in the Minimum and Maximum entry boxes. Any values less than the new minimum value will be drawn as if they were negative values (they'll extend in the opposite direction from the other values in the chart). Any values greater than the new maximum value will be created in the chart, but won't be completely visible in the chart's document window. (You can see values like this if you select and drag them into view.)

Type a name for the new chart in the Chart Name entry box (the default is "Untitled").

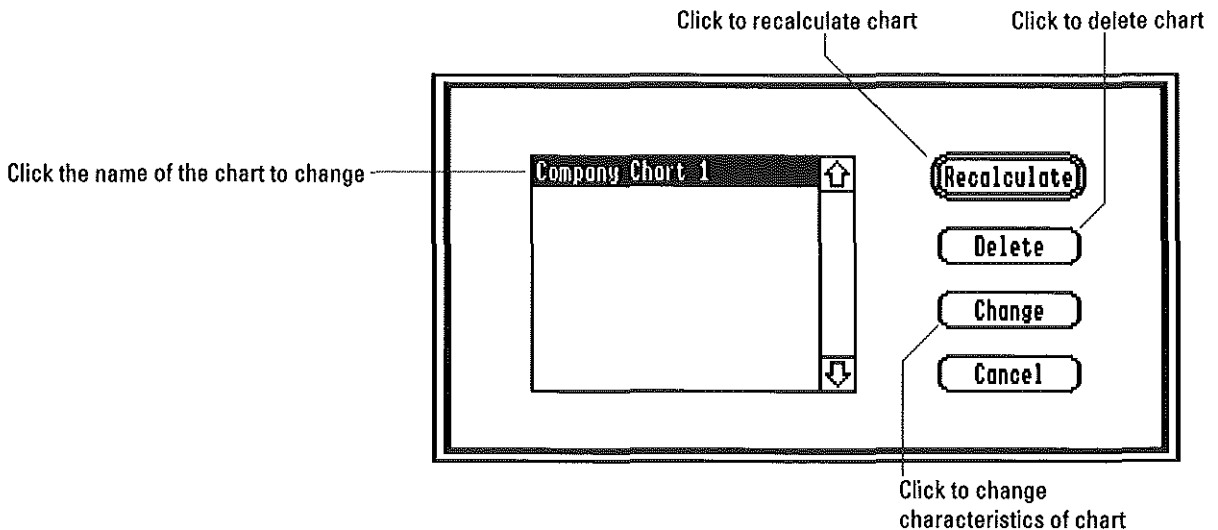
When you've made your specifications, click OK. A new graphics application document window appears on the screen, containing the specified chart. Since the new window is an AppleWorks GS graphics document window, you can use the graphics application tools and commands to modify or enhance the chart and save the document on the disk as a graphics document.

Spreadsheet Commands

Modify Chart...

The Modify Chart command lets you update the contents of a chart to reflect changes in the original spreadsheet cells. In addition, this command lets you change the characteristics of a chart—the chart type, the range, its name, and so on—and delete a chart from a spreadsheet document.

When you choose Modify Chart, a dialog box appears:



The dialog box contains a list box of the charts associated with the current spreadsheet document. Scroll, if necessary, to see more names. Click the name of the chart that you want to change. The Modify Chart command lets you perform three different operations on the chart:

Recalculate

Click the Recalculate button to update the selected chart with the current contents of the cell range used to create the chart.

If the graphics document for the chart is still open on the AppleWorks GS desktop, the chart elements of the document are updated. Any additional graphics you created in the document after the chart was generated are left intact.

If the graphics document for the chart has been closed, a new graphics document is created using the current contents of the chart's cell range.

Delete

Click the Delete button to delete the selected chart and remove the spreadsheet's links to the chart's graphics document.

To delete the chart's graphics document from the disk, use the Delete File command (see "Delete File," in chapter 1, "AppleWorks GS Commands").

Change

Click the Change button to modify any aspect of the selected chart—the chart type, the cell range charted, the minimum and maximum values, and so on.

When you click Change, AppleWorks GS displays the dialog box you used to create the chart. You can make any changes to the chart you want in the dialog box—you can even rename it. For more information on the options provided by this dialog box, see "New Chart."

Vertical text or markings along the right edge of the page, possibly a page number or header.

CHAPTER 5

Graphics



5



Graphics Commands

File Menu

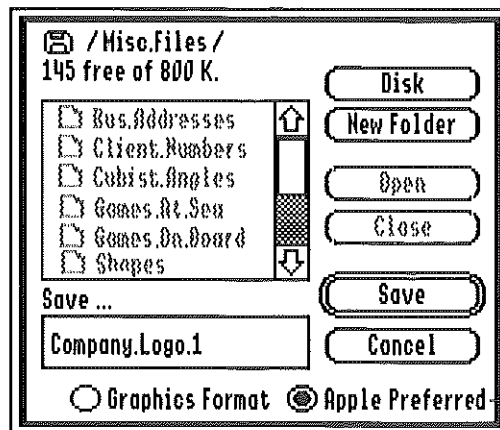
| File | |
|-------------------|----|
| New... | ⌘N |
| Open... | ⌘O |
| Close | ⌘K |
| Save | ⌘S |
| Save As... | |
| Delete File... | |
| Import File... | |
| Choose Printer... | |
| Page Setup... | |
| Print... | ⌘P |
| Print Merge... | |
| Quit | ⌘Q |

The File menu in the graphics application lists the same commands as all other AppleWorks GS applications. See chapter 1, "AppleWorks GS Commands," in this manual for a description of these commands.

Save As...

The Save As command in the graphics application works the same as in the other applications, except that the graphics application lets you save documents with an additional format. In addition to its own format, the AppleWorks GS graphics application also supports the Apple Preferred (APF) graphics format.

When you choose Save As in the graphics application, the Save As dialog box appears containing the usual options, as well as an additional setting for saving graphics with the Apple Preferred format. Click this setting when you want to save a document with the Apple Preferred graphics format.



Click to save with Apple-preferred format

For information on the other options provided by the Save As command, see "Save As" in chapter 1, "AppleWorks GS Commands."

Graphics Commands

Edit Menu

| | |
|------------------------|----|
| Edit | |
| Undo | ⌘Z |
| Cut | ⌘X |
| Copy | ⌘C |
| Paste | ⌘V |
| Clear | |
| Select All | ⌘A |
| Duplicate | ⌘D |
| Shadow | |
| Begin New Paint Object | ⌘B |
| Collapse | |
| Edit Colors... | |

Several of the Edit menu commands are common to all AppleWorks GS applications. These include the commands that use the Clipboard—Undo, Cut, Copy, and Paste—as well as Clear and Select All. See chapter 1, “AppleWorks GS Commands,” in this manual for a description of the common AppleWorks GS Edit menu commands.

Duplicate

This command makes a copy of a selected object or group of objects, placing the copy beside the original(s). In effect, Duplicate is a faster and easier method of copying and pasting within the same graphics document window.

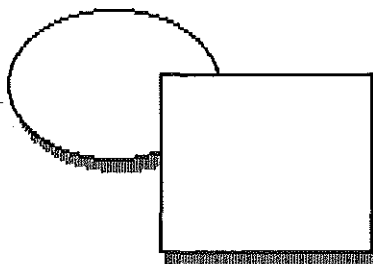
If no objects are selected, Duplicate is dimmed on the menu.

Shadow

The Shadow command adds a drop shadow to a selected object or group of objects. The drop shadow is a separate object—a paint object—no matter how many objects are selected when you choose the Shadow command or what type of objects they are.

When you choose Shadow, drop shadows appear below and to the right of each selected object in a document.

Objects given drop-shadows
with the Shadow command



If you use the Shadow command with a text object selected, the text object is given a rectangular drop shadow. You can give drop-shadows to the individual characters in a text object by choosing the Choose Font command and clicking Shadow. (See “Choose Font” in this chapter.)

Begin New Paint Object

The Begin New Paint Object command lets you start a new paint object while still working with the paint tools.

Ordinarily, all images that you create using the paint tools are defined as one paint object until you select a drawing or editing tool. Begin New Paint Object provides a quick method of starting a new paint object without having to first select one of the drawing or editing tools.

Collapse

The Collapse command combines all the selected objects in a document—including paint and draw objects—into a single object. Paint objects are combined into a single paint object, and hidden objects are removed. Draw objects remain mathematically defined, so they're printed with their usual high resolution.

Collapsed objects take up much less room in memory than separate or even grouped objects. For this reason, collapsing objects can lead to significant memory and speed gains.

Graphics Commands

Arrange Menu

| Arrange | |
|-----------------|----|
| Bring To Front | ⌘+ |
| Send To Back | ⌘- |
| Shuffle Up | ⌘> |
| Shuffle Down | ⌘< |
| Group | ⌘G |
| Ungroup | ⌘U |
| Flip Horizontal | ⌘H |
| Flip Vertical | ⌘I |
| Rotate Left | ⌘L |
| Rotate Right | ⌘R |
| Nudge Left | ⌘← |
| Nudge Right | ⌘→ |
| Nudge Up | ⌘↑ |
| Nudge Down | ⌘↓ |

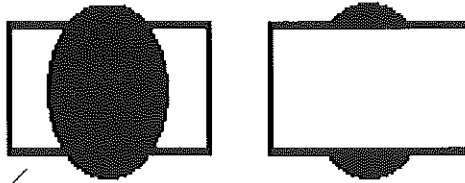
With the Bring to Front command, you can move an object to the foreground from behind another object

The Arrange menu contains commands that allow you to manipulate objects in special ways. Using these commands you can rearrange, group or ungroup, flip, and rotate objects in a document.

Bring to Front

The Bring To Front command moves a selected object (or group of objects) in front of all other objects in the document.

If you choose Bring to Front when you've selected several objects that are stacked on top of one another, the selected objects maintain their stacked relationship to one another as they're moved in front of the other objects in the document.



Bring to Front is dimmed on the Arrange menu when no objects are selected.

Send to Back

The Send to Back command moves a selected object (or group of objects) behind all other objects in the document.

If you choose Send to Back when you've selected several objects that are stacked on top of one another, the selected objects maintain their stacked relationship to one another as they're moved behind the other objects in the document.

When no objects are selected, Send to Back is dimmed on the menu.

Shuffle Up

The Shuffle Up command lets you move a selected object (or group of objects) up one level relative to the other objects in the document.

If you choose Shuffle Up when you've selected several objects that are stacked on top of one another, the selected objects maintain their stacked relationship to one another as they're shuffled up in the document.

If no objects are selected, Shuffle Up is dimmed on the menu.

Shuffle Down

This command lets you move a selected object (or group of objects) down one level relative to the other objects in the document.

If you choose Shuffle Down when you've selected several objects that are stacked on top of one another, the selected objects maintain their stacked relationship to one another as they're shuffled down in the document.

When no objects are selected, Shuffle Down is dimmed on the menu.

Group

The Group command lets you group objects together to make a single object. Use Group when it's more convenient to treat separate objects as one object.

When you choose Group, all selected objects in a document are grouped together as a single object, with only one set of object handles. You can perform any task with the grouped objects that you can perform with a single object.

Grouped objects can be separated into their component objects with the Ungroup command.

Group appears dimmed on the Arrange menu if no objects are selected.

Graphics Commands

Ungroup

This command separates a group of objects into its component objects.

When you ungroup a group of objects that contains other grouped objects as components, the component groups remain grouped. To ungroup these component groups, select each group and choose Ungroup again.

The Ungroup command remains dimmed when no objects are selected.

Flip Horizontal

The Flip Horizontal command flips a selected object around its vertical axis. If you choose Flip Horizontal with more than one object selected, the selected objects are treated as if they were grouped and are flipped together around their common vertical axis.



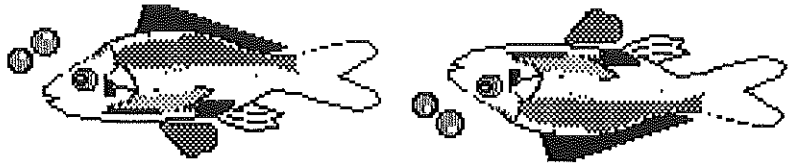
An object flipped with the Flip Horizontal command. You can use this command to create mirror effects.

This command is dimmed when no objects are selected.

Flip Vertical

The Flip Vertical command flips a selected object (or group of objects) upside down. If you choose Flip Vertical with more than one object selected, the selected objects are treated as if they were grouped and are flipped together around their common horizontal axis.

With the Flip Vertical command, you can turn objects upside-down



Flip Vertical is dimmed when no objects are selected.

Rotate Left

The Rotate Left command rotates a selected object (or group of objects) 90 degrees counterclockwise. You can choose the Rotate Left command to rotate a selection to the left in 90-degree increments as many times as necessary to achieve the rotation that you want.

If no objects are selected, this command is dimmed on the menu.

Rotate Right

The Rotate Right command rotates a selected object (or group of objects) 90 degrees clockwise. You can choose the Rotate Right command to rotate a selection to the right in 90-degree increments as many times as necessary to achieve the rotation that you want.

The Rotate Right command is dimmed when no objects are selected.

Graphics Commands

Nudge Left

The Nudge Left command moves a selected object or group of objects one pixel to the left in a document. You can choose the Nudge Left command as many times as necessary to move a selection to a precise location in a document.

Nudge Left is dimmed on the menu when no objects are selected.

Nudge Right

The Nudge Right command moves a selected object or group of objects one pixel to the right in a document. You can choose the Nudge Right command as many times as necessary to move a selection to a precise location in a document.

Nudge Right is dimmed on the menu when no objects are selected.

Nudge Up

The Nudge Up command moves a selected object or group of objects up one pixel in a document. You can choose the Nudge Up command as many times as necessary to move a selection to a precise location in a document.

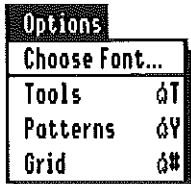
Nudge Up is dimmed on the menu when no objects are selected.

Nudge Down

The Nudge Down command moves a selected object or group of objects down one pixel in a document. You can choose Nudge Down as many times as necessary to move a selection to a precise location in a document.

Nudge Down is dimmed on the menu when no objects are selected.

Options Menu

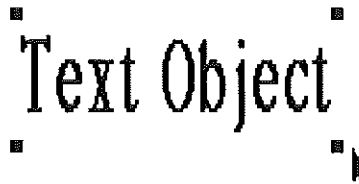


The Options menu contains commands for displaying and hiding the tool and pattern palettes, as well as a command for turning the invisible alignment grid on and off. In addition, the Options menu includes the Choose Font command for changing the characteristics of text objects.

Choose Font...

The Choose Font command works much the same in the graphics application as it does in the other AppleWorks GS applications, with one exception—when you change the font, size, or style of a text object in the graphics application, all the text in the object is changed. Once you create a text object, you can't select the text in it. You can, however, cut it and paste it in a word processing or page layout application document, edit it, and then copy and paste it back into the graphics document.

Once you complete a text object, you can select it like any other object—and you can reshape it by dragging its handles



Before a text object is completed, you can select the text with the I-beam pointer



For a complete explanation of the options offered by this command, see “Choose Font” in chapter 1, “AppleWorks GS Commands.”

Tools

The Tools command controls whether the tool palette is visible in the document window. When there's a check mark (✓) next to the Tools command, the tool palette is visible. When you choose the checked Tools command, the check mark is removed and the tool palette disappears from the screen to provide a larger viewing area for the document.

Graphics Commands

To make the tool palette visible again, choose the Tools command from the Options menu once more. The tool palette reappears, and Tools is again checked on the menu.

When you open a new graphics document, Tools is checked and the tool palette is visible.

Patterns

The Patterns command controls whether the pattern palette is visible in the document window. When you choose the checked Patterns command, the check mark (✓) is removed and the pattern palette disappears from the screen to provide a larger viewing area for the document.

To display the pattern palette again, choose Patterns from the Options menu again. The pattern palette reappears and Patterns is once more checked on the menu.

When you open a new graphics document, Patterns is checked and the pattern palette is visible.

Grid

The Grid command controls whether the alignment grid is turned on or off. The grid is an invisible series of horizontal and vertical lines that you can use to control the placement of objects. These invisible lines, which are set apart from each other in 8-pixel increments, can be used to align objects in a document precisely. When the grid is on, objects that you're drawing, moving, or reshaping will snap, as if magnetically, to the nearest grid line.

When checked (✓), the grid is on. When you choose the checked Grid command, the check mark is removed and the grid is turned off. To turn the grid on again, choose Grid from the Options menu again. The grid is turned on and is once more checked on the menu.

When you open a new graphics document, Grid is off and isn't checked on the menu.

The Tool Palette

The tool palette contains the tools you use in the graphics application. To select a tool, click the icon for that tool. When you move the pointer back inside the drawing area of the document window, it assumes a new shape appropriate to the selected tool.

The graphics application features three sets of tools—editing tools, paint tools, and drawing tools. The editing tools select, magnify, move, or erase parts of a graphic. With the paint tools you can make paint objects, graphic objects that contain bitmapped graphics. The drawing tools let you create draw objects, which are mathematically defined shapes.

The tool palette:

The editing tools

The paint tools

The drawing tools

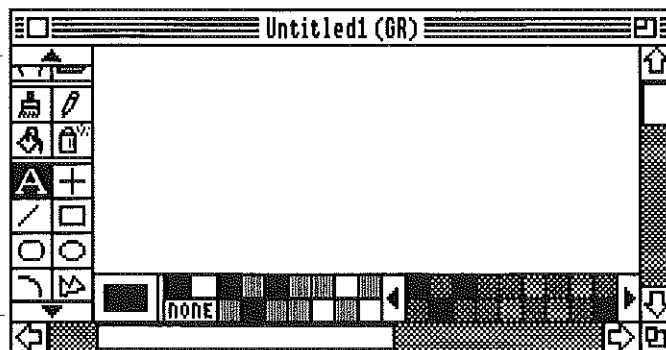
The line palette



When you click the paintbrush tool, the brush shape palette takes the place of the line palette



When using a document window that's been reduced in size, scroll arrows appear on the tool palette. Click the arrows to scroll the palette.



The shapes you create with the paint tools are comparable to freehand drawings you might produce with a pen or paintbrush, while the objects created with the drawing tools are comparable to objects created by cutting out pieces of paper and combining them to form drawings.

Graphics Commands

Paint objects can be more detailed than objects created with the drawing tools, while draw objects are easier to create and manipulate.

To create a larger drawing area on the screen, remove the tool palette from the document window by choosing the Tools command from the Options menu. Choosing Tools from the Options menu makes the tool palette disappear; to make the palette visible again, choose Tools again.



The Editing Tools

The editing tools let you perform operations common to both paint and draw objects—they let you select, move, resize, reshape, magnify, and erase entire objects as well as portions of objects.



Selection Arrow

Use the selection arrow to select, move, and reshape objects.

Selecting Objects

To select an object, click anywhere on the object with the selection arrow. *Handles* appear around the selected object.

You can select multiple objects by holding down the Shift key and clicking the objects you want to select. If you click a selected object while the Shift key is held down, the object is deselected.

In addition to this Shift-clicking method, you can also select multiple objects by clicking in a place in the document window not occupied by an object and dragging. As you drag, the gray outline of a rectangle forms. This is called a *selection rectangle*. To select multiple objects, drag the selection rectangle over the objects you want to select and release the mouse button. All objects completely enclosed by the selection rectangle are selected when you release the mouse button.

If you hold down the Option key while dragging to create a selection rectangle, any objects even partially enclosed by the selection rectangle are selected when you release the mouse button.

If you have a document that contains a lot of objects, you may find yourself clicking an object in the place where you want to start a selection rectangle, and when you drag, the object is moved and no selection rectangle is drawn. If you hold down the ⌘ key when you start a selection rectangle, AppleWorks GS prevents objects from being selected when you click them, but still allows you to select objects by drawing a selection rectangle around them.

Moving Objects

To move an object, click the object with the selection arrow to select it and, holding down the mouse button, drag the pointer. As you drag, an outline of the selected object moves with the pointer. When you've moved the pointer to the location in the document where you want to place the object, release the mouse button.

Reshaping/Resizing Objects

To reshape or resize an object, click the object with the selection arrow to select it. Position the pointer on one of the object's handles, and drag until the object assumes the size or shape you want. Then, release the mouse button.

In addition to clicking the selection arrow on the tool palette, you can choose the selection arrow by pressing the space bar. Pressing the space bar when the selection arrow is selected chooses the previously selected tool.

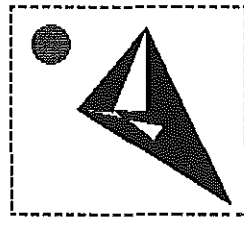


Marquee

Use the marquee to make a rectangular selection. The rectangular area enclosed by the marquee becomes selected and can be moved and reshaped with the arrow tool. You can also use the Edit menu commands to cut, copy, paste, and clear a marquee selection, and the Arrange menu commands to flip, rotate, and nudge a marquee selection.

When you select the marquee, the pointer becomes a crossbar. To make a selection, move the crossbar to one corner of the rectangular area that you want to select. Drag the crossbar diagonally across the area you want to select until a marquee (a dotted rectangle) completely surrounds that area. Release the mouse button.

Graphics Commands

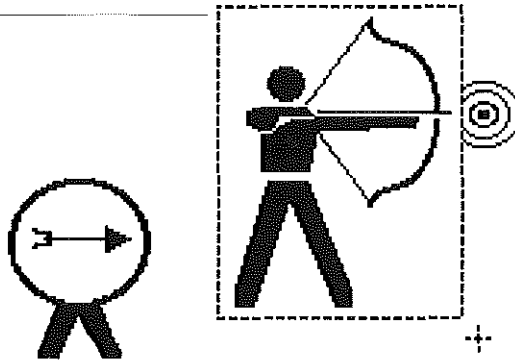


Drag the crossbar diagonally across the area you want to select

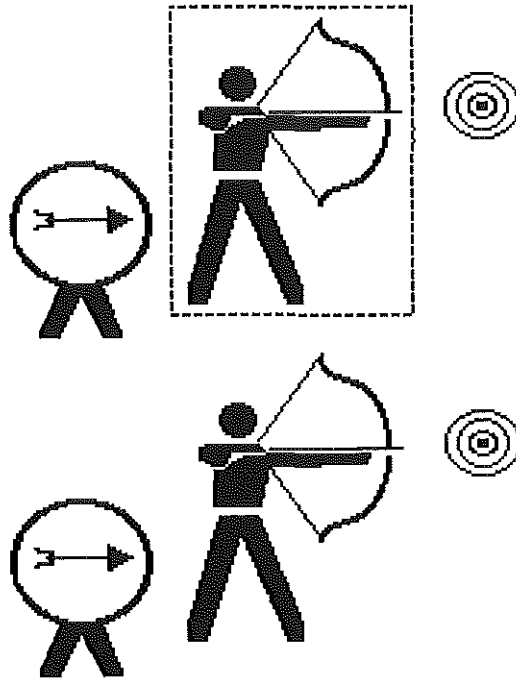
The marquee remains around the area you've selected and the pointer changes to the selection arrow whenever you move it into the marquee selection. This allows you to drag the selection to a new location in the document. To move a marquee selection, position the selection arrow in the marquee selection, and drag the marquee selection to the place in the document where you want to move it, and release the mouse button. The marquee remains around the selection (indicating that it can still be dragged, if you wish to move it again). Click anywhere in the document window outside the selection to end the marquee selection. The marquee disappears.

If you place the marquee selection on top of another object, any portions of objects in the selection become separate objects and any white background enclosed by the selection also becomes a separate object. Any whole objects enclosed in the selection are simply moved to the new location.

When you place a marquee selection on top of another object, any white background enclosed by the selection becomes a separate object



If you place the marquee selection on a part of the document that contains no other objects, any white background portions of the selection disappear. Any portions of objects in the selection become separate objects and whole objects enclosed in the selection are simply moved.



Holding down the Option key as you drag a marquee selection leaves a copy of the area enclosed by the marquee behind as you drag.

Graphics Commands



Magnifying Glass

Use the magnifying glass to magnify a part of your document to make small, precise changes in it.

When you choose the magnifying glass, the pointer change shape to look like a magnifying glass. Move the magnifying glass to the area of your document that you want to inspect at higher magnification, and click. The area you select is magnified 400 percent. Each of the individual dots making up the graphics in the selected area is visible, and can be edited with any of the other tools. The scroll bars are not active when you're viewing a magnified document, but you can still scroll a document using the grabber.

To return to the normal document view scale, select the magnifying glass again and click inside the document window.

In addition to clicking it, you can also select the magnifying glass by pressing the Esc key. Pressing Esc when the magnifying glass is selected chooses the previously selected tool.



Lasso

Use the lasso to select an irregularly-shaped area within your document. Once selected, the irregular area can be moved to another part of a document. You can also use the Edit menu commands to cut, copy, clear, and paste a lasso selection and the Arrange menu commands to flip, rotate, and nudge a lasso selection.

To make a selection with the lasso, choose it from the tools palette. Position the pointer (which assumes the shape of a lasso) at one corner of the area containing the graphic(s) you want to select and drag the lasso in a loop around the graphic(s). As you drag, a dotted loop appears. When the graphics you want to select are surrounded by the lasso, release the mouse button. (If you don't close the loop, AppleWorks GS completes the operation by drawing a straight line between the point where you release the mouse button and the starting point.)

When you release the mouse button, any objects completely enclosed in the loop are selected whole, while selected portions of objects become separate objects. Any white space completely surrounded by an object of another color is treated as part of the object that surrounds it.

If you place the lasso selection on top of another object, any white background enclosed by the selection also becomes a separate object. If you place the lasso selection on a part of the document that contains no other objects, any white background portions of the selection disappear.

Holding down the Option key as you drag a lasso selection leaves a copy of the area enclosed by the lasso behind as you drag.

Graphics Commands



Grabber

Use the grabber to adjust the viewing area of a document. With the grabber you can scroll horizontally, vertically, and diagonally at once, whereas the scroll bars only let you scroll in one direction (horizontally or vertically) at one time.

When you choose the grabber, the pointer changes to a small hand. Move the grabber to the area you want to move in the document window, and drag in the direction you want to scroll. The document scrolls in whichever direction you move the grabber, like a piece of paper being moved around on a desktop by a real hand.

In addition to clicking it, you can also select the grabber by pressing the Tab key. Pressing Tab when the hand is selected chooses the previously selected tool.

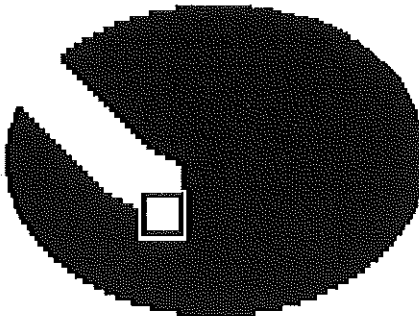


Eraser

Use the eraser to erase portions of a graphics document. The eraser can erase both paint and draw objects, and can be used to remove unwanted portions of objects. (To delete entire objects, it's usually easier to select the object and press Delete.)

When you choose the eraser, the pointer becomes a small, white block. Drag the eraser over the area you wish to erase. As you drag the eraser, it erases portions of any graphics in the document that it passes over.

As you drag the eraser over a graphic, it erases that portion of the graphic





The Paint Tools

With the paint tools you create paint objects—detailed freehand drawings, sketches, and even “spray painted” objects. Unlike the drawing tools, which let you create precise individual geometric shapes, the paint tools are designed for free-form illustration. As you use the paint tools, what you paint becomes part of the existing illustration, just as what you add to a canvas by sketching and applying paint becomes part of a painting.

When you choose a paint tool and begin to create an illustration with it, you create a new paint object. Unlike a draw object, which is completed when you release the mouse button, a paint object continues as long as you’re using paint tools (or until you choose the Begin New Paint Object command—see “Begin New Paint Object,” in this chapter). For example, you might sketch a freehand shape with the pencil, then paint over it with the paintbrush, shade it with the spray paint can, and perhaps fill in parts of it with the paint bucket. Unless you choose a drawing or editing tool, everything you draw with the paint tools will be a single paint object. That’s why it’s helpful to think of the document window as a canvas when you’re using the paint tools—when you’re working on a paint object, the document window seems just like an electronic canvas!



Paintbrush

The paintbrush lets you paint on the graphics area with broad strokes, like a paintbrush on a canvas.

When you choose the paintbrush, the area beneath the tool palette changes from a line palette to a brush shape palette (see “Line Palette” and “Brush Shape Palette,” in this chapter). Select the shape of the brush you want to use by clicking the desired shape in the brush shape palette. The pointer assumes the brush shape you select.

If the brush shape you want to use isn’t visible on the shape palette, click the right or left arrow at the bottom of the palette to see other available brush shapes. You can also display alternate brush shape selections by clicking in the brush shape palette and dragging the pointer out into the document window; the palette will scroll until you release the mouse button.

Graphics Commands

After choosing a brush shape, click the color or pattern that you want to use in the pattern palette at the bottom of the document window (see "Pattern Palette," in this chapter). If you want to use a pattern that isn't visible on the current palette, click the left or right scroll arrows on either side of the patterns to see other pattern selections.

To paint with the brush, drag it in the document window as you would a paintbrush on a canvas or sheet of drawing paper. As you draw, graphic "strokes" appear on the screen with the brush shape and pattern that you selected. Each new shape you draw becomes part of a single paint object until you select a drawing or editing tool or choose Begin New Paint Object from the Edit menu.

To stop painting with the paintbrush, release the mouse button.



Pencil

Use the pencil to create thin freehand lines and to edit precisely the small dots or pixels that make up a graphic.

When you select the pencil, the pointer changes to look like a pencil. If you wish, choose a new pattern from the pattern palette. Sketch with the pencil by dragging it in the document window as you would a pencil or pen on a sheet of drawing paper. As you drag the pencil, it creates a thin line (finer than any of the paintbrush shapes) using the color pattern that you selected. To stop drawing the line, release the mouse button. Repeat this procedure to draw whatever freehand shapes and lines you like.

Each new image you sketch with the pencil becomes part of a single paint object until you select a drawing or editing tool or choose Begin New Paint Object from the Edit menu.

In addition to creating thin freehand lines, the pencil is useful for fine editing of graphics, especially when a graphic has been magnified with the magnifying glass. You'll want to keep in mind, however, that whenever you're drawing with the pencil you're working on a new object (unless you've selected the object you want to modify first), not modifying an old one. For this reason, pencilling in white is not usually the same as using a very fine eraser, as it is on some graphics programs for the Apple IIGS; instead, you're creating a new white object.

To touch up an object with the pencil, first select the object. Any paint objects you create will then be automatically grouped to that object, making touch-up work easier.



Paint Bucket

The paint bucket lets you fill any bounded area (any area enclosed by pixels) in the document window with a pattern. If you're working on a paint object, the filled-in area becomes part of your painting. If you were previously working with a drawing or editing tool, or just chose Begin New Paint Object, the filled-in area becomes its own paint object.

If you're working on a paint object and don't choose Begin New Paint Object before using the paint bucket, what you add with the paint bucket is added to the paint object. If an object is selected when you use the paint bucket, the new paint object is automatically grouped with the object.

Use the paint bucket to fill bounded areas in a document that are not themselves objects—the intersection of two circles, for example. Because the filled-in area becomes its own object, the paint bucket isn't generally used to fill shapes that are already objects (rectangles, ovals, polygons, closed freehand paint objects, and so on). To change the fill pattern of an object, select the object and click the appropriate color or pattern on the pattern palette.

When you choose the paint bucket, the pointer changes to a paint bucket. Choose the fill pattern you wish to use from the pattern palette. Position the tip of the paint bucket (the paint spilling out of the bucket) inside the area you want to fill, and click the mouse button. The selected pattern fills the shape.



Position the tip of the paint bucket inside the area you want to fill and click the mouse button

Graphics Commands

If the area that you fill is not completely enclosed—if it has any opening, even one the size of a pixel—the pattern will spill outside the shape into surrounding areas. This will not occur if you're filling areas completely bounded by objects drawn with the drawing tools—draw objects are always completely enclosed. On the other hand, you can create shapes with the paint tools that appear to be enclosed but which are in fact not completely enclosed.

To avoid spilling paint outside the shape, examine an area painted with the pencil or paintbrush before using the paint bucket on it. Use the magnifying glass for a close-up examination, if necessary. If you see any open spaces or breaks in the border of the area, use the pencil or paintbrush to fill in the breaks before using the paint bucket.

If you do spill paint in the wrong area, choose Undo Paint from the Edit menu.

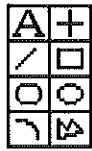


Spray Can

The spray can lets you spray dots of the current pattern in a document.

When you select the spray can, the pointer changes to a group of dots. Choose the pattern you wish to use from the pattern palette. Position the pointer at the place in the document where you want to begin spraying and hold down the mouse button. A random stream of dots appears in the general area covered by the pointer. The pattern produced by the spray can gets darker the slower you drag the spray can—simulating the effect of a real can of spray paint.

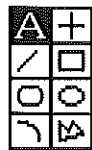
To stop spraying, release the mouse button.



The Drawing Tools

The drawing tools are used for creating lines, text, and regular geometric shapes—ovals, rectangles, polygons, and rounded rectangles. Unlike the paint tools, which are designed for freehand drawing, the drawing tools let you draw exact and regular shapes, as well as shapes that include a number of straight lines and angles.

When you create a paint object, any additional use of a paint tool adds to that paint object, until you choose an editing or drawing tool or choose the Begin New Paint Object command. When you create a draw object, on the other hand, the object is complete and separate from other objects as soon as you release the mouse button. (You can attach objects together with the Group command, however; see “Group,” in this chapter.)

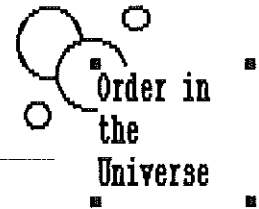
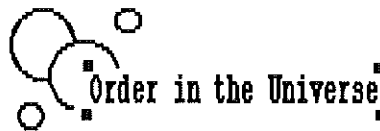


Text Tool

Use the text tool to add text to a graphics document.

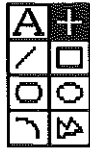
When you choose the text tool, the pointer becomes shaped like an I-beam. Position the I-beam where you'd like to place text and click. A blinking vertical bar called the insertion point appears. When you type text, it appears at this point.

When you're creating a text object, you can only type one line of text, but you can edit the text as you would in any of the other applications—text can be selected, replaced, cut, copied, and deleted.



Text may wrap down when you resize a graphic

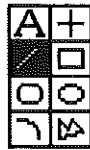
Complete a text object by pressing Return, by selecting another tool, or by clicking outside the text object. Once a text object has been completed, it can no longer be edited as text. Instead, the text is treated as an object, and you can edit it as you would any draw object—it can be selected, moved, reshaped, and changed with commands from the menus. Text may wrap when you reshape a text object.



Horizontal/Vertical Line Tool

Use the horizontal/vertical line tool to draw straight horizontal and vertical lines (lines parallel to the edges of the document window). You can draw vertical or horizontal lines with any of the line widths in the line palette (except the broken line) and with any of the patterns in the pattern palette (see “Line Palette” and “Pattern Palette,” in this chapter for information on line widths and patterns).

When you choose the horizontal/vertical line tool, the pointer changes to a crossbar. Click the line width you want to use from the line palette and the pattern you want from the pattern palette. Position the crossbar at the place in the document where you want to begin the line, and drag the crossbar to draw the line. You’ll see a line stretch between the starting point and the horizontal or vertical position of the crossbar as you draw. (Because the line will be either horizontal or vertical, the pointer may be disconnected from the actual endpoint of the line as you draw.) Release the mouse button to complete the line.



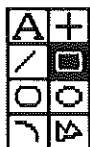
Line Tool

Use the line tool to draw straight lines in a document. The line tool lets you draw vertical, horizontal, or diagonal lines with any of the line widths in the line palette (except the broken line) and with any of the patterns in the pattern palette (see “Line Palette” and “Pattern Palette” in this chapter for information on line widths and patterns).

When you choose the line tool the pointer changes to a crossbar. Click the line width you want to use from the line palette and the pattern you want from the pattern palette. Position the crossbar at the place in the document where you want to start the line. Drag the crossbar until you reach the place where you want to end the line. A line appears between the starting point and the position of the crossbar as you draw. When you’ve positioned the crossbar on the spot where you want the line to end, release the mouse button to complete the line.

You can constrain a line to either a 45-degree angle or 90-degree angle by holding down the Shift key as you draw it.

option click to set
the border color



Rectangle Tool

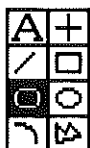
Use the rectangle tool to draw rectangles and squares.

When you choose the rectangle tool, the pointer becomes a crossbar. Click the appropriate line width in the line palette to use for the borders of the rectangle. Choose a fill pattern for the interior of the rectangle and a line pattern for the border of the rectangle from the pattern palette. To create a hollow rectangle, click None as the fill pattern. To make a rectangle with no border, click the broken line in the line palette.

Position the crossbar at the place in the document where you want to start the rectangle and drag diagonally to the place where you want the opposite corner. As you drag, the outline of a rectangle appears. Release the mouse button to complete the rectangle.

If a pattern other than None is selected, the rectangle is filled with the pattern when you release the mouse button.

To create a square, hold down the Shift key as you draw.



Rounded Rectangle Tool

Use the rounded rectangle tool to draw rectangles and squares with rounded corners.

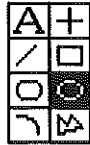
When you choose the rounded rectangle tool, the pointer becomes a crossbar. Click the appropriate line size in the line palette to use for the borders of the rounded rectangle. Choose a fill pattern for the interior of the rounded rectangle and a line pattern for the border of the rounded rectangle from the pattern palette. To create a hollow rounded rectangle, click None as the fill pattern. To make a rounded rectangle with no border, click the broken line in the line palette.

Position the crossbar at the place in the document where you want to start a corner of the rounded rectangle and drag diagonally to the place where you want the opposite corner. As you drag, a rounded rectangle appears. Release the mouse button to complete the rounded rectangle.

Graphics Commands

If a pattern other than None is selected, the rounded rectangle is filled with the pattern when you release the mouse button.

To create a rounded square, hold down the Shift key as you draw.



Oval Tool

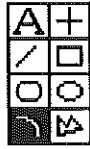
Use the oval tool to draw ovals and circles.

When you choose the oval tool, the pointer becomes a crossbar. Click the appropriate line width in the line palette for the oval's border. Choose a fill pattern for the interior of the oval and a line pattern for the border of the oval from the pattern palette. To create a hollow oval, click None as the fill pattern. To create a borderless oval, click the broken line in the line palette.

Position the crossbar at the place in the document where you want to start the oval and drag diagonally to the place where you want the opposite side. As you drag, the outline of an oval appears. Release the mouse button to complete the oval.

When you've created the oval you want, release the mouse button to complete the object. The oval is drawn with the selected line width and filled with the selected pattern.

To create a circle, hold down the Shift key as you draw.



Arc Tool

Use the arc tool to draw 90-degree arcs (which may be thought of as quarter-ovals).

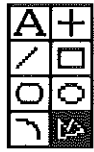
When you choose the arc tool, the pointer becomes a crossbar. Click the appropriate line width in the line palette to use for the arc's border. Choose a fill pattern for the arc and a line pattern for the border of the arc from the pattern palette. To create a hollow arc, click None as the fill pattern. To create a borderless arc, click the broken line in the line palette.

Position the crossbar at the place in the document where you want to start the arc and drag diagonally to the place where you want to end the arc. As you drag, the outline of the arc appears.

When you've positioned the crossbar on the spot where you want the arc to end, release the mouse button to complete the arc. The arc is drawn with the selected line width and the area defined by the arc is filled with the selected pattern. The direction the arc faces is determined by the direction in which you drag to create it.

To create a quarter-circle, hold down the Shift key as you draw with the arc tool.

Graphics Commands



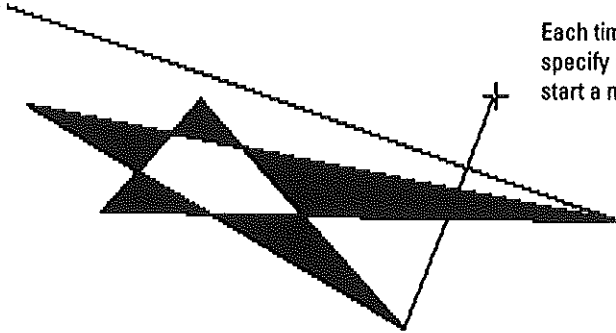
Polygon Tool

Use the polygon tool to draw polygons of any shape and with any number of angles.

When you choose the polygon tool, the pointer becomes a crossbar. Click the appropriate line width in the line palette to use for the polygon's borders. Choose a fill pattern for the polygon and a line pattern for the border of the polygon from the pattern palette. To create a hollow polygon, click None as the fill pattern. To make a polygon with no border, click the broken line in the line palette.

Position the crossbar at the place in the document where you want to start the polygon and click. Without holding down the mouse button, move the mouse to draw a line. When the crossbar reaches the place where you want the line to end, click again to complete the line. As you move the crossbar again, a line stretches from the endpoint of the first line to the current location of the crossbar, forming the first angle of the polygon.

Click to begin the polygon



Each time you click, you specify a new vertex and start a new line

When the crossbar reaches the place where you want the second line to end, click again. Continue clicking the mouse at any point where you'd like to create a vertex until you've drawn the polygon you want.

To complete the polygon, click the starting point, double-click any point, or click outside the document window. The polygon is drawn using the selected line width and filled with the selected pattern.

To constrain the lines of the polygon to 45-degree or 90-degree angles, hold down the Shift key as you draw.



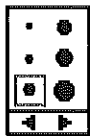
The Line Palette

The line palette lets you choose lines from a predefined set of line widths. These line widths determine the thickness of lines you'll draw with the line tools as well as the width of the borders of draw objects.

You can choose line widths from the line palette when you're working with any of the tools except the paintbrush. (The line palette changes to the brush shape palette when you choose the paintbrush.) However, the line widths only apply when you're using one of the drawing tools.

To choose a line width, click the desired line width in the palette. The new line width, which is checked on the line palette, replaces the current line width for any currently selected lines and draw objects. The box on the left side of the pattern palette changes to reflect the new line width.

To create objects without borders, select the broken line at the top of the line palette. When you click the broken line—for zero line width—the line tool and the horizontal/vertical line tool are deactivated.



The Brush Shape Palette

When you choose the paintbrush tool, the brush shape palette replaces the line palette in the lower-left corner of the document window. The brush shape palette lets you choose the shape of your paintbrush from a predefined set of shapes. When you select one of the brush shapes, you determine the size and shape of the pointer used when you paint in the document with the paintbrush.

To choose a brush shape, click the desired shape in the palette. The new brush shape, which is checked on the line palette, replaces the current shape.



The Pattern Palette

The pattern palette provides the different line and fill colors and patterns used for creating and editing paint and draw objects.

The pattern palette is divided into two portions. The left side of the palette contains sixteen solid colors and the empty (None) pattern, which are always available. These solid colors include black, white, the empty pattern and 14 other colors. If you select one of these colors as your fill pattern, your objects will be filled with that color. If you select “None” as the pattern used to fill an object, the object becomes transparent, and any object underneath it can be seen.

To choose a fill pattern, click the desired pattern. To choose a line pattern, hold down the Option key as you click the pattern you want to use. When the selection arrow is active, choosing a new line or fill pattern changes the line or fill patterns of any objects that happen to be selected.

The current fill and line patterns



Click here to choose a color, black or white, or None (no color or pattern)

Click here to choose a pattern for borders or fill

When you select the paintbrush, pencil, or spray can, the fill pattern is used as the pattern with which lines are drawn. When you use the paint bucket or any of the drawing tools, the fill pattern is used to fill the inside part of an object, while the line pattern is used for draw object borders and for lines drawn with the line tools. The pattern does not appear until the object is completed.

The line pattern is used for lines created with the line tool and for the borders of shapes created with the other drawing tools (with the exception of text, which is always a solid color with any pattern as background).

A note about None... Choosing None as a line pattern produces the same effect as clicking the broken line in the line palette. When you choose None, the line tool and horizontal/vertical line tools are disabled, and any draw objects you create are borderless.

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CHAPTER 6

Page Layout



6



Page Layout Commands

File Menu

| File | |
|-------------------|----|
| New... | ⌘N |
| Open... | ⌘O |
| Close | ⌘K |
| Save | ⌘S |
| Save As... | |
| Delete File... | |
| Import File... | |
| Choose Printer... | |
| Page Setup... | |
| Print... | ⌘P |
| Print Merge... | |
| Quit | ⌘Q |

The standard File menu commands—common to all the AppleWorks GS applications—are described in chapter 1, “AppleWorks GS Commands.” The Print Merge command is only available in the word processor, so that command is dimmed on the File menu. The Import File command works a bit differently in the page layout application than in the other applications, so additional information on that command is provided here.

Import File...

In the other AppleWorks GS applications, Import File lets you insert the contents of a document on the disk into another document that’s already open on the AppleWorks GS desktop. For example, in the word processor, Import File inserts text from another document into the current word processing document at the insertion point. In the graphics application, on the other hand, Import File places the graphics from another document in the center of the current graphics document window. Because page layout lets you manipulate both text and graphics, the Import File command in page layout lets you import the contents of documents in a variety of ways.



When you choose Import File in the page layout application, the usual Import File dialog box appears, containing a list of documents on the current disk. Because page layout involves combining graphics and text, however, the dialog box contains the names of both graphics and word processing documents. You can import AppleWorks GS, AppleWorks, ASCII text, and MultiScribe GS word processing documents into the page layout application. You can also import all Apple IIGS standard format (APF, PNT, PICT) graphics documents into the page layout application. This includes documents from the AppleWorks GS graphics application, PaintWorks Plus, PaintWorks Gold, and Deluxe Paint II.

Click the name of the document you wish to open from the list, and then click Open (or double-click the name in the list). To open a document on a different disk, click Disk.

Page Layout Commands

Unless the insertion point is selected in a text object, the pointer changes shape to indicate the type of document you've imported (the pointer changes back to an arrow when you move it out of the page layout area). This lets you place the contents of the imported document anywhere on any page of the document by just pointing and clicking.

Pointer shapes used for importing

| Document type: | Pointer: | Formats can include: |
|----------------|---|---|
| Text |  | AppleWorks GS word processing, AppleWorks word processing, MultiScribe GS, ASCII text |
| Graphics |  | AppleWorks GS graphics, Apple Preferred Format (APF), Paint (PNT), PICT, Screen (320 and 640) |

Importing Text

If you're importing text, you're given the option of placing the contents of the imported document into a document in one of two ways. If you've selected text or the insertion point in a text object using the text tool, the text is inserted directly into that text object, as if you had pasted the text into the object from the Clipboard (or imported a word processing document into the document window in the word processor).

If you haven't selected the insertion point in a text object, the pointer changes shape when you click Open to indicate that you've imported a text document, but haven't yet placed it. To place the document, position the pointer at the location on the page where you want the contents of the document to appear and click. A new text object appears within the margin and column guides on the page. (You can also drag the pointer to create a text object of any shape and size, overriding the margin and column guides.)

Importing Graphics

When you import a graphic into the page layout application, the pointer changes shape when you click Open to indicate that you've imported a graphic, but haven't yet placed it. To place the graphic, position the pointer at the location on the page where you want the graphic to appear and click (you can also drag, but this distorts the graphic). The graphic appears at the place you click. Four handles appear on the graphic, indicating that it's selected.

Edit Menu

| Edit | |
|-------------------|----|
| Undo | ⌘Z |
| Cut | ⌘X |
| Copy | ⌘C |
| Paste | ⌘V |
| Clear | |
| Select All | ⌘A |
| Duplicate | ⌘D |
| Insert Page(s)... | |
| Delete Page(s)... | |

The standard Edit menu commands (Undo, Cut, Copy, Paste, Clear) are described in chapter 1, “AppleWorks GS Commands.” The Edit Colors command, on the Color menu of the page layout application but on different menus in other applications, is described in “Other Common AppleWorks GS Commands,” also in chapter 1.

While the Select All command is a command common to the other applications and therefore covered in chapter 1, it works differently in different situations in the page layout application, depending on whether you’re editing text with the text tool or working with objects, so additional information is provided here.

Select All

The Select All command selects all the text in the current text stream or all the objects on a page.

If you’re using the text tool to edit a text stream when you choose Select All, the entire stream is selected, regardless of whether all the text is on one page or continued over several pages.

If you’re using any of the other tools, all the objects on the current page are selected, including text objects.

Duplicate

This command makes a copy of a selected object or group of objects, placing the copy beside the original(s).

If no objects are selected, Duplicate is dimmed on the menu.

Page Layout Commands

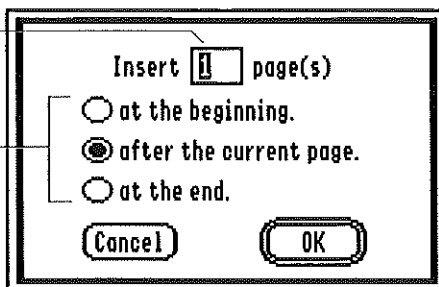
Insert Pages...

This command lets you insert a specified number of new pages into a document at the beginning or end of the document, or after the current page.

When you choose Insert Pages, a dialog box appears:

Type the number of new pages to insert

Click to specify where to insert the new pages



When you click OK, the new pages are added to the document. The new pages are numbered according to the page number of the page immediately preceding them, and all pages following the new pages are appropriately renumbered.

When you add an odd number of pages to a page layout document using facing pages, right-hand pages become left-hand pages, and vice versa. Keep this in mind when planning your documents.

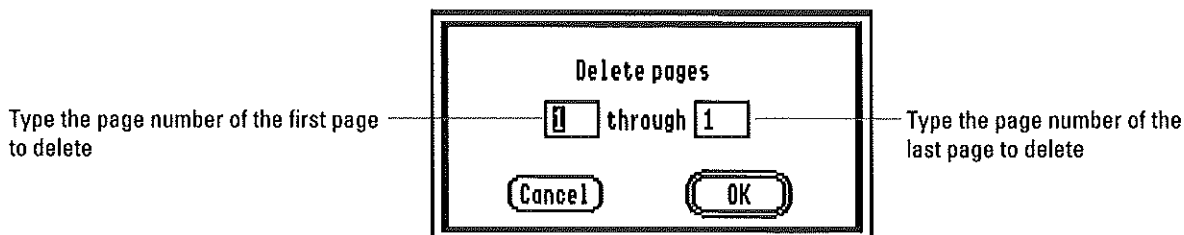
If you've added items to the master pages, AppleWorks GS applies those master items to the new pages. New icons are added to the page icons at the bottom of the document window (as are scroll arrows, if the additional new pages cause the total number of pages in the document to exceed five). The page icon of the first new page is selected, indicating that the first of the new pages is the new current page.

The maximum number of pages in one document is 99.

Delete Pages...

The Delete Pages command deletes a specified range of pages—and everything on those pages—from a document.

When you choose Delete Pages, a dialog box appears:



Use the entry boxes to type in the page numbers for the range of pages you want to delete. (To delete a single page, type the page number of that page in both boxes.) When you click OK, all the pages in the specified range are deleted from the document. All pages following the last deleted page are renumbered, and any text on pages before and after the deleted pages is automatically relinked.

When you delete an odd number of pages from a page layout document using facing pages, right-hand pages become left-hand pages, and vice versa. Keep this in mind when planning your documents.

If you'd like to delete the contents of the pages but not the actual pages, select the contents of each page with Select All, and press Delete or choose Clear from the Edit menu.

After the specified pages are deleted, the numbered page icons at the bottom of the screen change to reflect the current number of pages in your document.

▼ **Warning:** You can't undo page deletions. Be careful when you use this command.

Page Layout Commands

Options Menu

| Options | |
|-------------------------|----|
| Fit in Window | ⌘W |
| Hide Tools | |
| Hide Rulers | |
| Hide Guides | |
| Set Guides... | |
| Lock Guides | |
| Magnetic Guides | |
| Go to page ... | ⌘G |
| Set First Page... | |
| Ignore Master Page | |
| Left/Right Master Pages | |

The Options menu contains a variety of commands for viewing documents and formatting pages.

Fit in Window/Actual Size

These commands control the relative size of a page in a page layout document. The Fit in Window command reduces the current page in size so that an entire page can be viewed at once. The Actual Size command returns the reduced view of the page to its actual size—the size of the page when printed. When you create a new document, the document is actual size and Fit in Window appears on the menu.

When you choose Fit in Window, the current page is reduced in size until it fits inside the document window and the command changes to Actual Size on the Options menu. If you resize the document window while Fit in Window is selected, the page is reduced or enlarged to always fit within the dimensions of the resized window. The scales on the rulers are also adjusted to reflect the reduced page size, and you can use any of the drawing tools (see “The Tool Palette,” in this chapter). You can also create, resize, and reshape text objects, but you can’t edit text.

To return to the original full-size view of the page, choose Actual Size from the Options menu. The page and rulers are again displayed at actual size, and the Actual Size command is replaced on the Options menu by the Fit in Window command.

Hide Tools/Show Tools

The Hide Tools command removes the tool palette from the document window to provide a larger working area for the document. The Show Tools command returns the tool palette to the screen.

When you choose Hide Tools, the tool palette is no longer visible on the left side of the document window, and the Show Tools command replaces Hide Tools on the Options menu. The current page is moved to the left on the window, and a larger working area is visible.

To return the tool palette to the screen, choose Show Tools from the Options menu. The tool palette reappears, the working area is reduced in size, and the Show Tools command is again replaced by Hide Tools on the Options menu.

Hide Rulers/Show Rulers

These two commands control whether or not rulers are displayed in the document window. The Hide Rulers command removes the rulers from the window to provide a larger working area for the document. The Show Rulers command returns the rulers to the screen.

When you choose Hide Rulers, the rulers are removed from the top and left side of the document window, and a larger working area is visible. The current page is moved up and to the left of the document window, and the Show Rulers command replaces Hide Rulers on the Options menu.

To return the rulers to the screen, choose Show Rulers from the Options menu. The rulers reappear, the working area is reduced in size, and the Show Rulers command is again replaced by Hide Rulers on the Options menu.

Hide Guides/Show Guides

These two commands control whether or not the dotted lines that represent guides are displayed in the document window. The Hide Guides command removes guides from the document window. (Hide Guides also removes the effects of magnetic guides if you have Magnetic Guides chosen.) Since the dotted guide lines are not printed when you print a document, you can use this command to see your document on the screen as it will appear when printed. Show Guides returns the guides to the document window.

When you choose Hide Guides, the Show Guides command replaces Hide Guides on the Options menu. Choose Show Guides to return the guide lines to the screen. The dotted lines reappear, and Show Guides again changes to Hide Guides on the Options menu.

Page Layout Commands

Set Guides

The Set Guides command lets you add column guides to a page, specify the space between columns, and create guides for the left, right, top, and bottom margins of a page. Set Guides provides a quick, easy, and accurate method for setting up uniform margins and columns.

If the current page is a master page, the column and margin guides you specify appear on every page in the document. Otherwise, your settings are used for the current page only. (For more information on using master pages, see “Left/Right Masters/Single Master Page” and “The Page Icons” in this chapter.)

When you choose Set Guides, a dialog box appears:

| | |
|---|---|
| Left / Right Margins | Columns |
| <input checked="" type="radio"/> 0.25 inch | <input checked="" type="radio"/> 1 |
| <input type="radio"/> 0.5 inch | <input type="radio"/> 2 |
| <input type="radio"/> <input type="text" value="1.0"/> inch | <input type="radio"/> <input type="text" value="3"/> |
| Top / Bottom Margins | Column Spacing |
| <input checked="" type="radio"/> 0.25 inch | <input checked="" type="radio"/> 0.25 inch |
| <input type="radio"/> 0.5 inch | <input type="radio"/> 0.5 inch |
| <input type="radio"/> <input type="text" value="1.0"/> inch | <input type="radio"/> <input type="text" value="1.0"/> inch |
| <input type="button" value="Cancel"/> | <input type="button" value="OK"/> |

Left/Right Margins

This option lets you specify where left and right margin guides are placed on the current page. Click to select one of the predefined settings, or type your own custom setting in the entry box.

Top/Bottom Margins

This option lets you specify where top and bottom margin guides are placed on the current page. Click to select one of the predefined settings, or type your own custom setting in the entry box.

Columns

The Columns option lets you specify the number of columns you want on the current page. Click to choose one of the predefined column settings, or type your own custom setting (up to nine columns) in the entry box.

Column Spacing

This option lets you set the amount of space between columns on the current page. You can create spaces between columns that vary in size from a fraction of an inch to the entire page width (depending on the number of columns on the page). Click to select one of the predefined column spacing settings, or type your own custom settings in the entry box.

Lock Guides/Unlock Guides

These commands control whether or not guides are locked in place at their current positions in a document.

When you choose Lock Guides, all column, margin, and ruler guides in the document are locked in place and the command changes to Unlock Guides on the menu. Use this command to prevent accidental repositioning of guides in a document.

To unlock locked column and ruler guides, choose Unlock Guides. The Unlock Guides command is replaced by Lock Guides on the Options menu.

Note: The Set Guides command lets you change margin and column guides even if they are locked.

Page Layout Commands

Magnetic Guides

The Magnetic Guides command makes the column, ruler, and margin guides in a document attract text and graphic objects. Whenever you move a text or graphics object within range of a magnetic guide (within four vertical pixels or eight horizontal pixels), the object is drawn to and aligned with the guide. Objects are also attracted to magnetic guides when you're first creating them or when you're resizing them (existing objects are not affected unless they're moved or resized).

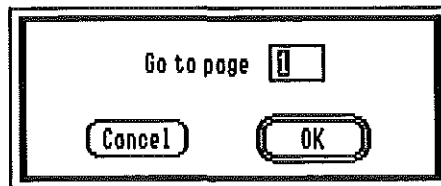
Use the Magnetic Guides command when you want to place objects quickly and precisely. When the Magnetic Guides command is chosen, you can align any edge of an object with any guide in a document.

When you choose Magnetic Guides, the command is checked on the Options Menu. When you want to align objects without the assistance of magnetic guides, choose Magnetic Guides again and the check mark is removed.

Go To Page...

The Go To Page command displays a specified page in your document.

When you choose the Go To Page command, a dialog box appears:



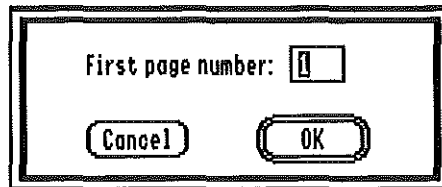
Use the entry box to type in the number of the page you want to display, and click OK. The page you specify is displayed as the current page, and its icon is selected at the bottom of the screen.

If you specify a page number smaller than the number of the first page in the document, AppleWorks GS displays the first page in the document. AppleWorks GS displays the last page in a document when you specify a page number greater than the number of the last page.

Set First Page...

The Set First Page command lets you specify the page number for the first page in a document. You can specify any number from zero to 999 as the first page; however, the page icons only display two digit characters, so the leftmost digit of any number greater than 99 is not displayed (when you specify 99, for example, subsequent pages are displayed as "01," "02," etc., in the page icons and numbered "101," "102," and so on). Use this command when you're creating a document that's a part of a larger work and requires an initial page number other than one.

When you choose the Set First Page command, a dialog box appears:



Type the new first page number in the entry box and click OK. The page number that you specified is used for the first page, and all subsequent pages are automatically renumbered. The page icons at the bottom of the document window change to reflect the new page numbering.

Ignore Master Page/Use Master Page

These commands control whether master page items are used to format the current page. Ignore Master Page removes all master page text, graphics, and guides from the current page. The Use Master Page command returns to the current page all items on the Master Page.

Page Layout Commands

Left/Right Master Pages/Single Master Page

These commands control whether a document uses left and right master pages or a single master page. The master pages contain text, graphics, and guides that you want automatically repeated on every page in a document.

The Left/Right Master Pages command lets you create two master pages, one for the left-hand pages in the document and one for the right-hand pages. The Single Master Page command creates one master page that applies to all pages in the document.

Use left and right master pages when you want to add master page items that should appear in different places on facing pages when the document is printed—binding margins and outside page numbers, for example.

When you create a new page layout document, a single master page is available, indicated by the page icon labeled M in the lower-left corner of the document window.



When you click the M page icon, the master page appears in the document window. Any text, graphics, or guides you place on this page automatically appear on all other pages in the document. (You can remove master page items from a page with the Ignore Master Page command; see “Ignore Master Page.”)

When you choose the Left/Right Master Pages command, two master page icons appear in the lower-left corner of the document window (and the command changes to Single Master Page on the menu). One page icon is labeled L, and its upper-left corner is turned down. The other page icon is labeled R, and its upper-right corner is turned down.



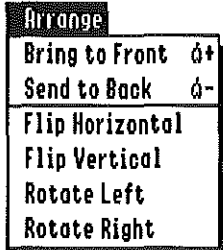
When you click the L page icon, the left master page appears in the document window. Any text, graphics, or guides you place on this page automatically appear on all left-hand pages in the document. When you click the R page icon, the right master page appears in the document window and all text, graphics, or guides you place on this page automatically appear on every right-hand page in the document.

If you've previously created a single master page for a document and then choose Left/Right Master Pages, the master page items for the single master page are automatically transferred to the right master page, and the left master page is blank.

If you've already created a left master page and then choose Single Master Page, all items on the left master page are deleted.

Page Layout Commands

Arrange Menu



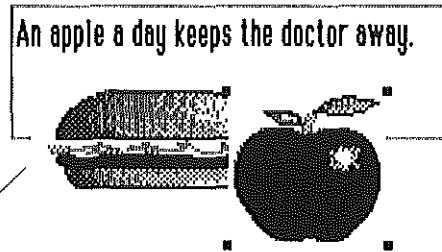
The Arrange menu contains commands that allow you to manipulate the elements of a page layout document in special ways. Using these commands you can rearrange, flip, and rotate objects in a document.

Note: Text objects can be flipped and rotated, but the text in the text object is unaffected by the operation.

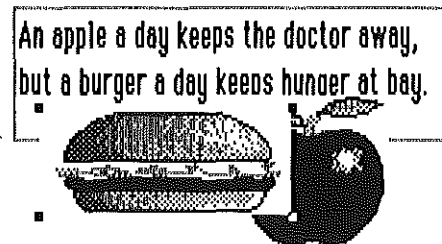
Bring to Front

The Bring to Front command moves a selected object (or group of objects) in front of all other objects in the document.

If you choose Bring to Front when you've selected several objects that are stacked on top of one another, the selected objects maintain their stacked relationship to one another as they're moved in front of the other objects in the document.



The Bring to Front command lets you move one object in front of another.



Bring to Front is dimmed on the Arrange menu when no objects are selected.

Send to Back

The Send to Back command moves a selected object (or group of objects) behind all other objects in the document.

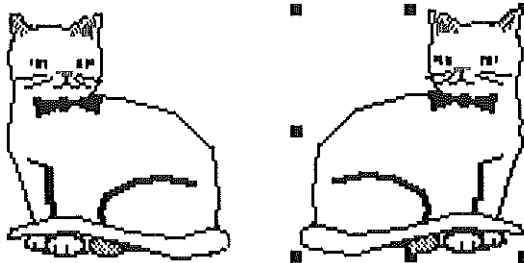
If you choose Send to Back when you've selected several objects that are stacked on top of one another, the selected objects maintain their stacked relationship to one another as they're moved behind the other objects in the document.

When no objects are selected, Send to Back is dimmed on the menu.

Flip Horizontal

The Flip Horizontal command flips a selected object (or group of objects) around its vertical axis. If you choose Flip Horizontal with more than one object selected, the selected objects are treated as if they were grouped and are flipped together around their common vertical axis.

Use the Flip Horizontal command
to create mirror images of objects



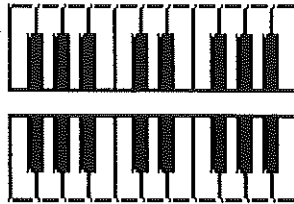
This command is dimmed when no objects are selected.

Page Layout Commands

Flip Vertical

The Flip Vertical command flips a selected object (or group of objects) upside down. If you choose Flip Vertical with more than one object selected, the selected objects are treated as if they were grouped and are flipped together around their common horizontal axis.

Use the Flip Vertical command to turn an object upside-down



Flip Vertical is dimmed when no objects are selected.

Rotate Left

The Rotate Left command rotates a selected object (or group of objects) 90 degrees counterclockwise. You can choose the Rotate Left command to rotate a selection to the left in 90-degree increments as many times as necessary to achieve the rotation that you want.

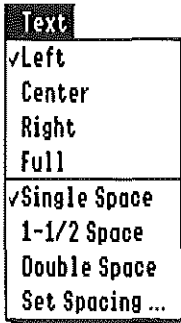
If no objects are selected, this command is dimmed on the menu.

Rotate Right

The Rotate Right command rotates a selected object (or group of objects) 90 degrees clockwise. You can choose the Rotate Right command to rotate a selection to the right in 90-degree increments as many times as necessary to achieve the rotation that you want.

The Rotate Right command is dimmed when no objects are selected.

Text Menu



The Text menu contains commands for changing the alignment and line spacing of text. These commands apply to the paragraph containing the insertion point or to all the paragraphs in a selection.

The first four commands on the menu control text alignment for the selected paragraph(s) or for the paragraph you're currently editing.

There are four alignment commands:

- **Left** aligns selected text at the left margin
- **Center** centers selected text between the left and right margins
- **Right** aligns selected text at the right margin
- **Full** justifies selected text

Left-aligned text

A rectangular text box with a dotted border containing the text: "One visit to the Big Island of Hawaii is enough to convince anyone that this was probably the biblical Garden of Eden. Characterized by black sandy beaches,". The text is left-aligned.

Centered text

A rectangular text box with a dotted border containing the text: "One visit to the Big Island of Hawaii is enough to convince anyone that this was probably the biblical Garden of Eden. Characterized by black sandy beaches,". The text is centered.

Right-aligned text

A rectangular text box with a dotted border containing the text: "One visit to the Big Island of Hawaii is enough to convince anyone that this was probably the biblical Garden of Eden. Characterized by black sandy beaches,". The text is right-aligned.

Justified text

A rectangular text box with a dotted border containing the text: "One visit to the Big Island of Hawaii is enough to convince anyone that this was probably the biblical Garden of Eden. Characterized by black sandy beaches,". The text is justified.

The next set of commands on the Text menu controls the amount of space between lines for the selected paragraph(s) or for the next text you type at the insertion point. Choosing one of the first three commands selects a predefined line spacing setting:

- **Single Space** sets the line spacing of selected text to single spacing
- **1-1/2 Space** sets the line spacing of selected text to a line-and-a-half of spacing
- **Double Space** sets the line spacing of selected text to double spacing

Page Layout Commands

Single-spaced text

One visit to the Big Island of Hawaii is enough to convince anyone that this was probably the biblical Garden of Eden. Characterized by black sandy beaches, live volcanoes, and wild bougainvillea, this tropical

1-1/2-spaced text

One visit to the Big Island of Hawaii is enough to convince anyone that this was probably the biblical Garden of Eden. Characterized by black sandy beaches,

Double-spaced text

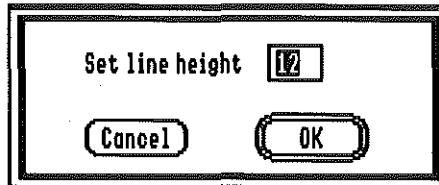
One visit to the Big Island of Hawaii is enough to convince anyone that this was probably the biblical

When you select one of the alignment or line spacing commands, a check mark (✓) appears next to it on the menu. If you move the insertion point to a paragraph using a different alignment, the alignment of the text where the insertion point is positioned is the chosen alignment and appears checked on the menu. The same is true of line spacing—the line spacing of the paragraph where the insertion point is positioned is the chosen line spacing.

Set Spacing...

In addition to the three predefined line spacing settings, the Text menu also includes the Set Spacing command, which lets you specify in points the exact amount of line spacing you want for a selection.

When you choose Set Spacing, AppleWorks GS displays a dialog box:

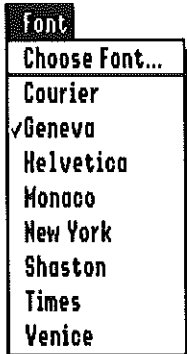


Type in the entry box the amount of spacing in *points* that you want for the selected paragraph(s), and click OK. (You can enter any number for line spacing from four to 64 points.) The line spacing for all paragraphs in the selection is adjusted to the amount you specify.

If you specify a line spacing that's less than the point size of the largest character on a line, the specified spacing isn't used for that line.

Page Layout Commands

Font Menu



The Font menu lets you choose different fonts, or typefaces, for selected text or for text to be typed at the insertion point. In addition, the Font menu includes the Choose Font command (see “Choose Font” in chapter 1, “AppleWorks GS Commands”), which provides access to all the fonts in the System folder of your startup disk and lets you select the style and size of a font at the same time that the font is chosen. The preset font is Geneva.

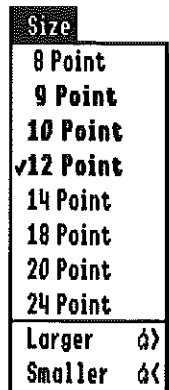
Below the Choose Font command on the Font menu is a list of fonts. This list shows the first fifteen fonts in the System folder of your startup disk; to see others, use the Choose Font command.

When you choose a font, a check mark (✓) appears beside that font on the Font menu. If you move the insertion point to a different font in your text, the font where the insertion point is positioned is the chosen font and appears checked on the Font menu. If selected text is all of one font, that font is checked on the Font menu; otherwise, no font is checked.

If you use the mouse or arrow keys to position the insertion point between text of two different fonts, the chosen font is the font of the text to the right of the insertion point.

When you cut or copy text, the text retains its font along with its size, style, and color.

Size Menu



The Size menu lets you choose point sizes for selected text or for text to be typed at the insertion point. The minimum point size is 4 points; the maximum is 48 points. The preset size is 12 points.

If a font for a specific point size is in the System folder of your AppleWorks GS startup disk, that size appears in boldface on the Size menu; otherwise, that size appears in plain text.

When you change font sizes, AppleWorks GS checks to see if the newly chosen font size is in the System folder of the startup disk. If it is, there will be a short pause the first time that font size is loaded into memory. If AppleWorks GS can't find the point size you specify as a font file, the specified size is derived from the characteristics of a different size of the font.

When you choose a font size, a check mark (✓) appears beside that font size on the Size menu, and selected text or text typed at the insertion point is changed to the specified point size.

If you move the insertion point to a place in the text with a different point size, the size where the insertion point is positioned is the chosen size and is checked on the Size menu. If selected text is all of one size, that size is checked on the Size menu; otherwise, no size is checked.

If you use the mouse or arrow keys to position the insertion point between text of two different sizes, the chosen size is always the size of the text to the right of the insertion point.

When you cut or copy text, the text retains its size along with its font, style, and color.

Page Layout Commands

Larger

The Larger command lets you increase the size of selected text (or for text to be typed at the insertion point) in 1-point increments, up to 48 points.

If the new font size you specify is not one of the sizes on the Size menu, no check mark appears on the menu.

If you specify a font size for which there is no font file in the System folder of the startup disk, AppleWorks GS derives the specified size from the standard font sizes that are available. The appearance of derived font sizes may be rougher than standard font sizes.

Smaller

The Smaller command decreases the size of selected text (or for text to be typed at the insertion point) in 1-point increments, down to 4 points.

If the new font size you specify is not one of the sizes on the Size menu, no check mark appears on the menu.

If you specify a font size for which there is no font file in the System folder of the startup disk, AppleWorks GS derives the specified size from the standard font sizes that are available. The appearance of derived font sizes may be rougher than standard font sizes.

Style Menu

| Style | |
|------------------|----|
| ✓Plain | ⌘T |
| Bold | ⌘B |
| <i>Italic</i> | ⌘I |
| <u>Underline</u> | ⌘U |
| Outline | |
| Shadow | |
| Superscript | ⌘H |
| Subscript | ⌘L |
| UPPERCASE | |
| lowercase | |
| Title | |

The Style menu lets you choose a style or combination of styles for selected text or for text to be typed at the insertion point. The preset style is Plain.

When you choose a style, a check mark (✓) appears beside the style on the menu. You can mix styles in any combination you wish; as each new style is chosen, it appears checked on the Style menu. For instance, you can select Bold and Underline from the Style menu, and your text will appear both boldface and underlined. You can deselect a style by choosing the selected style again. To remove all styles, choose Plain.

Examples of the different styles offered by AppleWorks GS are shown below:

Plain removes all text styles

The **Bold** command changes selected text to boldface

Italic changes a selection to italic text

Use the Underline command to create Underlined text

Outline creates white characters outlined in black

Shadow creates text with three-dimensional shadows

Use Superscript for superscripted symbols™ such as footnotes¹

Use Subscript to create subscripted text—like formulas (H₂SO₄)

UPPERCASE CHANGES A SELECTION TO ALL UPPERCASE

the lowercase command changes selected text to all lowercase

Title Converts The First Letter Of Every Word In A Selection To Uppercase

A few styles can't be used in certain combinations:

- Plain can't be used in combination with Bold, Italic, Underline, Outline, or Shadow, since Plain removes those styles from text.
- Superscript and Subscript can't be used in combination since they're mutually exclusive.
- Uppercase, Lowercase, and Capitalize can't be used in combination since they're also mutually exclusive. (Also, unlike the other styles, these commands can only be used for selected text and not for text to be typed.)

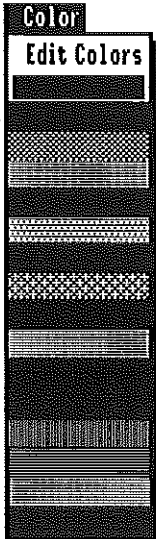
Page Layout Commands

If you move the insertion point to a different style in your text, the style where the insertion point is positioned is the chosen style and is checked on the Style menu. If selected text is all of one style, that style is checked on the Style menu; otherwise, nothing appears checked on the menu.

If you use the mouse or arrow keys to position the insertion point between text of two different styles, the chosen style is always the style of the text to the right of the insertion point.

When you cut or copy text, the text retains its style along with its font, size, and color.

Color Menu



The Color menu lets you choose colors for objects you create with the drawing tools, for selected text, and for text to be typed at the insertion point. In addition, the Color menu contains the Edit Colors command, which lets you choose text and graphics colors from the 4096 colors of the Apple IIGS. The Edit Colors command is common to other AppleWorks GS applications and is therefore covered in detail in "Other Common AppleWorks GS Commands," in chapter 1, "AppleWorks GS Commands."

Fifteen different colors are available at one time; the preset color is black. Color text and graphics appear on your screen and will be printed if you're printing with a color ribbon on an ImageWriter II (or compatible printer).

When creating objects with the drawing tools (the line tools, the rectangle tool, the oval tool, and the rounded rectangle tool), choose a color for the object from the Color menu before you draw it. To change the color of an object you've already created, select the object and choose the color from the menu.

When editing text, if you move the insertion point from text of one color to another, the color of the text where the insertion point is positioned is the chosen color and that color appears selected on the Color menu. If a selection of text contains more than one color, the color of the first character in the selection is selected.

If you use the mouse or arrow keys to position the insertion point between text of two different colors, the chosen color is the color of the text to the right of the insertion point.

When you cut or copy text, it retains its color along with its font, size, and style.

Page Layout Commands

The Tool Palette



The tool palette provides you with the different editing tools you'll use to lay out text and graphics to create page layout documents.



Selection Arrow

Use the selection arrow to select, move, and reshape objects.

To select an object, click anywhere on the object with the selection arrow. Handles appear around the selected object.

To select more than one object at once, hold down the Shift key as you click each object that you want to select. As long as you hold down Shift, any unselected object you click will be selected. If you want to deselect one of the selected objects, Shift-click the object again.

You can also select several objects at once by clicking above or below the objects you want to select and dragging diagonally across the objects. As you drag, a dotted box called a *selection rectangle* appears; any objects completely surrounded by the selection rectangle are selected when you release the mouse button.

If you hold down the Shift key as you drag, any selected objects enclosed by the selection rectangle are deselected and any unselected objects are selected.

To move an object or group of objects, select the object(s) with the selection arrow and drag the selection arrow. As you drag, an outline of the selected object(s) moves with the selection arrow. When you've moved the selection arrow to the location in the document where you want to place the object(s), release the mouse button.

To reshape or resize an object, click the object with the selection arrow to select it. Position the selection arrow on one of the object's handles and drag until the object assumes the size or shape you want. Then, release the mouse button.

To crop a graphic (cropping means removing unwanted portions of a picture), position the selection arrow on one of the graphic's handles. (Choose the handle nearest the area you want to remove. If you want to remove part of the top and left sides of a graphic, for example, position the selection arrow on the upper-left handle.) Hold down the Option key and drag until the part of the graphic you want to crop is removed.

Text Tool

Use the text tool to add text to a page layout document. With the text tool you create text objects, blocks of text that can be edited and also moved around on a page, resized, and reshaped as objects.

When you choose the text tool, the pointer becomes shaped like an I-beam. Position the I-beam at the place in a document where you want to start one corner of a text block and drag the I-beam pointer diagonally to the place where you want the opposite corner of the text object. As you drag, the outline of a rectangle appears on the screen, indicating the dimensions of the text object. When the text object assumes the shape you want, release the mouse button. The empty text object is placed at the specified location on the page.

There are three different ways to add text to a text object:

- **Type directly into the text object.** Click the I-beam in the upper-left corner of the text object to select the insertion point. Type text in at the insertion point in the usual way. Text appears in the block as you type.
- **Import text from other applications with the Import File command.** You can add text from other applications—including the AppleWorks GS word processor, AppleWorks, MultiScribe GS, and ASCII text documents—to a text object with Import File. First, create a text object and click inside it to select the insertion point. Then, choose Import File from the File menu and choose the document you want to import (see “Import File” in this chapter for more information).
- **Insert text from the AppleWorks GS word processor with Cut, Copy, and Paste.** Formatted text can be imported from the AppleWorks GS word processor with the Cut, Copy, and Paste commands on the Edit menu. First, create the formatted text in the word processor and copy the text to the Clipboard using Cut or Copy. Next, open the page layout document and define a text object for the text. Then, click inside the text object and choose the Paste command to insert the text from the Clipboard.

Page Layout Commands

The text in text objects can be linked together in *text streams*. A text stream is any amount of text contained in a text object (or in two or more linked text objects). Text streams are actually independent of text objects; the text objects are like frames that contain the text in the text stream.

To create a text stream, you first create a text object and add text to it using one of the three methods described above. Next, click the link tag at the bottom of the text object.



To create a new object in a text stream, click the link tag at the bottom of the current object

When you click the link tag, the pointer assumes the shape of a small text document (the same shape it assumes when you import a text document—see “Import File,” in this chapter). Position the pointer at the place in the document where you want to continue the text stream, and click. A new text object appears where you click (or click and drag).

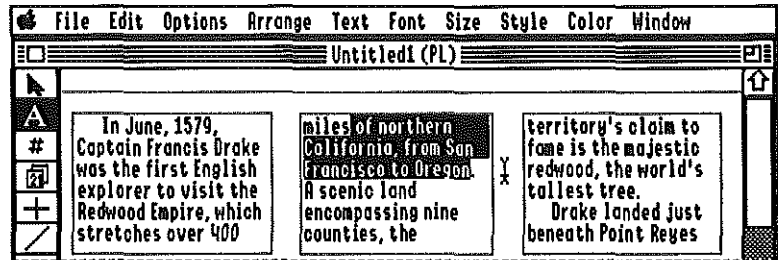
The link tags at the bottom of the first object and on the top of the new object contain a plus sign (“+”), indicating that a link exists. The link tags at the top of the first object and on the bottom of the second object are empty, indicating that no link exists from those points. Because it represents the beginning of the text stream, the link tag on the top of the first text object is always hollow. As you add text objects, the link tag on the bottom of the newest object is always hollow because it represents the end of the text stream. All other link tags in a text stream contain plus signs.

You can add a third text object to the stream by clicking the link on the second object, positioning the pointer, and clicking. In fact, you can add as many text objects to a stream as you need or want.

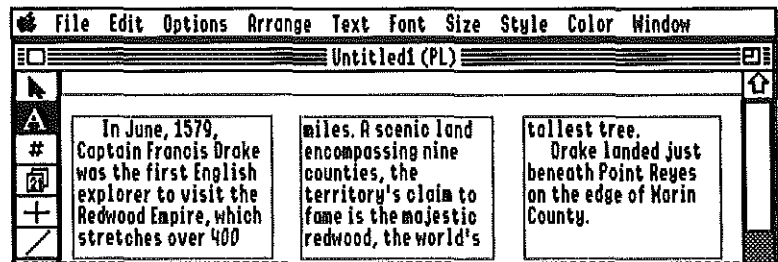
You can also insert a new text object between two text objects by clicking the link tag on the first object, placing the pointer, and clicking; the new object is the second object in the stream.

If you created the initial text object by importing a text document or pasting text that's larger than the space allotted for it in the text object, the text continues in the new text object (and in as many subsequent text objects as necessary). If you created the initial text object by defining a text object and typing text, you can continue the text stream by clicking the new text object and continuing to type. In both cases, the text is linked; if you add or delete text in the one object, the text in the following object(s) is either moved down or up to accommodate your changes.

When you delete text in a text stream, the text in subsequent objects is moved up. The reverse occurs when you insert text in a text stream.



In this example, the text in the second and third text objects is moved up to fill in the gap left by the text deleted from the second text object.



For more information on adding text to page layout documents, see "Working with Text and Graphics" in chapter 6 of the *AppleWorks GS User's Guide*.

Page Layout Commands



Page Number Tool

Use the page number tool to specify where on a page you want the page number placed when the document is printed.

When you choose the page number tool, the pointer changes to a pound sign (#). Position the pointer at the place on the page where you want the page number to appear and click. The number of the current page appears at the place you click. The page number is displayed in the currently selected font, size, and style of text. Once it's created, you can still change its font, size, style, and color by selecting it and then choosing the appropriate options from the Font, Size, Style, and Color menus.

Because it's an object, the page number can be moved on the page after it's created. To move the page number, select it with the selection arrow and drag.

To automatically place the current page number on every page of a document, use the page number tool to place the page number in the appropriate location on the master page(s).



Date Tool

Use the date tool to specify where on a page you want the current date placed when the document is printed. The date is displayed in the format *Month Day, Year*; for example, *January 1, 1988*.

When you choose the date tool, the pointer changes to the date symbol, which resembles two pages of a desk calendar. Position the pointer at the place on the page where you want the date to appear and click. The current date is displayed at the place you click in the currently selected font, size, and style of text. Once the date is created, you can still change its font, size, style, and color by selecting it and then choosing the appropriate options from the Font, Size, Style, and Color menus.

Because it's an object, the date can be moved on the page after it's created. To move the date, select it with the selection arrow and drag.

To automatically place the current date on every page of a document, use the date tool to place the date in the appropriate location on the master page(s).



Horizontal/Vertical Line Tool

Use the horizontal/vertical line tool to draw straight horizontal and vertical lines (lines parallel to the edges of the document window). You can draw vertical or horizontal lines with any of the line widths in the line palette and with any color on the Color menu (see “Color Menu” and “The Line Palette,” in this chapter for information on choosing colors and line widths).

When you choose the horizontal/vertical line tool, the pointer changes to a crossbar. Choose the line width you want to use from the line palette and the color you want from the Color menu. Position the crossbar at the place in the document where you want to begin the line and drag. You’ll see a line stretch between the starting point and the horizontal or vertical position of the crossbar as you draw. (Because the line will be either horizontal or vertical, the crossbar may be disconnected from the actual endpoint of the line as you draw.) Release the mouse button to complete the line.



Line Tool

Use the line tool to draw straight lines in a document. The line tool lets you draw vertical, horizontal, or diagonal lines with any of the line widths in the line palette and with any of the colors on the Color menu (see “Color Menu” and “Line Palette,” in this chapter for information on choosing colors and line widths).

When you choose the line tool the pointer changes to a crossbar. Choose the line widths you want to use from the line palette and the color you want from the Color menu. Position the crossbar at the place in the document where you want to start the line. Drag to draw the line. A line appears between the starting point and the position of the crossbar as you draw. When you’ve positioned the crossbar on the spot where you want the line to end, release the mouse button to complete the object.

You can constrain lines to vertical, horizontal, and 45-degree lines by holding down the Shift key as you draw.



Rectangle Tool

Use the rectangle tool to draw filled and hollow rectangles and squares.

When you choose the rectangle tool, the pointer becomes a crossbar. Choose whether you want the rectangle to be filled or hollow by clicking either the filled or hollow icon. If you're creating a hollow rectangle, choose a line width from the line palette to use as the border. Select a color for the rectangle from the Color menu.

Position the crossbar at the place in the document where you want to start a corner of the rectangle and drag diagonally to the place where you want the opposite corner. As you drag, the outline of rectangle appears. Release the mouse button to complete the rectangle.

To create a square, hold down the Shift key as you draw.



Rounded Rectangle Tool

Use the rounded rectangle tool to draw rectangles and squares with rounded corners.

When you choose the rounded rectangle tool, the pointer becomes a crossbar. Choose whether you want the rounded rectangle to be filled or hollow by clicking either the filled or hollow icon. If you're creating a hollow rounded rectangle, choose a line width from the line palette to use for the borders of the rounded rectangle. Select a color for the rounded rectangle from the Color menu.

Position the pointer at the place in the document where you want to start a corner of the rounded rectangle and drag diagonally to the place where you want the opposite corner of the rounded rectangle to appear. As you drag, the rounded rectangle appears. Release the mouse button to complete the rounded rectangle.

To create a rounded square, hold down the Shift key as you draw.



Oval Tool

Use the oval tool lets to draw ovals and circles.

When you choose the oval tool, the pointer becomes a crossbar. Choose whether you want the oval to be filled or hollow by clicking either the filled or outline icon. If you're creating a hollow rounded rectangle, choose a line width from the line palette to use for the borders of the rounded rectangle. Select a color for the oval from the Color menu.

Position the pointer at the place in the document where you want to start the oval and drag diagonally to the place where you want the opposite side of the oval. As you drag, the outline of an oval appears. Release the mouse button to complete the oval.

To create a circle, hold down the Shift key as you draw.



The Filled/Hollow Icons

These two icons control whether the objects you create with the shape drawing tools (rectangles, rounded rectangles, and ovals) are filled or hollow.

To create hollow shapes, click the hollow icon (on the left). Any new shapes you draw will be outlined, with line widths determined by the line width currently selected in the line palette and in the color currently selected on the Color menu.

To create filled shapes, click the solid icon (on the right). Any new shapes you draw will be filled with the color currently selected on the Color menu.

To change an existing object, select the object and then click the filled or hollow icon.

Page Layout Commands

The Line Palette



The line palette lets you choose lines from a predefined set of line widths. These line widths determine the thickness of lines you draw with the line tools as well as the width of the borders of hollow objects you draw with the shape drawing tools (rectangles, rounded rectangles, and ovals).

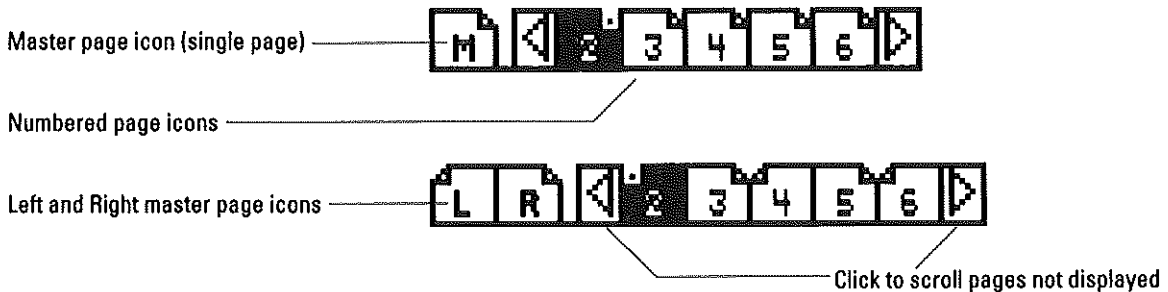
To choose a line width, click the desired line width in the palette. The new line width, indicated by an orange check mark on the line palette (the check mark appears in a distinct pattern on a monochrome monitor), replaces the current line width for any currently selected lines and hollow shapes. To change the line width of an existing object, select the object and then click the desired line width on the line palette.

The Page Icons

In the lower-left corner of the document window are icons that represent the pages in the document. Clicking on a page icon selects the icon and displays that page in the document window.

The page layout application uses two types of page icons:

- Master page icons, for selecting master pages (pages containing items to be repeated on every page of a document)
- Numbered page icons, for selecting the actual pages in a document



Place on the master pages any text, graphics, or guides you want to automatically display on every page of a document. When you first create a page layout document, a single master page is available, and a single page icon, labeled M, appears in the lower-left corner of the document window. All the numbered page icons look like the single master page icon, dog-eared on the right side. Click this icon to place master page items on every page in the document.

To use the left and right master pages, choose Left/Right Master Pages from the Options menu. The left and right page icons, labeled L and R, appear in the lower-left corner of the document window. The numbered page icons for left-hand pages look like the L master page icon, dog-eared on the left side; the numbered page icons for right-hand pages look like the R master page icon, dog-eared on the right. Use the left master page icon to place master page items on every left-hand page in the document; use the right master page icon to place master page items on every right-hand page.

Note: You can only move or change master page items when the master page is displayed in the document window. When you don't want master page items displayed on a particular page, choose the Ignore Master Page command.

Page Layout Commands

To display a specific page in a document, click the numbered page icon representing the page. That page becomes the current page and is displayed on the screen. You can also display a specific page with the Go To Page command (see “Go To Page,” in this chapter).

If you have five or fewer pages in a document, AppleWorks GS displays icons for all the pages. When you have more than five pages in a document, arrows appear on either side of the numbered page icons. If the icon for the page that you want to display isn't visible, click the left or right arrow to scroll through the numbered icons until the icon for that page appears.

Rulers

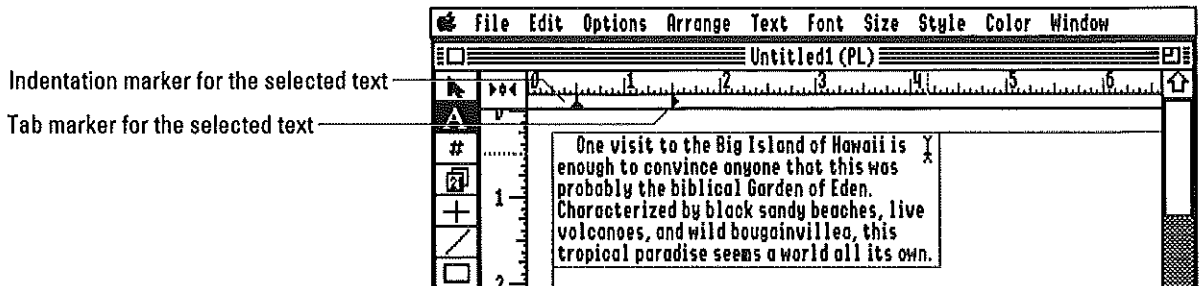
When you first create a page layout document, rulers are displayed across the top and down the left side of the document window. These rulers can be hidden and displayed with the Hide Rulers and Show Rulers commands. When you want to see more of a document, remove the rulers from the document window with Hide Rulers. Display the rulers when you want to accurately position text and graphics on the page.

The increments in the ruler are based on inches. Both rulers start at zero, at the top and left edges of the page. When you change views in the document window (see “Fit in Window/Actual Size,” in this chapter) the increments in the rulers’ inch scales change to display as much resolution as is possible given the page view, the page setup options chosen, and the printer selected.

When you drag the pointer in the document window, dotted lines appear in the rulers to indicate the exact position of the pointer in the document window. You can use these lines to help place text and objects accurately.

In addition to these pointer-position lines, the rulers provide another, more powerful tool for precisely aligning text and graphics in the document window—ruler guides. Ruler guides are explained in detail in the next section, “Page Layout Guides.”

When you’re editing text objects, you can use the rulers to change the indentation of, and add tabs to, selected text (the paragraph containing the insertion point or all paragraphs in a selection). The tabs and indent marker for the selected text appear in the ruler.



Page Layout Commands

Important! The insertion point must be selected in a text object for the tabs and indent marker to be displayed. When you move the I-beam into the horizontal ruler at the top of the document window, the pointer changes to an arrow to allow you to drag the indent marker and tabs.

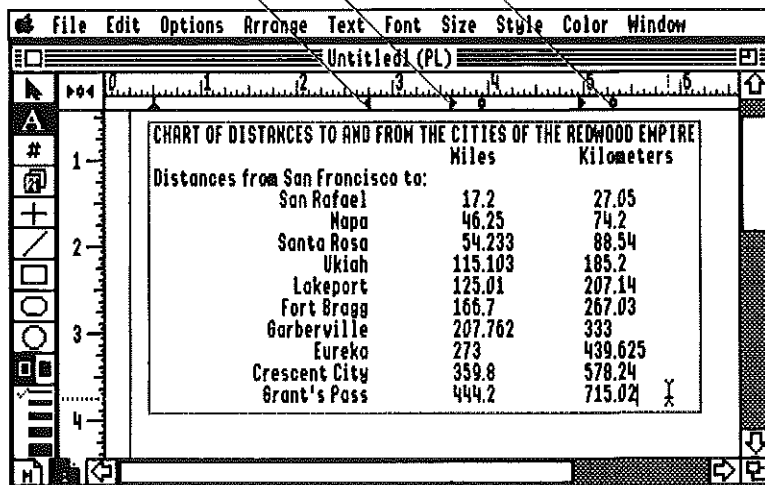
To change the indentation, drag the indent marker to the place in the horizontal ruler where you want the selected text indented. The indentation for the selected paragraph(s) will change to reflect the new location of the indent marker.

AppleWorks GS supports three types of tabs in the page layout application: left tabs, right tabs, and decimal tabs. When you use left tabs, tabbed text is aligned flush-left at the tab marker. Right tabs cause tabbed text to line up flush-right at the tab marker. Decimal tabs align tabbed text at the decimal point; use decimal tabs for lining up columns of numbers with different decimal places.

Use right tabs to right-align text at the tab marker

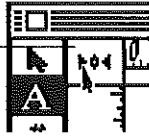
Use left tabs to left-align text at the tab marker

Decimal tabs let you line up columns of numbers by their decimal points



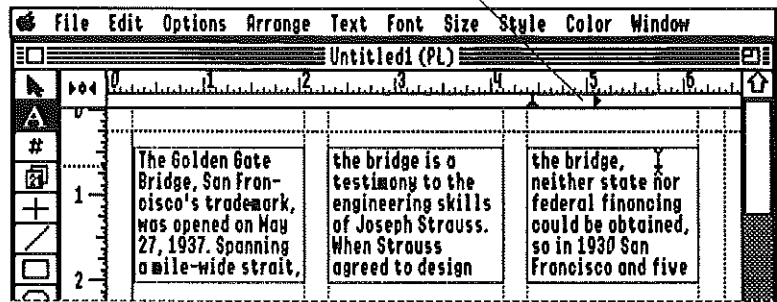
To place a tab in selected text, position the pointer in the tab well and drag a tab into the inch scale of the horizontal ruler.

The tab well is located in the intersection of the vertical and horizontal rulers



Drag the tab marker into the position on the inch scale where you want the tab stop. If you're using columns of text, first use the text tool to select the insertion point in the paragraph(s) in the column you want to add tabs to. The indentation marker and any tabs for that column appear in the inch scale of the ruler.

If you're tabbing text in columns, select the insertion point in the paragraph(s) in the column you want to add tabs to and drag the appropriate tabs into the inch scale



Any tabs in the selected text line up at the tab marker. You can place as many as ten tabs per paragraph (or selection of paragraphs).

Page Layout Commands

Page Layout Guides

The AppleWorks GS page layout application provides three different types of guides, nonprinting dotted lines that you can use to accurately position text and graphics in a document. The three types of guides are margin guides, column guides, and ruler guides.

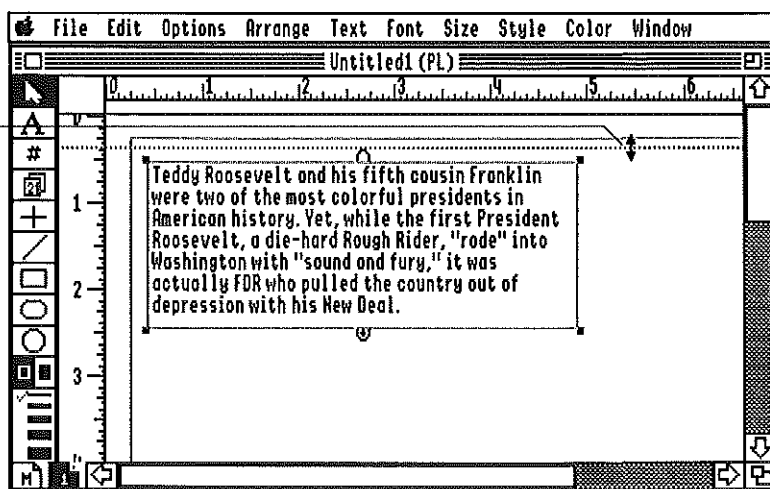
Margin guides, which you specify with the Set Guides command, provide a document with left, right, top, and bottom margins. Use margin guides when you want to create a page size other than the standard page sizes offered by the Page Setup command. (See "Page Setup," in chapter 1, "AppleWorks GS Commands," for more information.)

The Set Guides command also lets you create column guides that you can use to divide a page into as many as nine text columns. Column guides are created in pairs separated by column spacing (which can also be specified with the Set Guides command). Use column guides to shape text objects into equal columns.

When you want to position text or graphics at a particular place in a document, use ruler guides. These are vertical and horizontal guides which you can line up on the tick marks of the top and left rulers for precise alignment of objects. To create ruler guides, the rulers must be displayed in the document window. (If they're not visible, choose Show Rulers from the Options menu.)

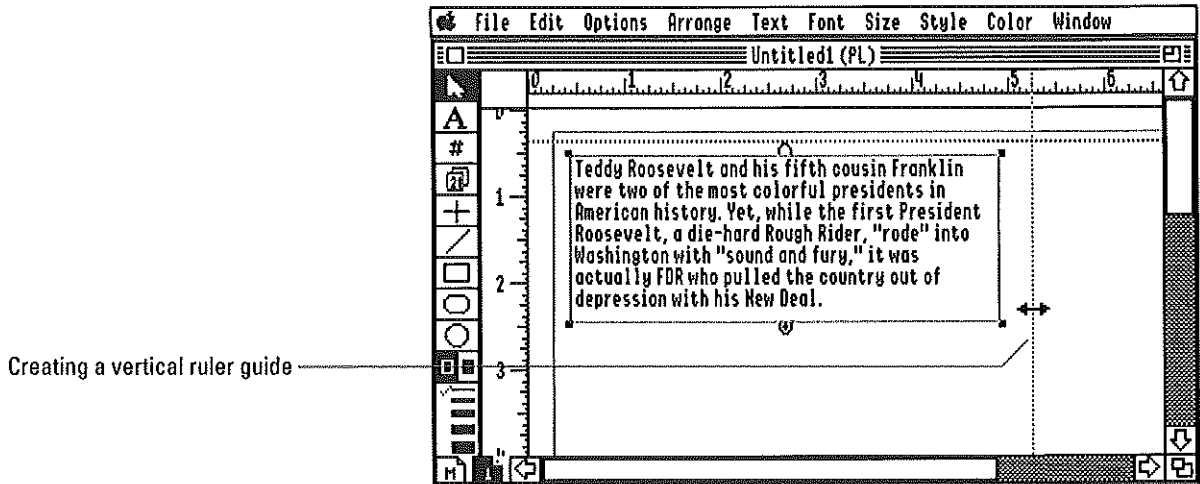
To create a horizontal ruler guide, drag from the inch scale of the horizontal ruler at the top of the window down into the page area.

Creating a horizontal ruler guide



A dotted line appears that extends at the far left into the vertical ruler. Line up the guide against the tick marks of the ruler.

To create a vertical ruler guide, drag from the inch scale of the vertical ruler on the left side of the document window into the page area. A dotted line appears that extends at the top of the document window into the horizontal ruler. Line up the guide against the tick marks of the ruler.



To make aligning text and graphics with a guide even easier, the page layout application features the Magnetic Guides command, which makes the column, ruler, and margin guides in a document attract objects. Whenever you move a text or graphics object within range of a magnetic guide (closer than four pixels vertically or eight pixels horizontally), the object is drawn to and aligned with the guide. Objects are also attracted to magnetic guides when you're first creating them and when you resize/reshape them.

For more information on guides, see "Set Guides," "Lock Guides/Unlock Guides," "Magnetic Guides/Normal Guides," and "Rulers" in this chapter.

CHAPTER 7

Communications



7



Communications Commands

File Menu

| File | |
|-------------------|----|
| New... | ⌘N |
| Open... | ⌘O |
| Close | ⌘K |
| Save | ⌘S |
| Save As... | |
| Delete File... | |
| Import File... | |
| Choose Printer... | |
| Page Setup... | |
| Print... | ⌘P |
| Print Merge... | |
| Quit | ⌘Q |

The standard File menu commands—common to all the AppleWorks GS applications—are described in Chapter 1, “AppleWorks GS Commands.” Because the communications application doesn’t support printing, the Choose Printer, Page Setup, Print, and Print Merge commands are dimmed on the communications File menu.

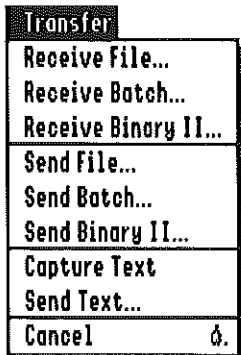
Edit Menu

| Edit | |
|------------|----|
| Undo | ⌘Z |
| Cut | ⌘X |
| Copy | ⌘C |
| Paste | ⌘V |
| Clear | |
| Select All | ⌘A |

The communications application uses the Copy and Paste commands described in chapter 1, “AppleWorks GS Commands.” Other common Edit menu commands, such as Undo, Cut, and Clear are not supported in the communications application.

Communications Commands

Transfer Menu



The Transfer menu contains commands for sending and receiving files using a number of different file formats and protocols.

If you're working with a new communications document, tell AppleWorks GS what type of modem you're using with the Hardware command on the Settings menu (see "Hardware," in this chapter) before using any of the commands on the Transfer menu. These commands are dimmed unless you've specified your hardware settings and initialized your modem (or selected No Modem) with the Hardware command.

The first six commands on this menu require that you specify a protocol, a standard format for sending and receiving files. Protocols provide both sides in a file exchange with a fixed set of rules that allow files to be transferred correctly. The protocol you select must match the protocol used by the other computer.

The communications application commands for receiving files offer three protocol settings—Xmodem, Xmodem CRC, and Ymodem—while the commands for sending files offer Xmodem and Ymodem (the remote, receiving computer could specify either Xmodem or Xmodem CRC).

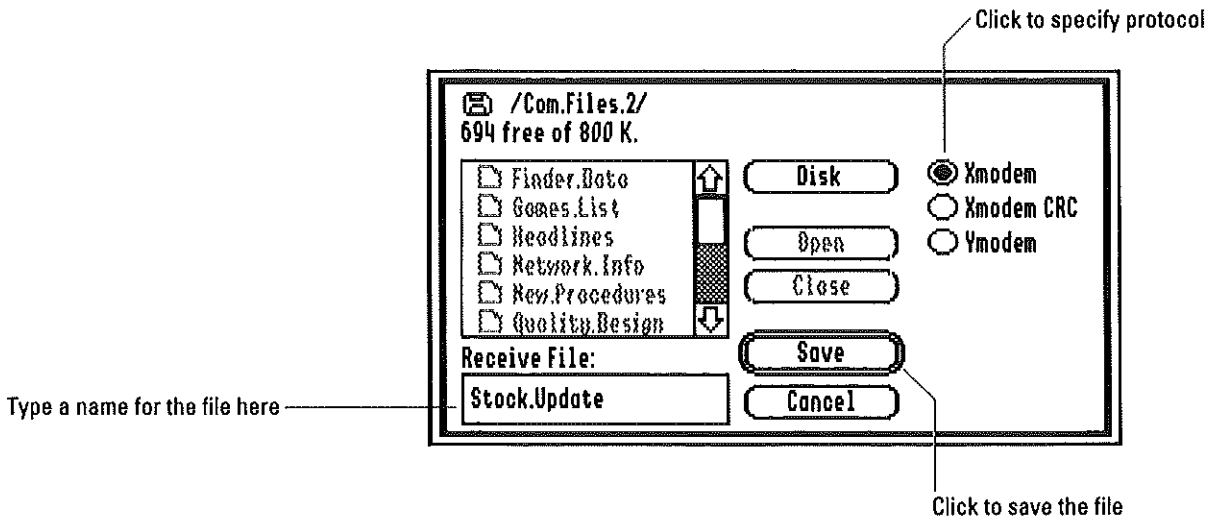
There are four different methods offered for receiving and sending data. The first, File, sends or receives a single file at once. Use File when you have only one file to send. The second method is Batch, which sends or receives one or more files in a single transfer. Use Batch when you want to send or receive several files at once. The third and preferred mode is Binary II, which sends or receives one or more files in the Binary II file format. This format preserves information that's important to the original application program used to create the file—the file type, its length, and so on. For example, if you wanted to transfer a graphics or database file, you'd want to choose Binary II, because the Binary II format would preserve the file information necessary to load the file in the application that created it.

Finally, you can send and receive text files using the Capture Text and Send Text commands. When you choose Capture Text, AppleWorks GS stores in memory all information subsequently received by your computer until you tell the program to stop the text capture, at which time you can save the captured information as a text file on a disk. The Send Text command lets you send a file as ASCII text. The difference between these commands and the Send File and Receive File commands is that you don't have the transmission error checking of the various protocols offered by Send File and Receive File.

Receive File...

The Receive File command lets you receive a specified file from a remote computer system.

When you choose Receive File, a dialog box appears:



Type a name for the file in the Receive File entry box. Click Disk to choose the disk you want to save the file on.

When the file has been successfully transmitted and received, it's automatically saved on the disk with the file name you specified in the dialog box.

Communications Commands

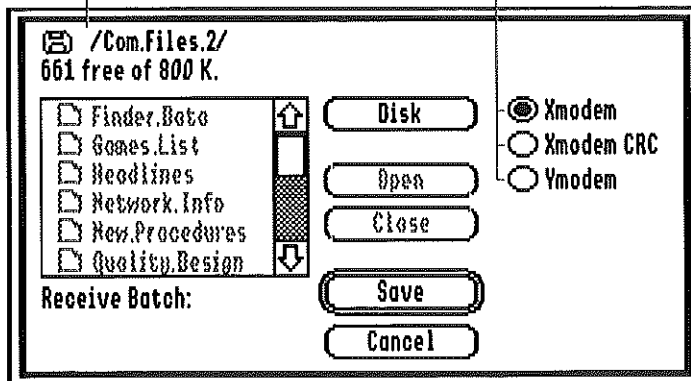
Receive Batch...

The Receive Batch command lets you receive one or more files from a remote computer system. The files are named by the sender and received on a specified disk or folder on a disk.

When you choose Receive File, a dialog box appears:

The directory or disk you want to save the files on

Click to specify protocol



The files will be saved on the disk and in the folder you specify. Click Disk to choose the disk you want to save the files on.

When the files have been successfully transmitted and received, they're automatically saved in the folder and on the disk you specified in the dialog box.

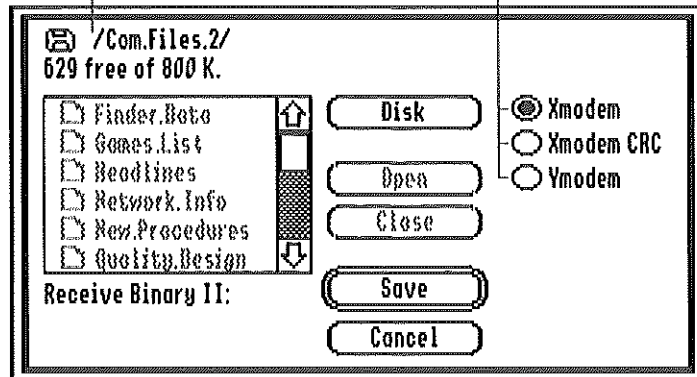
Receive Binary II...

The Receive Binary II command lets you receive one or more files with the Binary II format from a remote computer system. The files are named by the sender and received on a specified disk or specified folder on a disk.

When you choose Receive File, a dialog box appears:

The directory or disk you want to save the files on

Click to specify protocol



The files will be saved on the disk and in the folder you specify. Click Disk to choose the disk you want to save the files on.

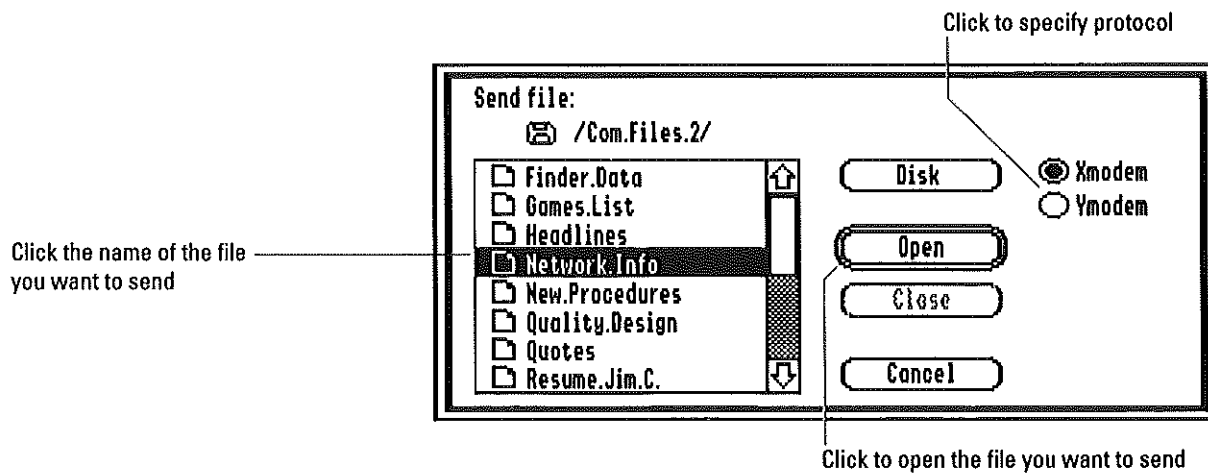
When the files have been successfully transmitted and received, they're automatically saved in the folder and on the disk you specified in the dialog box.

Communications Commands

Send File...

The Send File command lets you transmit a specified file to a remote computer system.

When you choose Send File, a dialog box appears:

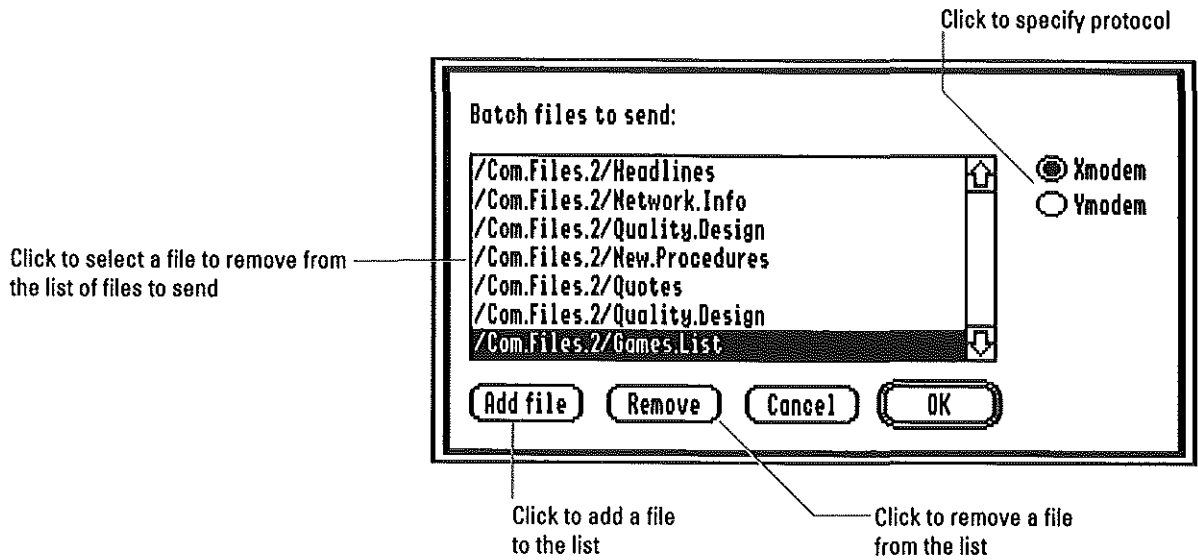


Click the name of the file you want to send in the list box, and then click Open. If the file you want to send is not on the current disk, click Disk to choose another disk. If the file is in a different folder, click the folder to select it and click Open to display the folder's contents in the list box.

Send Batch...

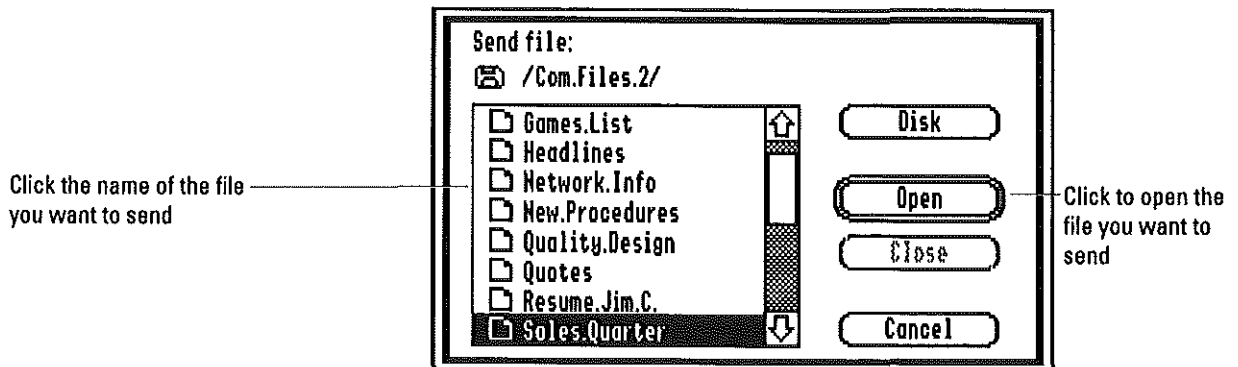
The Send Batch command lets you transmit one or more files to a remote computer system.

When you choose Send Batch, a dialog box appears:



Add

To add a file to the list of files to send, click Add. A second dialog box appears:



Communications Commands

Click the name of the file you want to send in the list box and then click Open. If the file you want to send is not on the current disk, click Disk to choose another disk. If the file is in a different folder, click the folder to select it and click Open to display the folder's contents in the list box.

When you click Open, the name of the file is added to the list in the first dialog box and the second dialog box disappears.

Remove

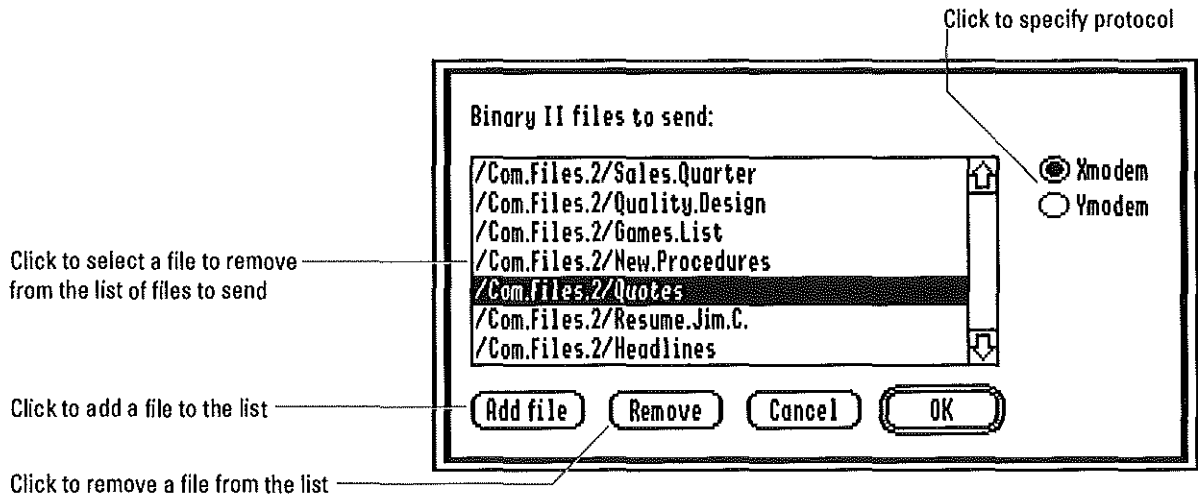
To remove a file from the list of files to send, click the name of the file in the list to select the file, and then click Remove. The file is deleted from the list and won't be transmitted.

When you've specified the files you want to send, click OK. The files are transmitted in the order that they appear on the list.

Send Binary II...

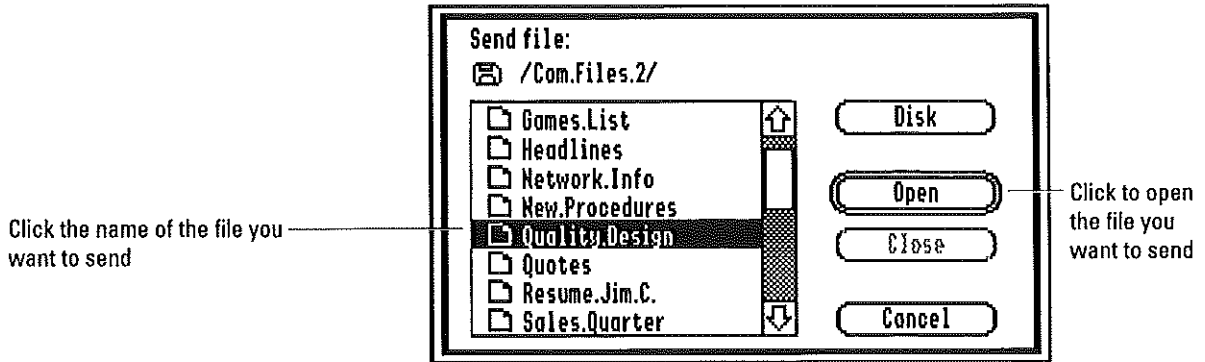
The Send Binary II command lets you transmit one or more files with the Binary II format to a remote computer system.

When you choose Send Binary II, a dialog box appears:



Add

To add a file to the list of files to send, click Add. A second dialog box appears:



Click the name of the file you want to send in the list box and then click Open. If the file you want to send is not on the current disk, click Disk to choose another disk. If the file is in a different folder, click the folder to select it and click Open to display the folder's contents in the list box.

When you click Open, the name of the file is added to the list in the first dialog box and the second dialog box disappears.

Remove

To remove a file from the list of files to send, click the name of the file in the list to select the file, and then click Remove. The file is deleted from the list and won't be transmitted.

When you've specified the files you want to send, click OK. The files are transmitted in the order that they appear on the list.

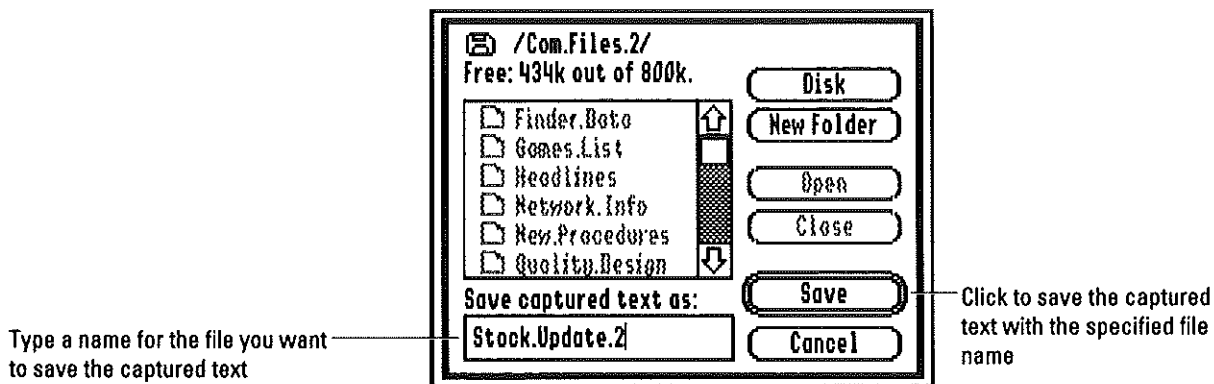
Communications Commands

Capture Text/End Text Capture

The Capture Text command lets you capture and save as a text file all information you subsequently receive from the remote computer system.

When you choose Capture Text, all text you receive while on-line is saved in your computer's memory. The message "Capture:" (followed by the number of characters received) is displayed in the status bar and End Text Capture replaces Capture Text on the Transfer menu.

The text received from the remote computer will be captured in memory until you tell AppleWorks GS to stop, or until you run out of memory in the text capture buffer (limited only by available memory). When you want to stop capturing text, choose End Text Capture from the Transfer menu. A dialog box appears to let you save the captured text as a document on a disk. Type a name for the document and click Save.

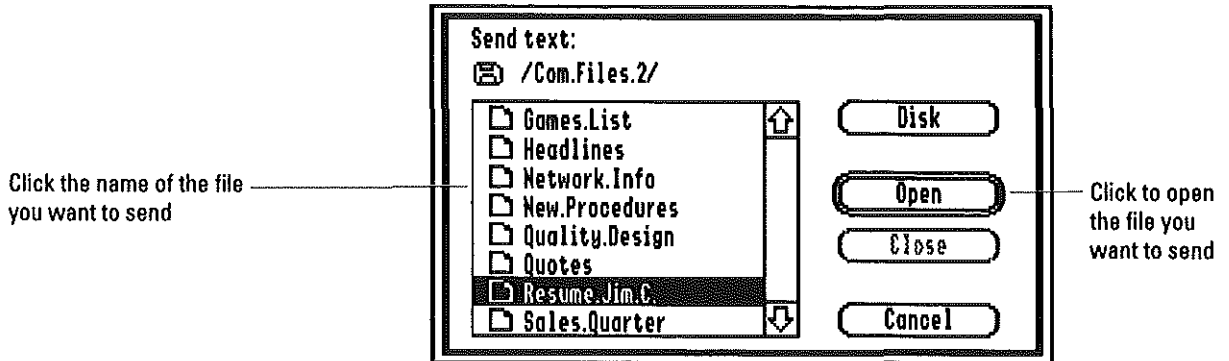


For more information on saving documents, see "Save As" in chapter 1, "AppleWorks GS Commands."

Send Text...

The Send Text command lets you send a specified text file to a remote computer system.

When you select Send Text, a dialog box appears:



Click the name of the text file you want to send in the list box, and then click Open. If the file you want to send is not on the current disk, click Disk to choose another disk. If the file is in a different folder, click the folder to select it and click Open to display the folder's contents in the list box.

Communications Commands

Cancel

The Cancel command breaks into a transfer operation and halts the transfer. When you choose Cancel, any transfer operation in progress is halted at the earliest opportunity.

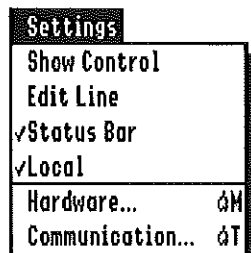
When you begin an operation, that operation is listed next to Cancel on the Transfer menu, to let you know which operation is currently being performed and therefore which operation will be canceled. For example, if you've chosen Send File to transfer a file, the command is displayed as Cancel Send File on the Transfer menu.

Use Cancel to interrupt the following operations:

- Dialing
- Importing files
- Sending files
- Receiving files
- Sending text
- Pasting text

Cancel will not interrupt the Capture Text command.

Settings Menu



The Settings menu contains commands for specifying new hardware settings and communications protocols, as well as commands for selecting different text display options.

Show Control

The Show Control command displays all control characters—such as tabs, carriage returns, arrow keys, and so forth—in communications text displayed on the screen. Control characters are displayed as two characters—a caret symbol (^) followed by a letter indicating the control character's place in the ASCII sequence.

Control characters displayed with Show Control

| Key | Character(s) displayed |
|---------------------------|------------------------|
| Esc | ^I |
| Tab | ^I |
| Control and any character | ^ + character |
| Delete | ^? |
| Return | ^M |
| Left Arrow Key | ^H |
| Right Arrow Key | ^U |
| Up Arrow | ^J |
| Down Arrow | ^K |
| Clear | ^X |
| Enter | ^M |

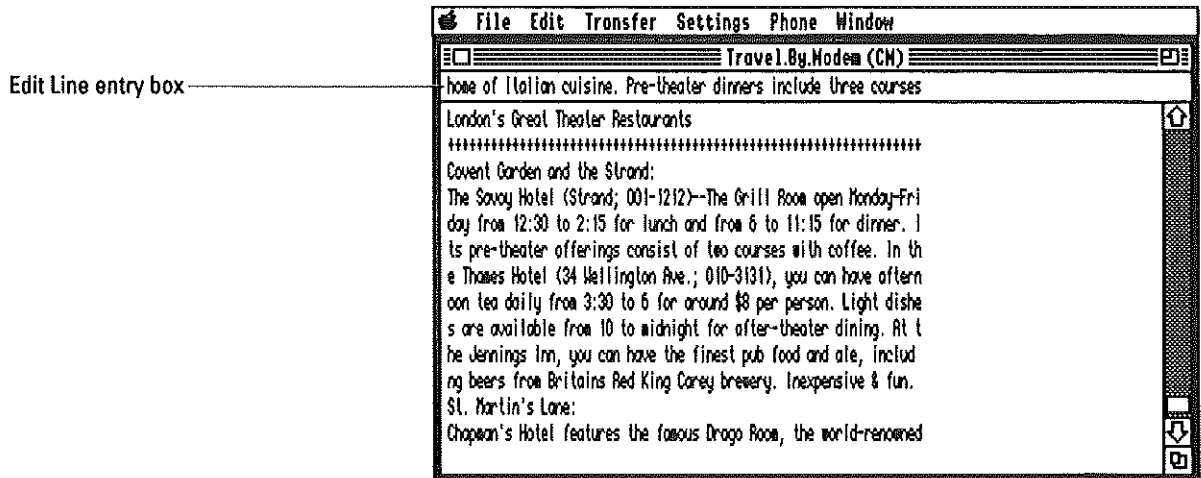
When you choose Show Control, a check mark (✓) appears to the left of the command on the Settings menu. To stop displaying control characters, choose the command again; the check mark disappears and control characters are no longer displayed. When you open a new communications document, Show Control is checked.

Communications Commands

Edit Line

The Edit Line command lets you enter and edit an entire line of text before transmitting it. You can use the mouse and keyboard commands to select text and the insertion point. Selected text can be deleted but not copied to the Clipboard.

When you choose Edit Line, an entry box appears at the top of the communications document window:

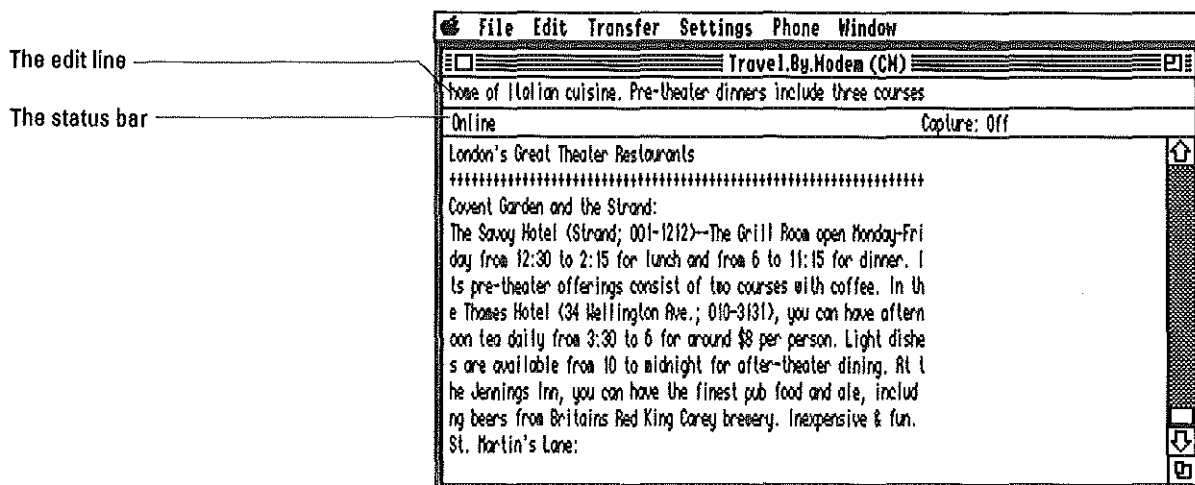


When you're ready to send the edited line, you transmit it by pressing Return. The line appears in the document window below the status bar.

Status Bar

The Status Bar command displays the status of the program in an area at the top of the document window. The status bar tells you whether you're on-line (*terminal mode*) or in *local mode* and whether or not you have Capture Text on. In addition, the status bar provides information about the operation in which the communications application is currently engaged:

- If you're dialing, the status bar reflects the number of seconds of dial time left
- If you're sending a file, the status bar tells the number of blocks to be sent, the number of blocks that have been sent, and the number of errors in the transmission
- If you're receiving a file, the status bar tells the number of blocks to be received, the number of blocks that have been received, and the number of errors in the transmission
- The status bar tells you when you're importing files or pasting text



If you've selected Local from the Settings menu (see "Local," in this chapter), the status message "Local" is displayed in the status bar (if the Status Bar command is active), and you're temporarily removed from communications with the remote computer. Any text entered in Local mode is not transmitted to the other system.

Communications Commands

If you're not in local mode, the message "Online" appears in the status bar, indicating that you're in terminal mode. In terminal mode AppleWorks GS is communicating with the remote computer and any text typed while in this mode is transmitted to the other system.

If you've set text capture on with the Capture Text command, the message "Capture:" appears in the status bar, followed by the number of characters captured. If Capture Text isn't selected, the message "Capture: Off" is displayed in the status bar.

When the status bar is on, a check mark (✓) appears on the menu. Choose Status Bar again to turn the status bar off.

Local

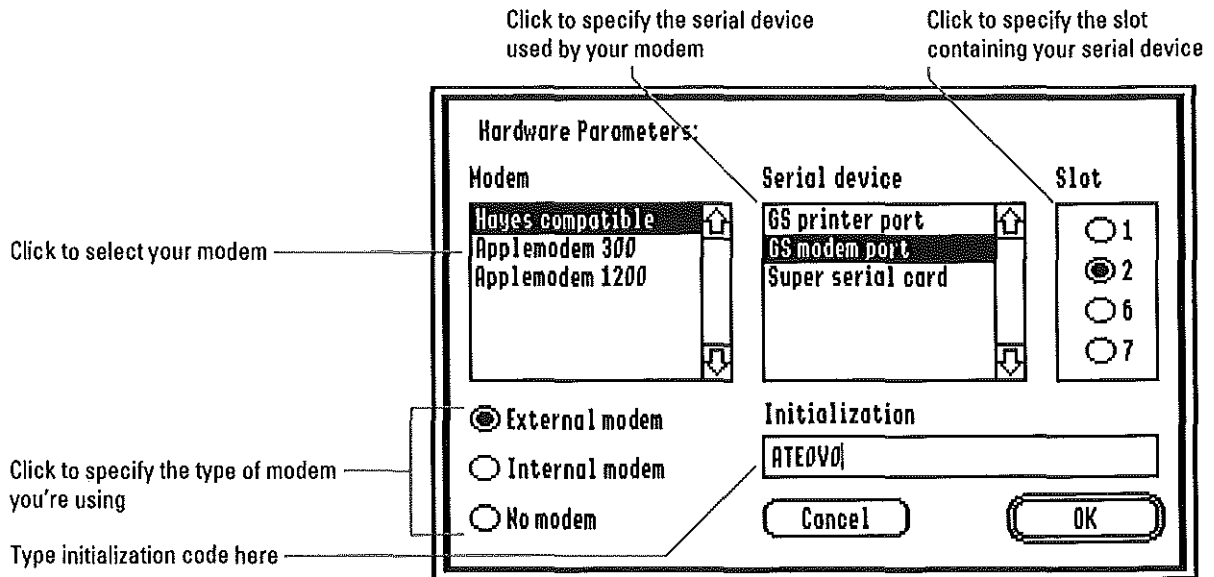
When you choose Local from the Settings menu, a check mark (✓) appears to the left of the command, and the status message "Local" is displayed in the status bar (if the Status Bar command is active). AppleWorks GS is temporarily removed from communications with the remote computer, and any text entered in local mode is not transmitted to the remote system.

When you choose the checked Local command, the check mark is removed from the Local command and the status message "Online" appears in the status bar, indicating that you're in terminal mode. In terminal mode, AppleWorks GS is communicating with the remote computer, and text entered in this mode is transmitted to the remote system.

Hardware

The Hardware command lets you give information about the specific communications hardware that you're using.

When you choose Hardware from the Settings menu, a dialog box appears:



If your computer is directly connected by a serial connection to the second computer, click No Modem. Type any special initialization sequence required by your modem or by the remote computer system in the entry box.

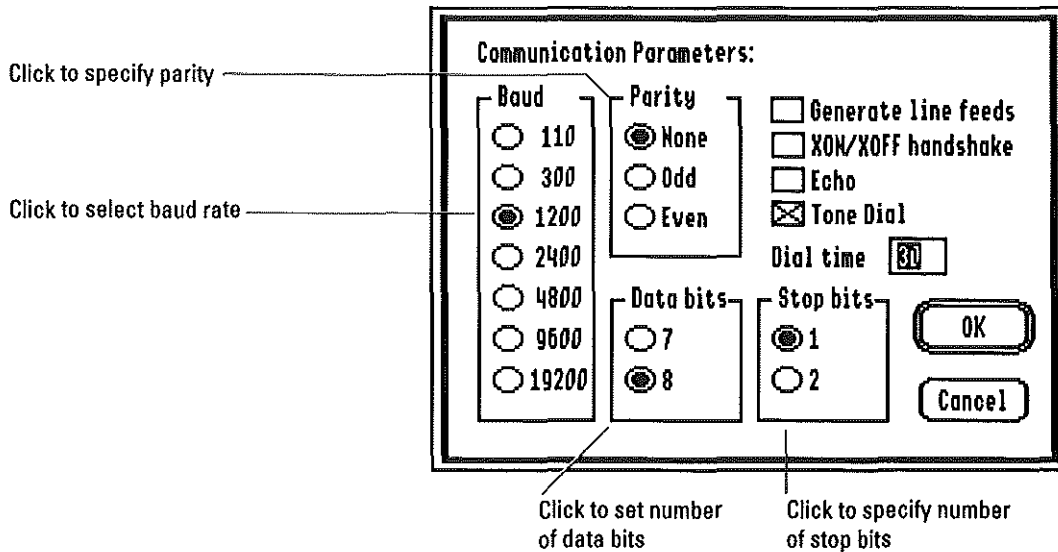
When you've selected the appropriate settings, click OK.

Communications Commands

Communication...

The Communication command lets you specify the settings to be used when information is exchanged between your computer and the remote computer. Both your computer and the remote computer must use the same communications setting; if you experience problems communicating with another computer, check that your system is using the correct settings.

When you choose Communication from the Settings menu, a dialog box appears:



Baud

The baud rate, approximately equal to the number of bits per second, describes the rate at which information is transmitted and received. Most modems operate at 300, 1200, or 2400 baud. Check the user's manual that came with your modem to determine the baud rate at which your modem operates, and click the appropriate setting. The default is 1200 baud.

Parity

Parity describes the bit added to characters to check the accuracy of data transmission. The bit is either a one, causing all characters to be odd; a zero, causing all characters to be even; or no bit is added. Most commercial services use no parity bit, so the default is None.

Data Bits

Characters used by AppleWorks GS are represented by eight bits; when you transmit data, however, characters can be transmitted as either seven or eight bits. Data Bits describes the number of bits used for each byte when you're transmitting information. The default is eight bits, the number used by most commercial services.

Stop Bits

Stop Bits describes the number of bits used to separate characters during transmission. Since most commercial services use one stop bit, the default is one.

Dial Time

Type in the Dial Time entry box the number of seconds you want AppleWorks GS to keep trying to dial a number (or redial a busy number) before giving up the dial attempt.

Check boxes are also provided to select other protocols:

- **Generate Line Feeds:** Check this box to place line feeds after the carriage return following each line of text. You'll want to choose this option if you're communicating with an IBM or compatible computer, as those systems require a line feed following a carriage return to signify the end of a line of text, whereas Apple computers don't. The default is unchecked.

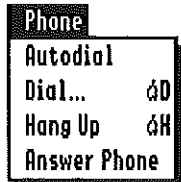
- **XON/XOFF Handshake:** Check this setting to ensure that successful transmission is achieved, especially if you're sending and receiving files at 2400 baud or greater. XON/XOFF Handshake prevents loss of information during transmissions by telling the other computer to stop sending when your computer's memory fills up with the information it has received during transmission. It also tells the other computer when it's okay to start sending information again. The default is unchecked.

Communications Commands

- **Echo:** Check this setting to display on the screen a second copy (an echo) of all data being transmitted. Older computer systems required this setting to see a copy of information being transmitted; this is generally not required on current systems, so the default is unchecked.
- **Tone Dial:** This setting tells your modem whether to use tone-dialing or pulse-dialing. This setting defaults to checked.

When you've selected the settings you want, click OK.

Phone Menu



The Phone menu contains commands for dialing phone numbers, answering incoming transmissions, and disconnecting from a remote system.

Autodial

The Autodial command tells AppleWorks GS to automatically redial any telephone number that's busy.

When you choose Autodial, a check mark (✓) appears to the left of the command on the menu, and any busy number is automatically redialed. To turn off Autodial, choose the command when it's checked. The check mark disappears from the menu, and AppleWorks GS only attempts to dial a phone number once.

Dial...

The Dial command lets you create and maintain an alphabetized directory of frequently used names and telephone numbers. This command also lets you automatically dial phone numbers from the directory. If you're working with a new communications document, tell AppleWorks GS what type of modem you're using with the Hardware command first. The Dial command won't let you dial a number until you've specified your Hardware settings and initialized your modem.

When you choose the Dial command, a dialog box appears. The Name entry box contains the name "Untitled," which is highlighted, so you can replace it quickly and easily by typing a new name. Press the Tab key to move the insertion point to the Fast Dial entry box, where you can type in a character key to be used in combination with the Option key to quickly dial the entry's phone number. Press Tab again to move the insertion point to the Number entry box, where you type in the phone number you want to dial.

Communications Commands

The communications parameters for the selected name and number

Click to select a name in the phone directory

Type name here

Type phone number here

| Option | Name | Number |
|----------|------------------|------------|
| Option-A | Apple Users | 2400-8-N-1 |
| Option-B | Bulletin Board | 2400-8-N-1 |
| Option-C | Compu-Quote | 1200-8-N-1 |
| Option-G | Games Online | 2400-8-N-1 |
| Option-I | Interface | 1200-8-N-1 |
| Option-M | Shop by Modem | 1200-8-N-1 |
| Option-S | Sport News | 300-8-N-1 |
| Option-W | Wall Street-Wise | 2400-8-N-1 |

Name: Fast dial:

Number:

Type a fast dial number here, if you like

Click to dial a selected number

Add

To add a name and number to the directory, type the name and phone number in the Name and Number entry boxes. AppleWorks GS also lets you include a fast-dial character with each name you put in the directory. (A fast-dial character is a keyboard character that you press in conjunction with the Option key to dial a number without having to choose the Dial command.) To enter a fast-dial character, type the character in the Fast Dial entry box.

When you've typed the name and number (and optional fast-dial character) you want in the entry boxes, click Add to place them in the directory. The name, fast-dial character, and communications settings for the number appear in the directory list.

If you need to add a phone number to the directory that requires the use of different settings from the current settings, click Settings and select the appropriate settings for the telephone number from the Communication command dialog box that appears.

Remove

To remove a telephone number from the directory, click the number in the scroll list to select it and then click Remove. The entire entry—name, number, and optional fast-dial character—is removed from the directory.

Replace

To replace an old name or number in the directory, click the name in the directory. The name appears in the Name entry box, the number in the Number entry box, and the fast-dial character in the Fast Dial entry box. Type the new name, number, or fast-dial letter, and click Replace.

Settings

You can assign different communications settings to individual phone numbers by clicking the phone number in the list and then clicking Settings. The Communication dialog box appears, allowing you to change the communications settings for the selected phone number. (AppleWorks GS displays the last settings you specified with the Communication command.) For more information on the options offered by this dialog box, see “Communication,” in this chapter.

Dial

To automatically dial a number, click the number in the directory and then click Dial, or double-click the number. Your modem dials the number, and AppleWorks GS returns you to the document window.

To save the numbers you’ve entered in the directory and return to the communications document window without dialing a number, click OK. If you click Cancel, none of the information you entered will be saved.

To dial a number without entering it in the list, enter it in the number entry box without typing in a name and click Dial.

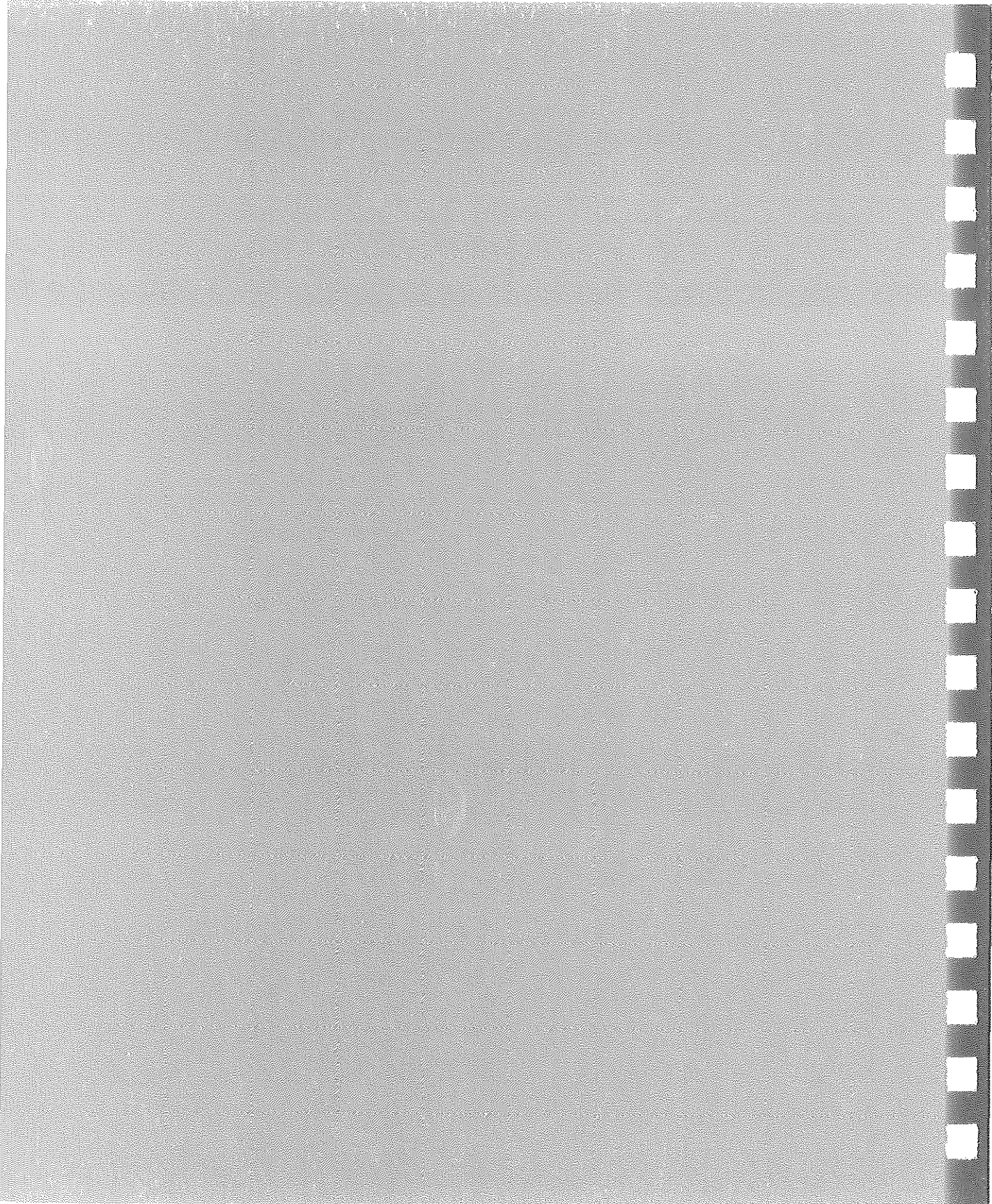
Hangup

The Hangup command disconnects your modem from the remote computer, ending the communications session.

Answer Phone

The Answer Phone command lets you set up your Apple IIGS as a remote computer for other computers to call. When you choose Answer Phone from the Phone menu, a check mark (✓) appears beside the command on the menu. Your computer is left connected to the telephone system, waiting for other computers to call. AppleWorks GS answers all incoming calls on the first ring. To stop answering incoming calls, choose the checked Answer Phone command. The check mark is removed.

APPENDIXES



Special Installation Information

About the Apple IIGS System Folder

The Apple IIGS operating system, GS/OS, uses a special folder to maintain information used by the system software and by different applications (such as AppleWorks GS) that run under it. This folder is called the System folder, and it's located on the *AppleWorks GS System* disk that came with your copy of AppleWorks GS.

The System folder contains a number of important files and folders. Some of the files contain the actual operating system programs; some of the folders contain other important software that your application programs use for things like creating menus and windows. You'll probably find that you need to know about three of the folders included in the System folder, so they're discussed in detail below.

The Desk.Accs Folder

The Desk.Accs folder contains all the desk accessory programs on your system. A desk accessory is a mini-application, like a calculator or phone-dialer, that you can use while running a full application program (like AppleWorks GS) without leaving the main application.

There are two types of desk accessories—classic desk accessories (CDA's) and new desk accessories (NDA's). CDA's are text-based and menu-driven; you can access them by holding down the \mathcal{C} and Control keys and pressing Esc. This displays the Desk Accessories menu, which lets you choose the classic desk accessories you want to use. If you haven't put any desk accessories on your system, the Control Panel and Alternate Display Mode will be the only items on the Desk Accessories menu besides Quit.

New desk accessories are graphic-based and appear on the pull-down menu when you run Apple IIGS-specific software. These desk accessories closely resemble desk accessories on the Macintosh computer.

You can install any desk accessories you want to use on your system by dragging the desk accessory files into the Desk.Accs folder. The next time you start up your system, the system will recognize both the classic and new desk accessories and display them on their respective menus.

Special Installation Information

The Fonts Folder

The Fonts menu contains all the font files used by Apple IIGS-specific applications. It's these font files that let you choose different typefaces, like Geneva, New York, and London. Actually, each typeface can have a number of different font files (different sizes of the font) associated with it—all the font files of a certain type are collectively called a *font family*. For example, the following font files all represent different point sizes of the Geneva font:

- Geneva.10 (10 point Geneva)
- Geneva.12 (12 point Geneva)
- Geneva.14 (14 point Geneva)
- Geneva.18 (18 point Geneva)
- Geneva.24 (24 point Geneva)

You can use any fonts you want with your system by placing the appropriate font files in the Fonts folder. The next time you start up your Apple IIGS, the system will recognize the fonts and display the name of each font on the Font menu of the application program you're using. The names of the fonts will also appear in the list box of the Choose Font command (see "Choose Font," in chapter 1). The different sizes for each font will be offered on the Size menu of the application, with those sizes for which there is an actual font file in the Fonts folder displayed in boldface.

Important! There are two fonts that must be in the Fonts folder of your System folder or you won't be able to run AppleWorks GS. These are Geneva.12, which is the default font for the word processor and page layout application; and Monaco.9, which is the font used by the communications application. Shaston.8, the font used by the database and spreadsheet applications and the default font for the graphics application, is built into the ROM of your Apple IIGS.

In addition to the two fonts needed by your system to run AppleWorks GS, the About AppleWorks GS command uses three other fonts to display information in its dialog box—New.York.12, New.York.24, and Geneva.9. Removing these fonts causes the information to be displayed in a less legible font.

About the Apple IIGS Control Panel

The Drivers Folder

The Drivers folder contains the files used by your system to print documents with different printers and different printer interfaces. These files are called printer drivers. When you have a certain printer driver or printer interface file in your Drivers folder, that printer or interface appears in the dialog box displayed by the Choose Printer command.

The Control Panel is a special program built into the Apple IIGS that lets you control the speed of your computer's microprocessor, the color of the text and background on your monitor, the speed of your mouse, and the volume of the speaker. You use the Control Panel to change the way your slots and ports are configured for printers and modems, and to activate AppleTalk if you're on an AppleTalk network.

The instructions below explain how to enter, and choose options in, the Control Panel.

Entering the Control Panel

If you've already started up your Apple IIGS, you can get to the Control Panel by holding down the \mathcal{C} and Control keys and pressing the Esc key. The Apple IIGS Desk Accessories menu appears.

Press the Up Arrow key until Control Panel is highlighted and press Return to enter the Control Panel.

If you haven't started up your Apple IIGS, hold down the Option key while you turn on the power switch. A menu appears. Press 1 to enter the Control Panel.

Choosing Control Panel Options

The Control Panel menu displays all the hardware system features of the Apple IIGS that you can adjust. To choose an option on the menu:

- 1. Press the Up or Down Arrow key to highlight the option you want.**
- 2. Press Return to choose the option.**

When you press Return, you'll see a new menu appear for the option you chose.

Special Installation Information

As with the Control Panel menu, you can highlight options with the Up and Down Arrow keys.

To change one of the settings:

1. **Press the Up or Down Arrow key to highlight the option you want.**
2. **Press the Right or Left Arrow key until the option setting you want is displayed.**
3. **Press Return to confirm the setting and return to the Control Panel menu.**

To leave the Control Panel:

1. **Press the Up or Down Arrow key to highlight Quit.**

or

Press the Esc key to highlight Quit.

2. **Press Return.**

If you entered the Control Panel by pressing Command-Control-Esc from an application, you'll return to the application. If you entered the Control Panel by pressing Option-Control-Reset, your Apple IIGS will start up the application in your startup drive.

Note: Some changes to Control Panel settings require that you turn your Apple IIGS completely off and then on again before the changes take effect.

For more information on the Control Panel, see appendix A, "The Control Panel Program," in the *Apple IIGS Owner's Guide*.

Using AppleTalk with AppleWorks GS

If you're working in an environment where a lot of people are using Apple IIGS computers or a combination of Macintosh and Apple IIGS computers (such as a school or office), your group may be interested in using an AppleTalk network—or you may already be using AppleTalk. An AppleTalk network is a system that lets a group of Apple computer users link their computers together so that they can exchange documents and share peripheral devices such as printers.

If you plan to use AppleTalk with your Apple IIGS, you'll want to make sure that your computer is properly connected to the AppleTalk network and that your computer's Control Panel is configured to use AppleTalk.

To connect your computer to the AppleTalk network, plug the AppleTalk cable into the printer port in the back of your Apple IIGS. For more information, consult your *Apple IIGS Owner's Guide*.

To set up your Control Panel for use with AppleTalk, follow these instructions:

1. Enter the Control Panel program.

See "About the Apple IIGS Control Panel," in this appendix for more information on using the Control Panel.

2. Press the Up or Down Arrow key to highlight Slots, and press Return.

The Slots menu appears.

3. If your AppleTalk cable is connected to the printer port, press the Down Arrow key until Slot 1 is highlighted; if your AppleTalk cable is connected to the modem port, press the Down Arrow key until Slot 2 is highlighted. Then, press the Right Arrow key until Your Card appears.

4. Press the Down Arrow key until Slot 7 is highlighted, and then press the Right Arrow key until the Built-in AppleTalk setting appears.

5. Press Return to save the settings and return to the Control Panel.

6. Press the Down Arrow key until Quit is highlighted (or press Esc) and press Return to exit the Control Panel.

Special Installation Information

Using AppleWorks GS with a LaserWriter

- 7. Turn your Apple IIGS completely off for about 30 seconds, then turn it on again.**

This changes the way the slots in your Apple IIGS work to correspond with your changes to the Control Panel settings.

If you're planning to use a LaserWriter printer with your Apple IIGS, use the following instructions to properly configure your system.

First, make sure your Apple IIGS is configured to support AppleTalk. (To use a LaserWriter, you'll have to be set up on an AppleTalk network.) Make sure you've connected an AppleTalk cable to your printer port and connected the cable to the LaserWriter.

Next, you'll want to use the Control Panel program to configure your slots to support a printer port and AppleTalk.

- 1. Enter the Control Panel program.**

See "About the Apple IIGS Control Panel," in this appendix for more information on using the Control Panel.

- 2. Press the Up or Down Arrow key to highlight Slots, and press Return.**

The Slots menu appears.

- 3. If your AppleTalk cable is connected to the printer port, press the Down Arrow key until Slot 1 is highlighted; if your AppleTalk cable is connected to the modem port, press the Down Arrow key until Slot 2 is highlighted. Then, press the Right Arrow key until Your Card appears.**
- 4. Press the Down Arrow key until Slot 7 is highlighted. Press the Right or Left Arrow key until Built-in AppleTalk appears.**
- 5. Press Return to save the setting and return to the Control Panel menu.**
- 6. Press the Down Arrow key until Quit is highlighted and press Return to exit the Control Panel.**
- 7. Turn your Apple IIGS completely off for about 30 seconds, then turn it on again.**

This changes the way the slots in your Apple IIGS work to correspond with your changes to the Control Panel settings.

When you're finished configuring your Control Panel and restarting your Apple IIGS, turn on the LaserWriter. When you need to print from AppleWorks GS, use the Choose Printer command on the File Menu of any of the applications to choose LaserWriter as your printer driver and AppleTalk as the printer port. For more information, see "Choose Printer" in chapter 1, "AppleWorks GS Commands."

Special Installation Information

Setting up a Modem for Use with AppleWorks GS

The AppleWorks GS communications application works with a number of different modems, including Apple and Hayes-compatible modems. To set up your modem for use with AppleWorks GS, first follow the instructions in the user's manual that came with your modem to physically install the modem, connecting it to your computer. Next, make sure that you've configured the Control Panel to support the modem. The following instructions assume that you've installed your modem to the Apple IIGS modem port. If your modem requires that you install it internally or to another port, consult the user's manual that came with your modem.

- 1. Enter the Control Panel program. (See "About the Apple IIGS Control Panel," in this appendix for more information on using the Control Panel.)**
- 2. Press the Up or Down Arrow key to highlight Slots, and press Return.**

The Slots menu appears.

- 3. Press the Down Arrow key until Slot 2 is highlighted. Press the Right Arrow key until Modem Port appears.**
- 4. Press Return to return to the Control Panel.**

You've now configured your modem port. Next, you'll want to set up the modem port to support your modem's communications parameters:

- 1. Press the Up or Down Arrow key until Modem Port is highlighted, and press Return.**
- 2. The Modem Port menu appears.**

Use this menu to configure your modem according to the parameters listed in the user's manual that came with your modem.

- 3. Press Return to return to the Control Panel.**
- 4. Press the Up or Down Arrow key until Quit is highlighted (or press Esc), and press Return to exit the Control Panel.**

When you create a communications application, be sure to use the Hardware command on the Settings menu to select the appropriate hardware parameters for use with your modem.

Functions and Formulas

The AppleWorks GS database and spreadsheet applications both let you use functions and formulas in database fields and spreadsheet cells.

A calculated field in a database contains a field formula, which calculates the value of the field based on other values. For example, a calculated field in a database might contain the formula “[field1] + [field2]”. In this case, the calculated field will display the sum of the values in field1 and field2.

A spreadsheet cell can contain a cell formula, which calculates a value for the cell based on other values. For example, a spreadsheet cell might contain the formula “=A1+A2”. In this case, the spreadsheet cell will display the sum of the values in cells A1 and A2.

A field formula or a cell formula contains one or more elements, including constant values, references to other cells or fields, and functions. These elements can be combined using a variety of operators, resulting in a value that is displayed in the database field or spreadsheet cell.

One of the elements of a formula can be a function. The AppleWorks GS database and spreadsheet applications provide a variety of built-in functions, which are like empty formulas that you complete with different values (called arguments) to perform complex calculations on those values.

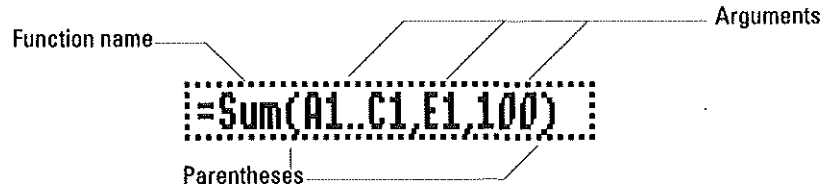
Functions and Formulas

Functions in the Database and Spreadsheet Applications

AppleWorks GS supports 73 functions for the spreadsheet application and 69 functions for the database application. These functions are listed in the section “Functions by Category” and explained in detail in the “Alphabetical Directory of Functions” in this chapter. The following sections describe the elements and operations of a function.

Parts of a Function

Each AppleWorks GS function consists of a function name, followed by one or more arguments surrounded by parentheses. An argument is a data value used by the function in its calculations to produce a new value. For example, the Sum function takes a list of number values as its arguments and produces the sum of those values.



In both the database and spreadsheet applications, arguments can be either variables or constants. A variable value is a value that may change depending on other values. In AppleWorks GS, variables can be references to fields (in the database application) or cells (in the spreadsheet application), because both fields and cells can contain values that vary depending on other conditions and values.

A constant value is a value that doesn't vary. Constants may be either numeric or string constants. A numeric constant is any number value. A string constant is any series of characters surrounded by quotation marks. You can use either double or single quotation marks to denote a string constant.

Arguments for Functions

Arguments are the values that you provide to a function so that it can perform its calculations. Different AppleWorks GS functions require different types of arguments. These arguments fall into several categories: expression, number, numeric list, range (of spreadsheet values), string, string list, logical value, logical list, date, and financial values.

Expression

An expression can be any value—the contents of a cell or field, a calculated value, even the value returned by another function. The word expression is used in this section to refer to a value that is calculated, or to a numeric or string value.

Number

Some functions require one or more numeric values as arguments. Each numeric value may be provided as a single value or as a numeric expression (including another function or group of functions) which evaluates to a numeric value. Numeric constants are expressed as numbers; numeric variables can be either spreadsheet cells or database fields formatted to contain numeric values. For example, the Sin function requires a numeric value as an argument. You could ask for Sin(2), Sin(10/5), or Sin(A1-2)—where cell A1 contains the value 4 – and the same resulting value will be produced.

Numeric List

Some functions require a list of numeric values as arguments. Each numeric value may be provided as a single value or as an expression that evaluates to a number. For example, the Sum function takes a list of numeric values and returns the sum of the values.

Range

Some functions require a range of spreadsheet values. These values are specified by listing the reference of the first cell in the range, followed by two dots (..), followed by the reference of the last cell in the range. For example, the range A1..A10 includes the cells between cell A1 and cell A10, inclusive.

Functions and Formulas

String

Some functions require a string argument, which is a group of alphanumeric characters. For example, the Len function returns the length (number of characters) of a string. If you supply a string constant as an argument, the string should be surrounded by quotation marks. (The quotation marks are not considered part of the string.)

String List

Some functions require a list of one or more strings. For example, the Concat function takes one or more strings as an argument, and returns a single string which is constructed by concatenating (joining together) the strings provided as arguments.

Logical Value

A logical value is an expression that evaluates to True or False. (AppleWorks GS encodes the value True as the numeric value 1, and the value False as the numeric value 0. Any non-zero value is considered True.) Some functions require one or more logical values as arguments, and return the value True or False. For example, the Not function requires a logical value as an argument and returns the opposite value as a result.

Logical List

Some functions require a list of one or more logical values. For example, the Or function requires a list of logical values and returns the value True if any of the values in the list is True.

Date

Some functions require a date as an argument and return a value based on that date. For example, the Month function takes a date as an argument, and returns a string that represents the month part of the date. A date is expressed as a string; examples of date strings are "7/21/88" and "July 22, 1988".

Financial Arguments

AppleWorks GS financial functions return values based on current or projected financial values. For example, the Pmt function calculates the periodic payment necessary to amortize a loan across a fixed number of periods. The Pmt function requires three arguments: the principal amount of the loan, the interest rate of the loan, and the number of periods that make up the term of the loan.

Spreadsheet Cells or Database Fields

You can provide the arguments to AppleWorks GS functions by typing in constant values or by referring to spreadsheet cells or database fields. When you refer to spreadsheet cells or database fields, be careful that the cell or field contains data of the appropriate type.

For example, if the AppleWorks GS function requires a numeric value, be sure to provide as an argument a spreadsheet cell that contains a numeric value or a database field that is a numeric type. If you provide arguments that contain data of an incorrect type, an error message may be returned. Whenever possible, however, AppleWorks GS attempts to evaluate the expression, even if the arguments are the wrong type. For example, if a number is expected by a function and a string is provided, the string is treated as the integer 0. If a string is expected and a number is provided, the number is considered a null string ("").

Functions and Formulas

Functions by Category

The following is a list of the AppleWorks GS functions by category.

Arithmetic Functions

Abs(number)

Returns the absolute value of *number*.

Exp(number)

Returns the value *e* raised to the power of *number*.

Frac(number)

Returns the fractional part of *number*.

Inf

Returns the value infinity.

Int(number)

Returns the integer part of *number*.

Ln(number)

Returns the natural logarithm of *number*, which must be a positive value.

Log(number)

Returns the base 10 logarithm of *number*.

Mod(number1, number2)

Returns *number1* modulo *number2* (the remainder of *number1* divided by *number2*).

Product(numeric list)

Returns the product of all the numbers in *numeric list*.

Round(number1, number2)

Returns the *number1* rounded to the number of decimal places specified by *number2*.

Sgn(number)

Returns the sign of *number*. If *number* is positive, returns 1. If *number* is 0, returns 0. If *number* is negative, returns -1.

Sqrt(number)

Returns the positive square root of *number*. If *number* is negative, the function returns ERROR.

Trigonometric Functions

Acos(number)

Returns in radians the arccosine of *number*.

Asin(number)

Returns in radians the arcsine of *number*.

Atan(number)

Returns in radians the arctangent of *number*.

Cos(number)

Returns the cosine of *number*. The function expects *number* to be expressed in radians.

Degrees(number)

Returns the number of degrees equal to *number* radians. The argument *number* should be entered in radians.

Pi

Returns an approximation of the mathematical constant π (pi).

Radians(number)

Returns the number of radians equivalent to *number* degrees. The function expects *number* to be expressed in degrees.

Functions and Formulas

Sin(number)

Returns the sine of *number*. The function expects *number* to be expressed in radians.

Tan(number)

Returns the tangent of *number*. The function expects *number* to be expressed in radians.

Statistical Functions

Avg(numeric list)

Returns the average of *numeric list*.

Count(list)

Returns the number of items in *list*.

Max(numeric list)

Returns the maximum value in *numeric list*.

Min(numeric list)

Returns the minimum value in *numeric list*.

Random(number)

Returns a random number between 0 and the specified argument (*number*). If the argument is 0 or 1, then Random returns a random value greater than or equal to 0 and less than 1.

Stdv(numeric list)

Returns the standard deviation of the values in *numeric list*.

Sum(numeric list)

Returns the sum of the values in *numeric list*.

Var(numeric list)

Returns the variance of the numbers in the arguments in *numeric list*.

Financial Functions

FV(payment, rate, term)

Calculates the future value of an investment.

IRR(guess, numeric range)

Calculates the internal rate of return on a series of irregular periodic cash flows (*numeric range*).

NPV(rate, numeric range)

Returns the net present value of future payments (*numeric range*).

Pmt(pv, rate, term)

Calculates the periodic payment necessary to amortize a loan across a fixed number of periods.

PV(payment, rate, term)

Calculates the present value of a series of equal periodic payments or of a single investment.

Rate(fv, pv, term)

Calculates the interest rate of return on an investment involving constant, equal periodic payments or a single lump-sum payment.

Term(payment, rate, fv)

Returns the number of periods required to amortize a loan involving constant periodic payments.

Functions and Formulas

String Functions

Concat(string list)

Returns a single string produced by concatenating *string list*.

Len(string)

Returns a number representing the length of *string*.

Lower(string)

Returns *string* with all characters in lowercase.

Null

Returns a null string ("").

Position(string, string)

Returns a number corresponding to the position where the first string argument first occurs in the second string argument.

Proper(string)

Returns a string with the first character displayed in uppercase and all other characters displayed in lowercase.

SubStr(string, start, length)

Returns a substring specified by the two numeric arguments.

Upper(string)

Returns *string* with all characters in uppercase.

Conversion Functions

Asc(string)

Returns the ASCII value of first character in *string*.

Chr(number)

Returns the string value corresponding to the ASCII value specified by *number*.

String(number)

Returns a string equivalent of *number*.

Val(string)

Returns the numeric equivalent of *string*.

Date Functions

Date(number)

Returns the string date equivalent of *number*.

Day(string)

Returns a number representing the day part of the date expressed in *string*.

Month(string)

Returns a string representing the month part of the date expressed in *string*.

NumDate(string)

Returns an integer value representing the date expressed in *string*.

Today

Returns a string representing today's date.

Weekday(string)

Returns a string representing the weekday of the date expressed in *string*.

Functions and Formulas

Year(string)

Returns a number representing the year of the date expressed in *string*.

Logical Functions

And(logical list)

Returns numeric value 1 (true) if all values on *logical list* are true (or evaluate to numeric value 1).

False

Returns numeric value 0. False takes no arguments.

If(logical expression, expression1, expression2)

If *logical expression* is true (or evaluates to numeric value of 1 or any other non-zero value), this function returns the first expression value; otherwise, it returns the second expression value.

IsBlank(expression)

Returns numeric value 1 (true) if *expression* is a null string.

IsEmpty(expression)

Returns numeric value 1 (true) if *expression* is empty.

IsError(expression)

If *expression* evaluates to ERROR, this function returns the value 1 (true).

IsNA(expression)

Returns the value 1 (true) if the *expression* contains the value NA.

IsNumber(expression)

Returns numeric value 1 (true) if *expression* is a number.

IsString(expression)

Returns numeric value 1 (true) if *expression* is a string.

Not(expression)

Returns numeric value 1 (true) if *expression* is false (or evaluates to zero value).

Or(logical list)

Returns numeric value 1 (true) if any of the values in *logical list* are true (or evaluate to numeric value 1).

True

Returns the numeric value 1 (true). True takes no arguments.

Special-Purpose Functions

Alert(String)

Returns an alert box with *string* displayed in the box.

Choose(number, list)

Returns the numeric value in *list* that is in the position specified by *number*.

Error

Returns the value ERROR.

HLookup(value, range, offset)

Looks up *value* in a table contained in the spreadsheet *range*. Finds largest value in first row of *range* that is less than or equal to *value*, and then returns the value found *offset* rows below. (Assumes that the first row of *range* is sorted in increasing order.)

NA

Returns the value N/A.

VLookup(value, range, offset)

Looks up *value* in a table contained in the spreadsheet *range*. Finds largest value in first column of *range* that is less than or equal to *value*, and then returns the value found *offset* columns to the right. (Assumes that the first column of *range* is sorted in increasing order.)

Functions and Formulas

Alphabetical Directory of Functions

The following is an alphabetized directory of the AppleWorks GS functions. This directory includes an explanation and examples of each of the functions supported by the AppleWorks GS spreadsheet and database applications.

Abs(number)

Returns the absolute value of *number*.

Examples:

Abs(-1) returns 1.

Abs(1) returns 1.

Abs(0) returns 0.

Abs(A1) returns the absolute value of the number in spreadsheet cell A1.

Abs([fieldname]) returns the absolute value of the number in database field specified.

Acos(number)

Returns in radians the arccosine of *number*.

Examples:

Acos(-0.5) returns 2.094 ($2\pi/3$ radians).

Acos(A1) returns the arccosine of the value in spreadsheet cell A1.

Acos([fieldname]) returns the arccosine of the value in database field specified.

Alert(String)

Returns an alert box with string displayed in box.

Examples:

The formula

If(IsError(A1), Alert("ERROR IN CELL A1"), NULL)

returns an alert box with the message "ERROR IN CELL A1" if an error is found in spreadsheet cell A1.

And(logical list)

Returns true if all values in *logical list* are true.

Examples:

And(1+1=2, 2+2=4) returns true.

And(A1=B1, C1=D1) returns true if the value in cell A1 equals the value in cell B1 and the value in cell C1 equals the value in cell D1.

Asc(string)

Returns the ASCII value of the first character in *string*.

Examples:

Asc("A") returns 65, the ASCII value of the character "A".

Asc("alphabet") returns 97, the ASCII value of the character "a".

Asc(A1) returns the ASCII code of the first character in spreadsheet cell A1.

Asc([fieldname]) returns the ASCII code of the first character of the value in database field specified.

Asin(number)

Returns in radians the arcsine of *number*.

Examples:

Asin(-0.5) returns -0.524 ($-\pi/6$ radians).

Asin(A1) returns the arcsine of the value in spreadsheet cell A1.

Asin([fieldname]) returns the arcsine of the value in database field specified.

Functions and Formulas

Atan(number)

Returns in radians the arctangent of *number*.

Examples:

Atan(1) returns 0.785 ($\pi/4$ radians).

Atan(A1) returns the arctangent of the value in spreadsheet cell A1.

Atan([fieldname]) returns the arctangent of the value in specified database field.

Avg(numeric list)

Returns the average of *numeric list*.

Examples:

Avg(1, 3, 5) returns 3.

Avg(A1..A10) returns the average of values in cells A1 through A10 (ignores empty cells in a range).

Avg([field1], [field2], ...) returns the average of the values in database fields specified.

Choose(number, numeric/string list)

Returns the numeric value in *numeric/string list* that is in the position specified by the first argument.

Examples:

Choose(2, 5, 6, 8,) returns the value 6 (the second value on the list).

Choose(3, A1..A10) returns the third value in the list of spreadsheet cells from A1 through A10 (ignores empty cells in ranges).

Choose(3, [field1], [field2],...) returns the third value of the list of values found in the specified database fields.

Chr(number)

Returns the string value corresponding to the ASCII value specified by *number*.

Examples:

Chr(65) returns "A", the character represented by ASCII value 65.

Chr(97) returns "a", the character represented by ASCII value 97.

Chr(A1) returns the character represented by the ASCII code of the value in spreadsheet cell A1.

Chr([fieldname]) returns the character represented by the ASCII code in the database field specified.

Concat(string list)

Returns a single string produced by concatenating *string list*.

Examples:

Concat("see", " the", " cat") returns the single string "see the cat".
(Whereas Concat("see", "the", "cat") returns the single string "seethe-cat".)

Concat("hello", " world") returns the single string "hello world".

Concat(A1, A2, A3) returns a single string by combining the values in spreadsheet cell A1, A2, and A3.

Concat([field1], [field2], [field3]) returns a single string by combining the values in the database fields specified.

Cos(number)

Returns the cosine of *number*. The function expects *number* to be expressed in radians.

Examples:

Cos(1.047) returns 0.5.

Cos(A1) returns the cosine of the value in spreadsheet cell A1.

Cos([fieldname]) returns the cosine of the value in database field specified.

Functions and Formulas

Count(list of cells or fields)

Returns the number of cells or fields containing values.

Examples:

Count(A1..A10) returns the number of spreadsheet cells in the range A1 through A10 that contain values.

Count([field1], [field2], ...) returns the number of database fields that contain values among the fields listed.

Date(number)

Returns the string date equivalent of *number*. The value 1 returns the date "Jan. 1, 1900", the value 2 returns "Jan. 2, 1900", and so forth.

Examples:

Date(10894) returns the date "Oct. 29, 1929".

Date(32873) returns the date "Jan. 1, 1990".

Date(A1) returns the date equivalent of the numeric value in spreadsheet cell A1.

Date([fieldname]) returns the date equivalent of the numeric value in the database field specified.

Day(string)

Returns a number representing the day portion of the date represented by *string*.

Examples:

Day("Jan. 24, 1988") returns 24.

Day("Jan 1, 1989") returns 1.

Day(A1) returns the day part of the date in spreadsheet cell A1.

Day([fieldname]) returns the day part of the date value in the database field specified.

Degrees(number)

Returns the value of *number* in degrees. The argument *number* should be entered in radians.

Example:

Degrees(Pi) returns the value 180, the number of degrees equivalent to pi radians.

Degrees(3.14) returns the value 179.9087476, the number of degrees equivalent to 3.14 radians.

Error

Returns the value ERROR in red.

Example:

Error returns value ERROR.

Exp(number)

Returns the value e raised to the power of *number*. The symbol e represents the mathematical constant 2.7182818..., the base of the natural logarithm. The EXP function is the inverse of the natural logarithm function LN.

Examples:

Exp(-1) returns .368.

Exp(0) returns 1.

Exp (1) returns 2.718.

Exp(A1) returns value of e, raised to the numeric value found in spreadsheet cell A1.

Exp([field]) returns value of e, raised to the numeric value found in the specified database field.

Functions and Formulas

False

Returns the value 0. False takes no arguments.

Example:

False returns value False (0).

Frac(number)

Returns the fractional part of *number*.

Examples:

Frac(3.5) returns 0.5.

Frac(2.75) returns 0.75.

Frac(A1) returns the fractional part of the value in spreadsheet cell A1.

Frac([fieldname]) returns the fractional part of the value in the database field specified.

FV(payment, rate, term)

Calculates the future value of an investment. *Payment* is the payment, the amount of the periodic investment; the payment should be entered as a positive value, and a leading dollar sign is optional. *Rate* is the interest rate; the rate may be entered as a percent value (such as 10%) or a decimal value (such as 0.10). *Term* is the number of periods making up the term of the investment.

Example:

FV(5000, 8%, 20) returns the future value of an investment of \$5000 at an annual rate of 8% after 20 years.

HLookup(value, range, offset)

Looks up *value* in a table contained in the spreadsheet *range*. Finds the largest value in the first row of the *range* which is less than or equal to *value*, and then returns the value found *offset* rows below. (Assumes that the first row of the range is sorted in increasing order.)

Example:

HLookup(2, A1..D4, 3) returns the value found using this method:

- finds largest value in row A1 to D1 which is less than or equal to 2
- finds cell 3 rows down from top of range (the offset value), and returns the value in that cell.

If(logical expression, expression1, expression2)

If *logical expression* is true, this function returns *expression1*; otherwise, it returns *expression2*.

Examples:

If(A1<90, "B", "A") returns the value "B" if the value in cell A1 is less than 90; otherwise, it returns the value "A."

If(A1=B1, 10.5, 12.75) returns the value 10.5 if the value in cell A1 is equal to the value in cell B1; otherwise, it returns the value 12.75.

Inf

Returns the value of infinity.

Int(number)

Returns the integer part of *number*.

Examples:

Int(3.5) returns 3.

Int(2.75) returns 2.

Int(A1) returns the integer part of the value in spreadsheet cell A1.

Int([fieldname]) returns the integer part of the value in the database field specified.

Functions and Formulas

IRR(guess, numeric range)

Calculates the internal rate of return on a series of irregular periodic cash flows (*numeric range*). The internal rate of return is the rate that causes the net present value of the cash inflows from an investment to equal the cost of the investment. The *guess* parameter is your best guess of the approximate rate of return; the IRR function uses this guess as the starting point for its calculations. You can enter the *guess* parameter as a decimal value or as a percentage; the values 10% or 0.10 would be treated as the same value. Use IRR to compare the attractiveness of investment opportunities.

Examples:

IRR(0.10, A1..A10) returns the internal rate of return on an investment that pays the periodic values stored in spreadsheet cells A1 through A10. The guess is .1, meaning that you think the rate is approximately 10%.

IsBlank(expression)

Returns numeric value 1 (true) if *expression* is a null string.

Example:

IsBlank(A1) returns value 1 if cell A1 contains no value.

IsEmpty(expression)

Returns true if the specified cell, field, or *expression* is empty.

Examples:

IsEmpty(A1) returns true if the cell A1 contains no value.

IsEmpty([Field1]) returns true if Field1 contains no value.

IsError(expression)

Returns the value 1 (true) if *expression* evaluates to ERROR.

Example:

IsError(SQRT(A1)) returns 1 (true) if the value in cell A1 is less than 0, since attempting to evaluate the square root of a negative value produces an error.

IsNA(expression)

Returns the value 1 (true) if the parameter value is the special N/A value.

Example:

IsNA(A3) returns 1 if the cell A3 contains the special value N/A.

IsNumber(expression)

Returns true if *expression* (a cell, field, or expression) is a number.

Examples:

IsNumber(A1) returns true if the cell A1 contains a number value.

IsNumber([Field1]) returns true if the field named Field1 contains a number.

IsString(expression)

Returns true if *expression* (a cell, field, or expression) is a string.

Examples:

IsString(A1) returns true if the cell A1 contains a string value.

IsString([Field1]) returns true if the field named Field1 contains a string.

Len(string)

Returns a number representing the length of *string*.

Examples:

Len("Cat") returns 3.

Len("Hello") returns 5.

Len(A1) returns the length of the string value in spreadsheet cell A1.

Len([fieldname]) returns the length of the string value in database field specified.

Functions and Formulas

Ln(number)

Returns the natural logarithm of *number* (which must be a positive value). The Ln function is the inverse of the Exp function.

Examples:

Ln(1) returns numeric value 0.

Ln(100) returns numeric value 4.605.

Ln(0) returns INF.

Ln(A1) returns natural log of numeric value found in spreadsheet cell A1.

Ln([field]) returns natural log of numeric value found in database field.

Log(number)

Returns the base 10 logarithm of *number*.

Examples:

Log(1) returns numeric value 0.

Log(100) returns numeric value 2.

Log(0) returns INF.

Log(A1) returns common log of numeric value found in spreadsheet cell A1.

Log([field]) returns common log of numeric value found in database field.

Lower(string)

Returns *string* with all characters in lowercase.

Examples:

Lower("CAT") returns string "cat".

Lower(A1) returns string in spreadsheet cell A1, with all characters converted to lowercase.

Lower([field]) returns string in database field, with all characters converted to lowercase.

Max(numeric list)

Returns the maximum value in *numeric list*. The elements in the numeric list can include spreadsheet cell ranges.

Examples:

Max(2, 10, 4, 6) returns 10.

Max(A1..A10) returns the maximum value found in the range of spreadsheet cells from A1 through A10, ignoring empty cells and cells containing strings.

Max(2, 3, A1..A5, 89) returns the maximum value found on the list.

Max([field1], [field2], ...) returns the maximum value in the database fields specified.

Min(numeric list)

Returns the minimum value in *numeric list*. The elements of the numeric list can include spreadsheet cell ranges.

Examples:

Min(2, 10, 4, 6) returns 2.

Min(A1..A10) returns the minimum value found in the range of spreadsheet cells from A1 through A10, ignoring empty cells and cells containing strings.

Min(2, 3, A1..A5, 89) returns the minimum value found on the list.

Min([field1], [field2], ...) returns the minimum value in the database fields specified.

Functions and Formulas

Mod(number1, number2)

Returns *number1* modulo *number2* (the remainder of *number1* divided by *number2*).

Examples:

Mod(10, 3) returns numeric value 1.

Mod(3, 0) returns value ERROR.

Mod(A1, A2) returns remainder when the numeric value found in spreadsheet cell A1 is divided by value in spreadsheet cell A2.

Mod([field1], [field2]) returns remainder when numeric value found in database field1 is divided by value found in database field2.

Month(string)

Returns a string for the month portion of the date represented by *string*. The *string* may be expressed in any of these forms: mm/dd/yy; mm/dd/yyyy; Mon. dd, yyyy; Month dd, yyyy.

Examples:

Month("Jan. 24, 1988") returns "Jan."

Month("2/1/89") returns "Feb."

Month(A1) returns the month portion of the date in spreadsheet cell A1.

Month([fieldname]) returns the month portion of the date value in the database field specified.

NA

Returns the value N/A.

Not(expression)

Returns 1 (true) if expression is false (returns a zero value).

Examples:

Not(0) returns value 1.

Not(1) returns value 0.

Not(10) returns value 0.

Not(A1) returns value 1 if value in spreadsheet cell A1 evaluates to 0; otherwise returns value 0.

Not({field}) returns value 1 if value in database field evaluates to 0; otherwise returns value 0.

NPV(rate, numeric range)

Returns the net present value of future payments. *Rate* represents a discount rate; you can enter the rate as a percent value (such as 10%) or a decimal value (such as 0.10). The *numeric range* represents the amount of the investment and is a list of future credits and debits. Income is represented by positive values in the list, and payments are represented by negative values in the list. The future payments are assumed to occur at equal time intervals, and the first payment is assumed to occur at the end of the first time interval.

Example:

NPV(12%, A1..A10) describes the net present value of three future payments of the numeric values contained in spreadsheet cells A1 through A10, invested at a constant interest rate of 12%.

Null

Returns a null string ("").

Example:

Null returns the null string "".

Functions and Formulas

NumDate(string)

Returns an integer value for the date represented by *string*. Jan. 1, 1900 is assigned the numeric value 1, Jan. 2, 1900 is assigned the value 2, and so forth. The *string* may be expressed in any of these forms: mm/dd/yy; mm/dd/yyyy; Mon. dd, yyyy; Month dd, yyyy.

Examples:

NumDate("Jan. 1, 1900") returns the value 1.

NumDate("Jan. 1, 1989") returns the value 32508.

NumDate(A1) returns the numeric equivalent of the date string value in spreadsheet cell A1.

NumDate([fieldname]) returns the numeric equivalent of the date string value in database field specified.

Or(logical list)

Returns true if any of the values in *logical list* are true.

Examples:

Or(1+1=2, 2+2=5) returns true, since the first argument is true.

Or(A1=B1, C1=D1) returns true if the value in cell A1 equals the value in cell B1 or the value in cell C1 equals the value in cell D1.

Pi

Returns an approximation of the mathematical constant π (pi). Returns 3.14159... to the number of decimal places specified in the application. The Pi function takes no argument.

Example:

Pi returns 3.14159..., with the number of decimals determined by the format of the cell or field displaying the value.

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Pmt(pv, rate, term)

Calculates the periodic payment necessary to amortize a loan across a fixed number of periods. *Pv* is the present value or principal amount of the loan; enter *pv* as a positive value with an optional leading dollar sign. *Rate* is the interest rate of the loan; you can enter *rate* as a percent value (such as 10%) or a decimal value (such as 0.10). *Term* is the number of periods that make up the term of the loan.

Example:

`Pmt(10000, 10.5%, 240)` returns the monthly payment on a loan of \$10,000 at an interest rate of 10.5% for 240 months.

Position(string, string)

Returns a number corresponding to the position where the first argument string first occurs in the second argument string.

Examples:

`Position("d", "abcde")` returns the value 4, the position where the first argument first occurs in the second string.

`Position("world", "Hello world")` returns the value 7.

`Position("ap", "apples and applications")` returns the value 1.

`Position(A1, A2)` returns the location of cell A1's string value within cell A2's string value.

`Position([field1], [field2])` returns the location of field1's string value within field2's string value.

Product(numeric list)

Returns the product of all the numbers on *numeric list*.

Examples:

`Product(2, 3, 4)` returns 24.

`Product(A1..A10)` returns the product of the values found in the spreadsheet range from A1 through A10 (ignores empty cells in ranges or cells containing strings).

`Product([field1], [field2],...)` returns the product of the values found in the specified database fields.

Functions and Formulas

Proper(string)

Returns a string with the first character in the string converted to uppercase and all other characters in lowercase.

Examples:

Proper("robert") returns "Robert".

Proper(A1) returns the string found in cell A1, with the first character converted to uppercase, and all other characters converted to lowercase.

Proper([field]) returns the string found in the database field, with the first character converted to uppercase, and all other characters converted to lowercase.

PV(payment, rate, term)

Calculates the present value of a series of equal periodic payments or of a single investment. *Payment* is the amount of the investment or periodic payment; enter payment as a positive value, with an optional leading dollar sign. *Rate* is the discount rate; you can enter *rate* as a percent value (such as 10%) or a decimal value (such as 0.10). *Term* is the number of periods that make up the term of the investment.

Example:

PV(10000, 8%, 10) returns the present value (the value today) of a payment of \$10000 invested at an annual rate of 8% for 10 years.

Radians(number)

Returns the number of radians equivalent to *number* degrees. The function expects the number to be expressed in degrees.

Example:

Radians(180) returns the value 3.14 (an approximation of pi), which expresses the number of radians equivalent to 180 degrees.

Random(number)

Returns a random number between 0 and (*number* - 1). If the argument is 0 or 1, then Random returns a random value greater than or equal to 0 and less than 1.

Examples:

Random(50) returns a random number between 0 and 49, inclusive.

Random(0) or Random(1) returns a random number greater than 0 and less than 1.

Random(A1) returns a random number between 0 and the value in spreadsheet cell A1 minus 1.

Random([fieldname]) returns a random number between 0 and the value in the database field specified minus 1.

Rate(fv, pv, term)

Calculates the interest rate of return on an investment involving constant, equal periodic payments or a single lump-sum payment. *Fv* is the future value of the loan; enter *fv* as a positive value with an optional leading dollar sign. *Pv* is the present value of the investment; enter *pv* as a positive value, with an optional leading dollar sign. *Term* is the number of periods that make up the term of the investment.

Example:

Rate(10000, 2000, 5) returns the rate of return of an investment whose present value is \$2000 and future value is \$10000 over 5 periods.

Round(number, number)

Returns the first argument, rounded up to the number of decimal places specified by the second argument.

Examples:

Round(3.14, 1) returns 3.1.

Round(2.789, 2) returns 2.79.

Round(1.5, 0) returns 2.

Round(1, A1) returns the value in spreadsheet cell A1, rounded to 1 decimal place.

Round([fieldname]) returns the value in the database field specified, rounded to one decimal place.

Functions and Formulas

Sgn(number)

Returns 1, 0, or -1, depending on the sign of *number*.

Examples:

Sgn(2) returns 1.

Sgn(-2) returns -1.

Sgn(0) returns 0.

Sgn(A1) returns the sign of the value in spreadsheet cell A1.

Sgn([fieldname]) returns the sign of the value in the specified database field.

Sin(number)

Returns the sine of *number*. The function expects the number to be expressed in radians.

Examples:

Sin(0) returns 0 (sine of 0 radians).

Sin(Pi) returns 0 (sine of π radians).

Sin(A1) returns the sine of the value in spreadsheet cell A1.

Sin([fieldname]) returns the sine of the value in the database field specified.

Sqrt(number)

Returns the positive square root of *number*. If the number is negative, the function returns ERROR.

Examples:

Sqrt(16) returns 4.

Sqrt(0) returns 0.

Sqrt(-1) returns ERROR.

Sqrt(A1) returns the square root of the value in spreadsheet cell A1.

Sqrt([fieldname]) returns the square root of the value in database field specified.

Stdv(numeric list)

Returns the standard deviation of the numeric values in *numeric list*.

Examples:

Stdv(2, 7, 9, 10, 27) returns 9.46.

Stdv(A1..A10) returns the standard deviation of the values found in spreadsheet cells A1 through A10 (ignoring empty cells in ranges).

Stdv([field1], [field2],...) returns the standard deviation of the values found in the specified database fields.

String(number)

Returns a string equivalent of the numeric argument. Use this function to convert a number into a string, so that other string functions can operate on it.

Examples:

String(43) returns the string "43".

String(999) returns the string "999".

String(A1) returns the string equivalent of the numeric value in spreadsheet cell A1.

String([fieldname]) returns the string equivalent of the numeric value in the database field specified.

Functions and Formulas

SubStr(string, start, length)

Returns a substring specified by the two numeric arguments, *start* and *length*. The first argument is a string, from which a substring is extracted. The argument *start* specifies the starting position of the substring and the *length* argument specifies the length of the substring.

Examples:

SubStr("Hello world", 7, 5) returns "world".

SubStr("abcdefg", 3, 2) returns "cd".

SubStr(A1, 3, 5) returns the substring found beginning at position 3 and extending for 5 characters within cell A1's string value.

SubStr([fieldname], 3, 5) returns the substring found beginning at position 3 and extending for 5 characters within the field's string.

Sum(numeric list)

Returns the sum of the numbers in *numeric list*.

Examples:

Sum(1, 3, 5) returns 9.

Sum(A1..A10) returns the sum of the values found in spreadsheet cells A1 through A10 (ignoring empty cells).

Sum([field1], [field2], ...) returns the sum of the values found in the specified database fields.

Tan(number)

Returns the tangent of the number. The function expects the number to be expressed in radians.

Examples:

Tan(Pi/4) returns 1 (tangent of $\pi/4$ radians).

Tan(A1) returns the tangent of the value in spreadsheet cell A1.

Tan([fieldname]) returns the tangent of the value in the database field specified.

Term(payment, rate, fv)

Returns the number of periods required to amortize a loan involving constant periodic payments. *Rate* is the interest rate of the loan; you can enter rate as a percent value (such as 10%) or a decimal value (such as 0.10). *Payment* is the periodic payment; enter *payment* as a positive value, with an optional leading dollar sign. *Fv* is the future value of the loan; enter *fv* as a positive value, with an optional leading dollar sign.

Example:

Term(1000, 8%, 50000) returns the number of periods required to amortize a loan of \$50000 at 8% with payments of \$1000 per period.

Today

Returns a string representing today's date. (The date is taken from the internal clock on your Apple II GS. If the date is incorrect, use the Apple II GS Control Panel to reset the date.)

Example:

Today returns "Jan. 1, 1989", or a similar string that corresponds to the current date.

True

Returns the value 1. True takes no arguments.

Example:

True returns numeric value 1.

Upper(string)

Returns *string* with all characters in uppercase.

Examples:

Upper("robert") returns "ROBERT".

Upper(A1) returns the string found in cell A1, with all characters converted to uppercase.

Upper([field]) returns the string found in the database field, with all characters converted to uppercase.

Functions and Formulas

Val(string)

Returns the numeric equivalent of the string argument. Use this function to convert a number currently expressed as a string into its numeric equivalent, so that other numeric functions can operate on it.

Examples:

Val("43") returns the numeric value 43.

Val("999") returns the numeric value 999.

Val(A1) returns the numeric equivalent of the string value in spreadsheet cell A1.

Val([fieldname]) returns the numeric equivalent of the string value in the database field specified.

Var(numeric list)

Returns the variance of the numbers in the arguments in *numeric list*. Var assumes that the numbers in *numeric list* are sample numbers and not the total population, and provides the best estimate of the population variance. If *numeric list* represents the entire population rather than a sample, you can calculate the variance for the entire population by including the average of the sample in *numeric list*.

Example:

Var(A1..A20) returns the variance of the values in spreadsheet cells A1 to A20.

VLookup(value, range, offset)

Looks up *value* in a table contained in the spreadsheet range. Finds largest value in first column of the *range* which is less than or equal to *value*, and then returns the value found *offset* columns to the right. (This assumes that the first column of the range is sorted in increasing order.)

Example:

VLookup(2, A1..A4, 3) returns value found using this search method:

- finds largest value in column A1 to A4 less than or equal to 2, and then
- finds cell 3 columns to the right in the range (the offset value), and returns the value in that cell.

Weekday(string)

Returns a string representing the weekday for a given date (represented by *string*).

Examples:

Weekday("Jan. 24, 1988") returns "Monday".

Weekday("June 21, 1988") returns "Tuesday".

Weekday(A1) returns the weekday of the date in spreadsheet cell A1.

Weekday([fieldname]) returns the weekday of the date value in the database field specified.

Year(string)

Returns a number representing the year portion of the date represented by *string*.

Examples:

Year("Jan. 24, 1988") returns 1988.

Year("Jan. 1, 1989") returns 1989.

Year(A1) returns the year of the date in spreadsheet cell A1.

Year([fieldname]) returns year of the date value in the database field specified.

Functions and Formulas

Formulas in the Database and Spreadsheet Applications

You can place a formula in any spreadsheet cell or in a database field. A formula lets you calculate a new value for a cell or field based on other existing values.

A formula in a spreadsheet cell can calculate a new value based on constant values, references to other cells, and values provided by calculated expressions. You can also use any of the AppleWorks GS functions as elements of a spreadsheet formula.

The database application lets you place a field formula in a calculated database field. A database field formula calculates a value based on information provided by references to other fields, by constant values, and by calculated expressions. You can also use any of the AppleWorks GS functions as elements of a field formula. (You can't use functions that require a range of spreadsheet values, including NPV, IRR, HLookup, and VLookup.)

Because a calculated field can derive information from other fields in a record, the value of the calculated field can change from record to record.

Elements of a Formula

Formulas in both the spreadsheet and database applications can contain a number of different elements. The elements can include constant values, operators, references to spreadsheet cells or database fields, AppleWorks GS functions, and expressions created by combinations of these elements.

Each formula in a spreadsheet must begin with an equal sign (=). When you create a spreadsheet formula, type an equal sign as the first element of the formula.

Many different elements may follow, including constants, expressions, and functions. In the spreadsheet, a formula in a cell may also contain a reference to the contents of other spreadsheet cells. In the database, the field formula may contain references to the contents of other database fields.

Constants

A constant is a value in an expression that doesn't change. A constant can be a number or a string. Some strings, such as street addresses, might begin with a number; if you include a string constant in a formula, the string must begin and end with quotation marks.

Example

Numeric constants: 25, 100, 98.6, 1.024e6, \$100, 10%.

String constants: "Robert", "Susan", "5250 Gulfton".

References to Spreadsheet Cells

A spreadsheet formula may include references to values found in other spreadsheet cells. These references can be either *absolute references* or *relative references*. When you create a formula in a spreadsheet cell, both absolute and relative references produce the same results in that original cell. However, if you copy the formula into a new cell, the formula is interpreted differently in the new cell, depending upon whether the references are absolute or relative.

Absolute References

An absolute reference always refers to the same location, even if the formula is copied from its original location to a different location. For example, if a formula in cell B1 refers to cell A1 as an absolute reference, the formula will always refer to cell A1, even if the formula is copied to other cells later.

Relative References

A formula can contain a reference to a cell as a relative reference. A formula with a relative reference refers to different locations, depending upon the current location of the formula.

In its original cell, a formula with a relative reference refers to one particular cell. (For example, it might refer to a cell in the same row and two columns to the left.)

When this formula is copied to a new location, the formula now refers to a different cell. (For instance, it might refer to the cell in the same row and two columns to the left of the new cell.)

Functions and Formulas

For example, if you type the formula “=A1” into cell B1, the formula places the value of cell A1 into cell B1, and the formula refers to cell A1 as a relative reference. (The relative reference refers to the cell in the same row and one column to the left of the current cell, which is A1’s location relative to B1.)

If you copy this formula containing this relative reference into a new cell, the formula no longer refers to cell A1; rather, it refers to the cell which is located in the same row and one column to the left of the new cell.

Creating Relative and Absolute References

Most of the cell references that you use will be relative references. If you want to refer to a cell in a formula by relative reference, you should type in the column letter and row number of the cell.

For example, if you type the formula “=A1” into cell B1, the reference to cell A1 is a relative reference. The formula refers to the cell in the same row as cell B1 and located one column to the left.

If you copy this formula into a different cell, it no longer refers to cell A1; rather, it refers to the cell in the same row as the new cell and located one column to the left.

When you refer to a cell by absolute reference, the reference does not change when the formula is copied to a new cell. To create an absolute reference, place the \$ character before the element of the reference that you want to remain unchanged when you copy the formula to another location. For example, if you type the formula “=\$A\$1” into cell B1, the formula always refers to cell A1, even if you copy the formula into a new location.

If you place the \$ character before both the column reference and the row reference, the formula refers to the cell in the same row and same column, regardless of the location of the new cell. When this reference is copied to another cell, the reference always refers to the original cell.

Mixing Relative and Absolute References

A reference can contain a mixture of both absolute and relative references. Interpreting these mixed references can be a little tricky.

A reference can contain the \$ character before only the column reference. An example of this type of mixed reference might be \$A1.

When a mixed reference of this type is copied to a new location, a copy of the reference refers to the cell that is:

- in the same column as the original reference, and
- in the row that is in the same relative location as the original formula cell and original referenced cell.

A reference could also contain the \$ character placed before only the row reference. An example of this type of mixed reference might be A\$1.

When a mixed reference of this type is copied to a new location, a copy of the reference refers to the cell that is:

- in the same row as the original reference, and
- in the column that is in the same relative location as the original formula cell and original referenced cell.

In summary, a reference to a cell can be a relative reference, an absolute reference, or a mixed reference. To illustrate each type of reference, suppose that you type one of the following formulas into cell B1. When you copy the formula to a different cell, different results are seen.

Absolute and Relative References

| Formula: | Result when copied to a new cell: |
|----------|--|
| =A1 | Refers to cell in same row as the new cell, one column to the left of the new cell |
| =\$A\$1 | Refers to cell A1, regardless of the location of the new cell |
| =\$A1 | Refers to the cell in column A, in the same row as the new cell |
| =A\$1 | Refers to the cell in row 1, one column to the left of the new cell |

Functions and Formulas

References to Database Fields

When you create a formula in the database to calculate a value for a database field, the formula is similar to a spreadsheet formula. The formula must begin with an equal sign and contain any combination of constants, expressions, and functions.

In addition, the formula can contain references to the values in other database fields. To include the value in another database field, you can click the name of the desired field in the Field Formula dialog box.

When you click the name of a field, that field is automatically inserted into the formula at the insertion point.

You can also type the name of a field into a formula at the insertion point. When you type a field name into a formula, the name of the field must begin with an opening square bracket ([), and must end with a closing square bracket (]). An example of a formula containing field names would be:

`=[field1] + [field2]`

Expressions

An expression is any element that can be evaluated to produce a value. An expression can be as simple as a number, or as complicated as the most complex arithmetical formula. Examples of formulas which contains expressions might be:

- 43
- 43+24
- (43+24)/(879.43*34.9)

The parts of an expression can be combined with arithmetic operators, comparison operators, or logical operators.

Arithmetic Operators

The numeric elements of an expression can be combined using arithmetic operators. An operator performs some operation on one or more values, called operands. For example, the addition operator (+) adds one operand (the value to the left of the plus sign) to a second operand (the value to the right of the plus sign).

The arithmetic operators available in AppleWorks GS are summarized in the following table.

AppleWorks GS Arithmetic Operators

| Symbol: | Name: | Use: | Operation: |
|---------|----------------|----------|----------------------------------|
| - | unary minus | -operand | Reverses the sign of the operand |
| + | unary plus | +operand | Retains the sign of the operand |
| ^ | exponentiation | op1^op2 | Raises op1 to power of operand2 |
| * | multiplication | op1*op2 | Multiplies operand1 by operand2 |
| / | division | op1/op2 | Divides operand1 by operand2 |
| + | addition | op1+op2 | Adds operand1 to operand2 |
| - | subt: action | op1-op2 | Subtracts op2 from op1 |

The operators are listed in order of precedence, decreasing from top to bottom. You can use parentheses to group elements of an expression to override the order of precedence, if necessary.

Comparison Operators

Logical expressions can also contain comparison operators and logical operators. For example, the If function uses a logical expression to decide which of two actions to take, and the logical expression often contains a comparison operator.

Here are two examples of logical expressions containing comparison operators:

| Example: | Result: |
|------------------------------|---|
| If (A1=A2, A3, A4) | Tests if value in cell A1 is equal to value in cell A2. If values are equal, returns value in cell A3. If values are not equal, returns value in cell A4. |
| If ([field1]=[field2], 1, 0) | Tests if value in database field1 is equal to value in database field2. If values are equal, returns value 1. If values are not equal, returns value 0. |

Functions and Formulas

The comparison operators are described in the table below.

| Symbol: | Name: | Example: | Operation: |
|----------------|--------------------------|------------------|--|
| = | Equals | If (op1=op2 ... | Tests if value of operand1 is equal to value of operand2 |
| <> | Not equals | If (op1<>op2 ... | Tests if value of operand1 is not equal to value of operand2 |
| > | Greater than | If (op1 > op2... | Tests if value of operand1 is greater than value of operand2 |
| >= | Greater than or equal to | If (op1 >=op2... | Tests if value of operand1 is greater than or equal to value of operand2 |
| < | Less than | If (op1 < op2.. | Tests if value of operand1 is less than value of operand2 |
| <= | Less than | If (op1<=op2... | Tests if value of operand1 is less than or equal to value of operand2 |

You can substitute the symbol =< for the symbol <=, and you can substitute the symbol => for the symbol >=. You can also substitute the symbol x for the symbol <>.

All of the comparison operators in this table have lower precedence than any of the numeric operators.

Logical Operators

Logical expressions can also contain logical operators. A logical operator performs an operation on operands that have values of true or false.

Here are two examples of logical expressions containing logical operators:

| Example: | Result: |
|------------------------------|--|
| If (A1&A2, A3, A4) | Tests if the logical values in cells A1 and A2 are both true (non-zero). If values are both true, returns value in cell A3. If values are not both true, returns value in cell A4. |
| If ([field1]&[field2], 1, 0) | Tests if values in database field1 and field2 are both true (non-zero). If values are both true, returns value 1. If values are not equal, returns value 0. |

The logical operators are described in the table below.

| Symbol: | Name: | Example: | Operation: |
|---------|-------------|------------------|---|
| & | Logical And | If (op1&op2... | Tests if value of both operand1 and operand2 are true. Returns true if both are true; otherwise returns false. |
| | Logical Or | If (op1 op2... | Tests if value of either operand1 or operand2 is true. Returns true if either is true; returns false if both are false. |
| ~ | Not | ~ operand... | Reverses the logical value of operand. |

Functions and Formulas

Summary of Order of Precedence

The order of precedence of operators defines the order in which operations are performed when an expression is evaluated. For example, in AppleWorks GS the multiplication operator (*) is ranked higher in precedence than the binary addition operator (+). This means that multiplication operations are performed before any addition operations are performed. Think about an expression like this:

$$4 + 5 * 3$$

There are two possible values for this expression. If the addition operator had higher precedence than the multiplication operator, you would perform addition first, so the expression would evaluate to $9 * 3$, or a value of 27. However, in AppleWorks GS, the multiplication operator has a higher precedence than the addition operator, so the expression evaluates to $4 + 15$, or a value of 19.

The order of precedence of the AppleWorks GS operators is summarized in the following table, with the highest precedence first and decreasing in precedence:

Order of Precedence for AppleWorks GS Operators

~ - + (unary operators, used before a single operand)

^

* /

+ - (binary operators, used between two operands)

< > <= >=

= <>

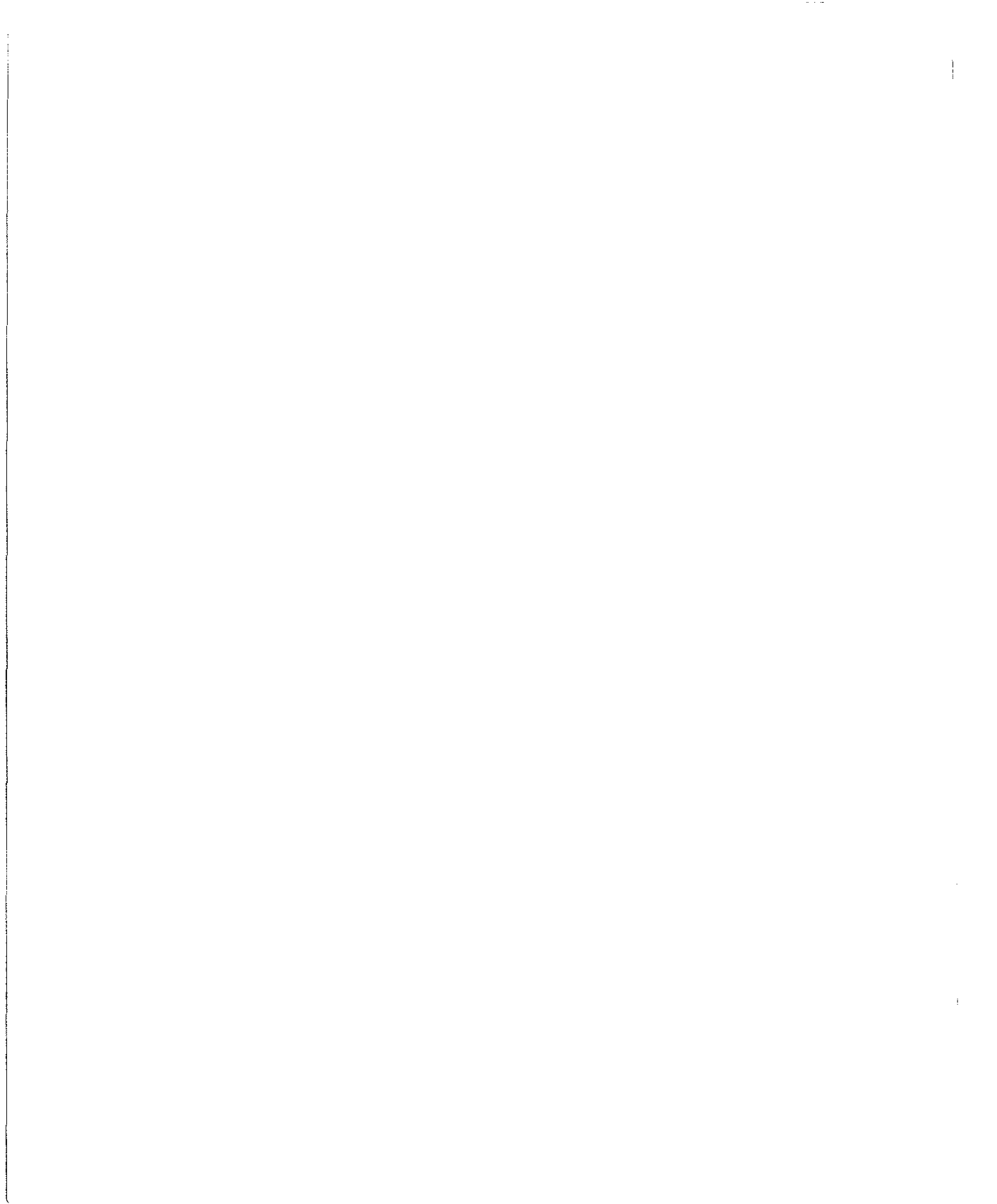
&

|

Functions in Expressions

In addition to constants, cell values, and field values, an expression can contain any of the AppleWorks GS functions described above. Some examples of expressions that contain functions are given below:

- = 43 / Log(4.3)
- = 43 * Sin(6.7)
- = A1 * Cos(A2)
- = [field1] + sqrt([field2])



Sort Order for Text

AppleWorks GS uses a specific ordering system when it sorts text fields in the database application and labels in the spreadsheet application. This ordering system is based on a special application of the ASCII sequence.

ASCII, an acronym for American Standard Code for Information Interchange, is a uniform code used by almost all microcomputers to represent characters. A group of special characters is sorted with the highest precedence, followed by the numbers 0-9, followed by another group of special characters, followed by uppercase and lowercase letters, followed by a final group of special characters.

There is one major difference between the ASCII sort order used by AppleWorks GS and the normal ASCII sequence. The ASCII sequence gives all uppercase letters precedence over all lowercase letters. AppleWorks GS gives uppercase letters precedence over lowercase letters only when two different cases of the same letter are involved. For example, if you're sorting "Allen" and "allen," the two names will be sorted this way:

Allen
allen

If you're sorting "allen" and "Zelda," on the other hand, the two names will be sorted like this:

allen
Zelda

Sort Order for Text

Here is the order in which AppleWorks GS sorts text. (Read down one column and then go to the top of the next.)

| | | | | |
|-------|---|-------|---------|---|
| Space | (| 0...9 | @ | ' |
| ! |) | : | Aa...Zz | { |
| " | * | ; | [| |
| # | + | < | \ | } |
| \$ | , | = |] | ~ |
| % | . | > | ^ | |
| ' | / | ? | - | |

If you're sorting text that combines numbers and letters—names and addresses, for example—you'll find that numbers come before letters and that some special characters come before both. You'll want to be especially careful with spaces—they're at the very top of the sort order, and it's very easy to insert a blank space in front of a group of characters.

If you try to sort numbers alphabetically (as text characters rather than as numeric values), you'll get results that may not seem to make sense to you. For example, if you sort the numbers 9888 and 99 alphabetically, the number 9888 will fall before 99, because the numbers are sorted in alphabetical and not numeric order.

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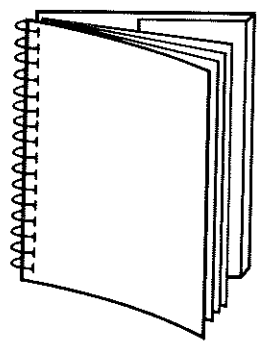
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