

brother®

GeoBook

all notebook
NB-60, NB-80C

Book 2

Word Processing, Spreadsheet, Drawing,
Scrapbook, Addressbook, Planner
Book Reader, Text File Editor, Games &
Glossary



US ENGLISH

About this Manual

In this manual, Book 2, look for information on these desktop publishing, personal planning, and electronic accessory programs:

- **Word Processing.** Creates, edits, and prints documents, such as memos, letters, and reports.
- **Spreadsheet.** Creates and edits Spreadsheet documents, performs calculations, and creates charts.
- **Drawing.** Creates graphics by drawing and painting, or by importing and editing.
- **Scrapbook.** Stores a graphic or piece of text for placing in a Word Processing, Spreadsheet, or Drawing document. Also allows you to place clip art, which is supplied on diskette.
- **Addressbook.** Stores names and addresses and other information for reference, including email addresses.
- **Planner.** Schedules appointments on a perpetual calendar.
- **Book Reader.** Opens books on screen.
- **Text File Editor.** Creates and edits DOS text files. This program is on diskette.
- **Games.** Solitaire and Turnabout are on diskette.

This manual assumes you are familiar with the basics of using programs such as opening and saving documents and working with menus. If not, see Getting Started in Book 1 for basic information.

In Book 1 you will also find instructions on using File Manager to organize your documents; sending email; browsing the World Wide Web; and using the Function Key accessories: Calculator, World Clock, and To Do List.

Model Number:	Serial Number:
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Keep this manual in a safe place for future reference. We recommend that you write the unit's model number and serial number (from the rear panel of the keyboard/printer unit) in the blank spaces at the top of the previous page.

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WARNING – FOR YOUR HEALTH

To avoid repetitive motion injuries when using this keyboard, we recommend the following steps: maintain a comfortable, straight wrist position when typing, take breaks, at least every hour, to stretch hands and arms, and report any pain or other symptoms to your physician.

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1 Word Processing

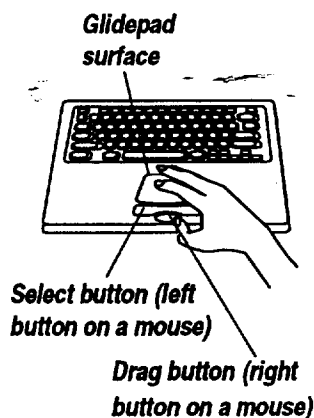
Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- Working with Documents
- Saving Documents
- Working with Menus
- Working with Dialog Boxes

This chapter explains how to create almost any type of document. It also explains how to write a form letter and merge it with names and addresses from Addressbook or Spreadsheet.

Word Processing Tips

To select (or click on) an item, place the on-screen pointer on the item; then click on the Select button or tap once on the glidepad.



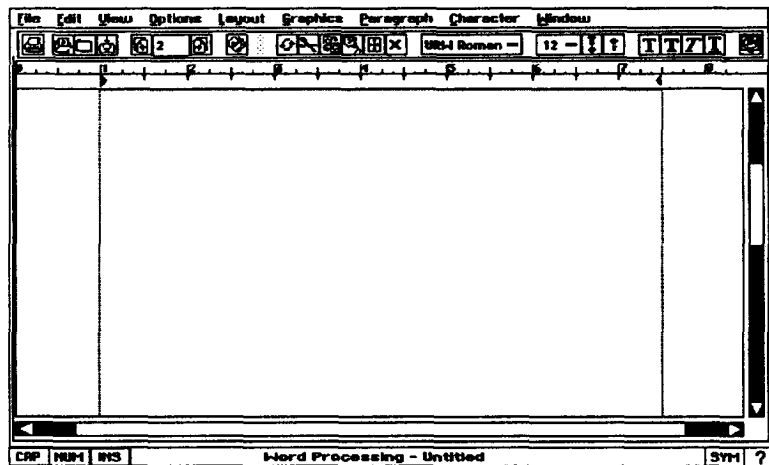
- For word wrap to work properly, press **ENTER** only at the end of a paragraph, never at the end of every line. If you press **ENTER** at the end of every line, and later change something, the words will not wrap smoothly.
- Use **TAB** rather than the **SPACEBAR** to align text. If you use **TAB** to set the spacing between text, then you can simply change the measurement of the tab space to change the location of a column.
- Type only one space after a period or colon. When using a typewriter, you enter two spaces after a period or colon because of the spacing of the typewriter characters.
- Use italic style text rather than underline for book titles. Typewriters do not have italic font style available, so your only option is to underline book titles. Word Processing provides italic and bold type styles and other typographical features of typeset printing.
- Since an en dash (–) and em dash (—) are available on the symbols keyboard, use them rather than multiple hyphens. (See Using Special Characters and Symbols on page 12.)
- Use bullets for denoting lists such as this list of tips. (See Using Special Characters and Symbols on page 12.)
- You can undo almost anything. The most important thing to remember about undoing a mistake is that you can undo only the **last** action.

Starting Word Processing

► To create a new document:

By default, the Word Processing icon is automatically selected (outlined in dotted white line) when you turn on your machine or any time you go to the Main Menu.

1. Click on Word Processing from the Main Menu. *The New/Open dialog box appears.*
2. Click on New. *A new Word Processing document appears:*



Opening a Document

Templates allow you to create standard documents, such as envelopes, quickly. See *Using Templates in Getting Started* (Book 1).

► To open an existing document or template:

1. Insert the diskette that contains the document or template into the disk drive.
2. Select New/Open from the File menu. *The New/Open dialog box appears.*
3. Double-click on the name of the folder and file you want to open. *The document appears in the Word Processing window and replaces the empty default document.*

Using the Tool Bars

The tool bars provide quick access to menu functions. In Word Processing, you can open five different tool bars: Basic Functions, Advanced Functions, Graphic Bar, Drawing Tools, and Bitmap Tools.

► To open a tool bar:

1. Select Show Tools from the Options menu. *A submenu appears.*
2. Select the tool bar. *The tool bar appears on the screen.*

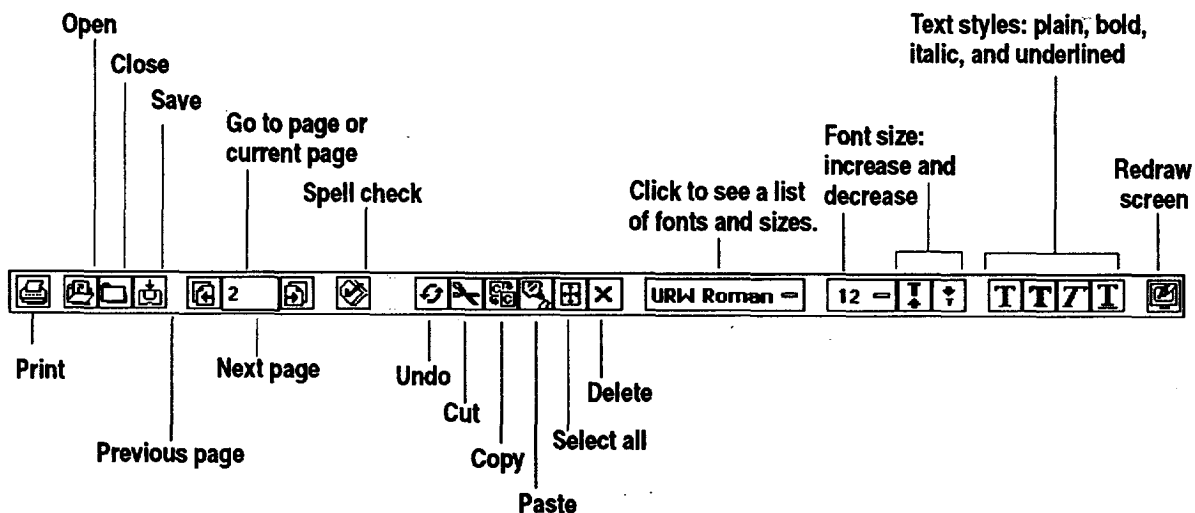
► To use a tool on the tool bar:

1. Select the text or graphics whose characteristics you want to change.
2. Click on the tool button. *The characteristics change.*

The Basic Functions Tool Bar

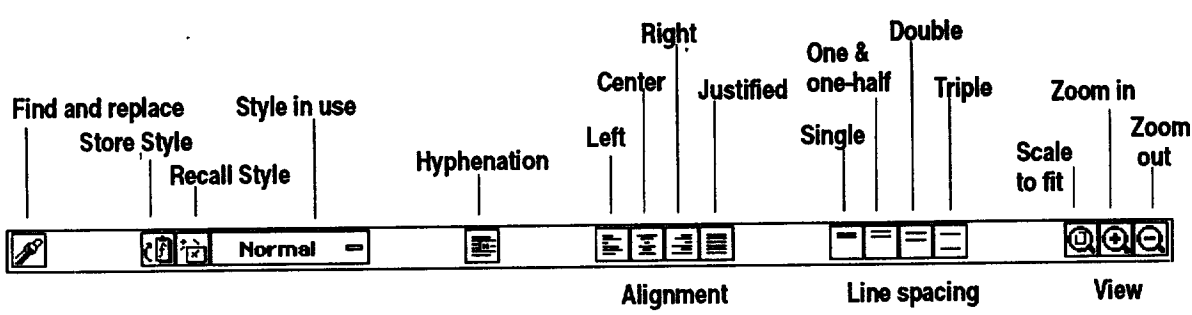
To remove tool bars, click again on the name of the tool bar in the Show Tools submenu of the Options menu.

The Basic Functions tool bar appears when you open Word Processing. Use it for functions like copying or changing the font size of selected text.



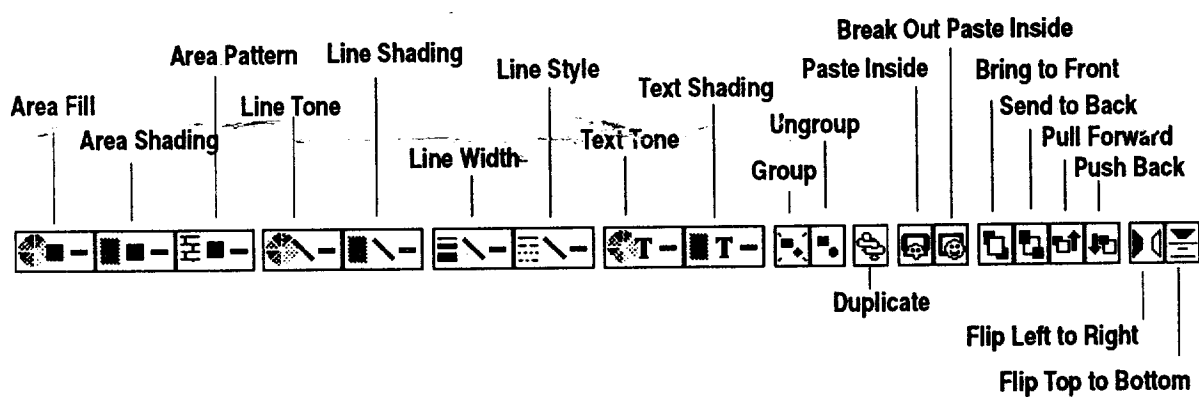
The Advanced Functions Tool Bar

When opened, the Advanced Functions tool bar appears above the Basic Functions tool bar.



The Graphic Bar

Use the Graphic bar for editing graphic objects created in or imported to Word Processing. For example, use the Duplicate button to make a copy of a graphic object, or use the Area Fill tool to fill a graphic object.



The Drawing and Bitmap Tool Bars

Pointer tool



I-beam tool



Text tool



In Word Processing, the Drawing tool bar appears on the left of the window. When you are working with this tool bar in Word Processing, remember the following:

- To select a graphic in Word Processing, use the Pointer tool.
- To select text in Word Processing, use the I-beam tool.
- To create text in a graphic frame, use the Text tool.

In Drawing, the Drawing and Bitmap tool bars are in different locations than they are in Word Processing, but they still contain the same tools.

You can also use the Bitmap tool bar to create bitmap graphics or to edit bitmap graphics imported into Word Processing.

The Drawing tools, Bitmaps, and the Bitmap tool bar are explained in detail in the Drawing chapter, which starts on page 125.

Saving On-screen Settings (Configuration)

Saving the configuration allows you to save the settings from the Options menu. For example, if you want the Advanced Functions tool bar to be visible every time you open Word Processing, select Show Tools from the Options menu; then click on Advanced Tools. Save the configuration, and the tool bar will appear every time you open Word Processing.

► To save the configuration:

For information on rulers, see page 24 in this chapter.

With your settings (tool bars and rulers) on the screen the way you want them, select Save Configuration from the Options menu.

Beginning a Document

Before typing, first define the type of document you are creating by setting your page size and page setup options.

Setting Up Your Page

You can create a document larger than the printing area. When you print a large page, you are asked if you want to scale the document or print it actual size. Select **Print Actual Size**; then insert as many sheets of paper as required. When finished, tape the pages together.

To change your view of the document, select **Zoom In** or **Zoom Out** from the **View** menu.

To change the margins on an individual page in your document, reduce your document to **Scale to Fit** from the **View** menu and use the pointer from the **Drawing** tools to select and resize header, footer, or main body region.

► To select the page size:

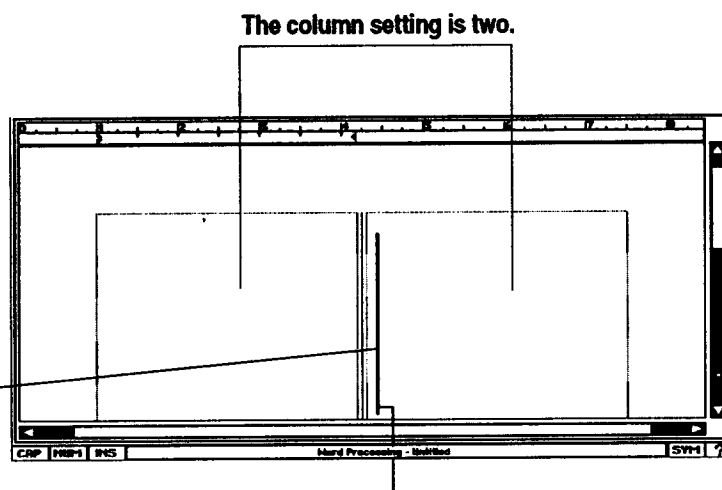
1. Open a new document.
2. Select **Page Size** from the **File** menu. *A dialog box appears.*
3. Select either **Paper**, **Envelope**, **Label**, or the width and height of your document if it is not a standard size.
4. Select **Page Layout**, either **portrait** (vertical) or **landscape** (horizontal).
5. Click on **Apply**; then click on **Close**. *The dialog box closes, and your document outline will be represented by a rectangle with dotted borders.*

► To set up the page:

1. Select the document for which you want to change the page setup. (Place the insertion point anywhere in that document.)
2. Select **Page Setup** from the **File** menu. *A dialog box appears.*
3. Fill in the dialog box, making the selections you want:
 - **Starting Page Number.** You can start your document on a page other than 1. If you have several sections in the same document, you can save them separately and still have consecutive page numbering.
 - **Columns.** Select the number of columns in the document. See **Managing Columns** on page 29.
 - **Spacing.** If you have more than one column, select the distance between columns. Spacing is the same between all columns. By default, this setting is 0.125 inches.
 - **Rule Width.** If you have more than one column, you may want to draw a vertical line (rule) in between and then select the width of that line. By default, this setting is 0 points, or no rule.
 - **Master Pages.** Select your layout: either a single page (one) or facing pages (two). By default, this setting is one master page. See **Using Master Pages to Design Documents** on page 36.
 - **Margins.** By default, the margins are 1 inch. You can change the margins for an individual page in your document (see side note).
4. Click on **Apply**; then click on **Close**.

This sample document is set up with 2 columns, 0.25 inch spacing between columns, and a vertical rule (line) between columns.

The vertical rule is 2 points wide.



Working with Text

This section explains how to enter, move, copy, and edit text. It also describes how to insert characters and symbols, change text style and format, use tone in text, and search for and replace text.

Entering Text

The recommended method for entering text described in this manual is called **Insert mode**, in which typed characters push all existing characters to the right.

To switch in and out of Insert mode, click on the Insert button at the bottom left corner of the screen, INS (INS is selected by default).

Insert mode is recommended because you will not lose any text as you type. If you want typed characters to replace the characters to the right of the insertion point, turn the Insert mode off.

Word wrap means that you do not have to press **ENTER** (the Return key on a typewriter) to start a new line of text. As you type, the words appear in the text area. As words reach the end of a line, they automatically continue on the next line.

The **insertion point** is the blinking vertical line that shows where typed characters appear on the screen. On a blank page, the insertion point appears in the upper left corner. As you type, the insertion point moves to the right, appearing after the last word. To make changes to something you have already typed, move the insertion point anywhere in the text. You cannot move the insertion point to an area where there is no text unless you use **SPACEBAR**, **TAB**, or **ENTER**.

► **To go to another page:**

You can also select a page to go to from the Basic Functions tool bar.

Select Go to Page from the View menu. *If your document has more than one page, the page you select appears. If your document begins on a page other than 1 (you can set it up this way in Page Setup), Go to Page will still see the first page as page 1.*

► **To correct as you type:**

Press **BACKSPACE** to erase characters to the *left* of the insertion point.

OR

Press **DELETE** to erase characters to the *right* of the insertion point.

To split an existing paragraph into two, place the insertion point where you want the split and press ENTER.

► **To start a new paragraph:**

Press **ENTER**. *The insertion point moves to the left margin of the next line.*

► **To place the insertion point in the text:**

Position the insertion point in the text and press the Select button. *You can type in the text.*

► **To select text:**

1. Move the insertion point to the beginning of the word, line, or paragraph you want to select.
2. Hold the Select button and drag across the text until what you want is selected; then release the button.

OR

Click the Select button at the beginning of the text, hold down **SHIFT**, and click at the end of the text.

Use these methods for selecting text:

This	Does This
2 clicks	Selects a word (but not the space after the word)
3 clicks	Selects a line

To select additional words, lines, or paragraphs, on the last click, hold down the Select button as you drag.

► **To select text with the keyboard:**

Press the keys shown below:

Press This	To Select
SHIFT + → or ←	One character in the direction of the arrow; reduces or extends one character at a time in the same direction.
CTRL + SPACEBAR	The current word; the insertion point must be within the word.
SHIFT + ↑ or ↓	From the insertion point one line in the direction of the arrow; extends or reduces the selection in the same direction.
SHIFT + HOME	From the insertion point to the beginning of the line; extends or reduces the selection a line at a time toward the beginning of the document.
SHIFT + END	From the insertion point to the end of the line; extends or reduces the selection a line at a time toward the end of the document.
CTRL + SHIFT + ↑ or ↓	To the beginning or ending of a paragraph in the direction of the arrow; extends or reduces the selection in the same direction.
CTRL + SHIFT + HOME	From the insertion point to the beginning of the document.
CTRL + SHIFT + END	From the insertion point to the end of the document.
CTRL + /	The entire document (the same as choosing Select All from the Edit menu).

► **To extend or reduce the selection:**

1. While a selection is already highlighted, hold down **SHIFT**.
2. Click where you want to extend or reduce the selection.

► **To cancel a selection:**

Click anywhere in the text area, or press one of the arrow keys.

Deleting Text

When you cut a selection, it is placed on the clipboard. You can paste the selection from the clipboard to another location as long as you have not cut or copied another item.

► To delete text:

1. Select the text you want to delete.
2. Press **CUT**.

► To delete text using the keyboard:

With no text is selected, use the following keystrokes to delete text:

- **BACKSPACE**. Deletes the character to the left.
- **CTRL + BACKSPACE**. Deletes from insertion point to beginning of word.
- **CTRL + DELETE**. Deletes from insertion point to end of word.
- **SHIFT + CTRL + BACKSPACE**. Deletes from insertion point to beginning of line.
- **SHIFT + CTRL + DELETE**. Deletes from insertion point to end of line.

Cutting, Copying, Pasting, and Replacing Text

When you select text, you can cut it and move it elsewhere or copy it to another place. The selection you cut or copy is placed on the **clipboard**, an electronic holding space. When you press **PASTE**, the contents of the clipboard are pasted into the document at the insertion point.

When you move a selection, you remove or cut it from its original location and paste it into another location.

Cut, Copy, Delete, and Paste also appear in the Edit menu and on the Basic Functions tool bar.

► To move a selection:

1. Select the item or text you want to move.
2. Press **CUT**. *The item is removed from your document and placed on the clipboard, replacing any item already in the clipboard.*
3. Move the insertion point to the new location.
4. Press **PASTE**. *The contents of the clipboard are inserted into the document, and the pasted text appears at the insertion point.*

When you paste an item into a document, it remains on the clipboard unless you replace it. So you can continue to paste it.

► To copy a selection:

1. Select the item or text you want to copy.
2. Press **COPY**. *The item remains in your document and also goes to the clipboard, replacing any other item in the clipboard.*
3. Move the insertion point to the location where you want the item to appear.
4. Press **PASTE**. *The contents of the clipboard are inserted into the document.*

► To replace text:

1. Select the word or words you want to replace.
2. Type the replacement text. *The new text replaces the original text.*

► To replace one block of text with another:

1. Select the block of text you want to replace the existing text with.
2. Press **COPY** or **CUT**. *The text is placed in the clipboard.*
3. Select the block of text you want to replace and press **PASTE**. *The selection is replaced by the contents of the clipboard.*

Dragging and Dropping Text



The drag and drop feature provides a quick way to move or copy text without using the clipboard.

You can only move text to text areas, which have already been typed in. To create a larger text area, press **ENTER**.

► To move or copy a selection with drag and drop:

1. Select the text you want to move or copy.
2. Move the on-screen pointer over the selected text.
3. Hold down the Drag button. *The pointer changes to the drag and drop pointer.*
4. To move, hold the Drag button and drag the pointer to where you want to place the selection.

OR

To copy, press **CTRL** and drag the pointer.

5. Release the Drag button. *The selected text is moved or copied to the new location.*

Do not release the **CTRL** key until after you have released the Drag button.

Using Undo to Reverse Your Last Action

CUT replaces the contents of the clipboard so that even Undo will not bring it back. You can undo your last cut, but not the one before it.

Sometimes you may delete some text or change the way it looks and immediately decide that it was not what you wanted. If you have not done anything else, select Undo from the Edit menu to restore the text. Once you select Undo, its name on the Edit menu changes to Redo.

► To undo your last editing operation:

Not all programs include Undo, and not all operations can be undone.

Select Undo from the Edit menu. *The text you are working on reverts to the original.*

► To undo the last thing you typed:

Press **CTRL + BACKSPACE**.

Using Special Characters and Symbols

► To find and insert special characters and symbols:

For international or math symbols click on the Symbols menu. To see all available characters, see the Appendix.

1. Click on the SYM button in the lower right hand corner of the screen. *The Symbols On-screen Keyboard appears for the font you are using.*
2. Click on the Symbols menu to see other choices for the font you are using.
3. Click on the symbol or character that you want to appear in your document. *The symbol or character appears on the screen.*
4. Click on the window close button in the top left hand corner.

Once you open the Keyboard, it will stay open until you close it.

Changing Text Font, Size, Style, and Alignment

How a character looks on the screen and when it is printed is determined by its font, size, style, alignment, and other **attributes**.

You can apply character attributes in two ways:

- Select the text to change; then select the attribute you want.
- Select the attributes you want; then type new text. *Word Processing applies the current attribute settings to any text you type.*

► To change character attributes:

1. Select the text to change.
2. Select Character Attributes from the Character menu. *A dialog box appears.*

3. Fill in the dialog box:

- **Character Weight (%)**. Select the weight of the characters. Select any weight from 75 to 125.
- **Character Width (%)**. Select the width of the characters. Select any width from 25 to 200.
- **Character Spacing**. Select the spacing between characters. Select any spacing from -150 to 500.

4. Click on Apply.

5. Click on Close.

Changing fonts

Fonts are different typefaces that define how each character appears on screen and when printed. Each character has a unique design that varies from font to font.

Word Processing contains several different fonts. The URW Mono font is most like a typewriter font. It is **monospaced**: every character uses the same amount of space. The other fonts are **proportionally spaced**; the space taken by a character is relative to the character's width. For example, the letter i uses less space than w.

► To change the font:

1. Select the text to change.
2. Click on the Fonts icon on the Basic Functions tool bar. A drop-down menu of fonts appears.
3. Select the font. *The selected text appears in the font you selected.*

URW Roman ▾

To see a sample of the font, select Fonts from the Character menu; then select Font Viewer.

You can also select fonts from the Fonts submenu in the Character menu.

Changing text sizes

If you use a large font size, above 72 points, you may need to increase the line spacing. Select Line Spacing from the Paragraph menu.

Text size determines how tall and wide a character is and is usually measured in **points**, a measurement used in the printing industry. A point is approximately 1/72 of an inch. Therefore, 72 point text is one inch tall. Most books and magazines are written with 10 or 12 point text.

You can select from standard point sizes (9 through 72 points) or create a custom text size.

If all the highlighted text is the same size, the current size is identified by a filled radio button in the Sizes menu. If the highlighted text contains different sizes, none of the point sizes is marked.

► To change the text size:

1. Select the text to change.
2. Select Sizes from the Character menu. *A submenu appears.*
3. Select one of the sizes from the list. *Word Processing applies the size you selected to the highlighted text.*

► To change the text size incrementally:

1. Click on the Increase or Decrease Font Size buttons on the Basic Functions tool bar. *The text appears in the next smaller or next larger size.*

You can also change text size from the Sizes submenu of the Character menu.

► To set a custom text size:

1. Select the text to change.
2. Select Sizes from the Character menu. *A submenu appears.*
3. Select Custom Size from the submenu. *A dialog box appears.*
4. Select the custom point size you want (between 4 and 792).
5. Click on Apply.
6. Click on Close.



Changing text styles

Use text styles to add emphasis to words and phrases in your document. The following styles are available:

- Plain
- **Bold**
- *Italic*
- Underline
- Strikethru
- Superscript (e.g. $a^2 + b^2 = c^2$)
- Subscript (e.g. H_2O)
- Boxed (with a box around it)
- Button (to resemble a button that you press)

► To change the style of text:

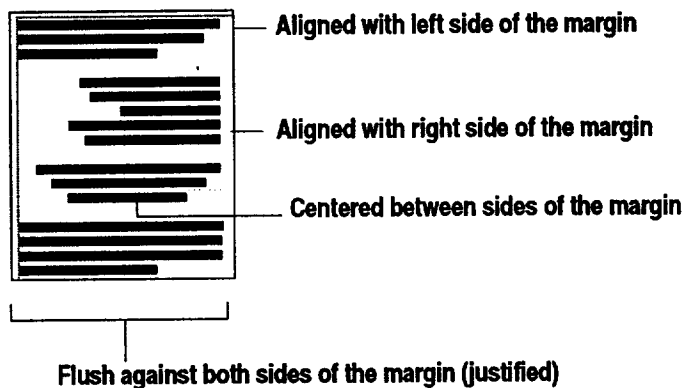
1. Select the text to change.
2. Select a style from the Styles submenu in the Character menu. *The selected text style appears.*

You can also change text styles from the Basic Functions tool bar.



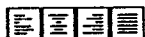
Aligning text

You can decide how text lines up along a margin: left, centered, right, and *justified*.



► To change text alignment:

You can also align text by selecting *Alignment* from the *Paragraph* menu or from the *Advanced Functions* tool bar.



1. Select the text or move the insertion point into the paragraph you want to align; then use the following keys to align the text:

Control Key	Alignment
CTRL + L	Left
CTRL + E	Center
CTRL + R	Right
CTRL + J	Justified

Using Tone in Text

You can set the text tone before you begin typing if you want, or select it and change it later.

Text tone should stand out against its background for ease of reading. If the tones are too close, the text disappears into the background. By default, text tone is black and background tone is white.

You can also increase or decrease the percentage of shading to fade or sharpen the intensity. You can also select different patterns to create a different texture in the background.

► To change the text tone:

1. Select the text to change.
2. Select Text Tone from the Character menu. A dialog box appears.

The tone you select is not going to appear on the screen exactly as it will print.

3. Fill in the dialog box:
 - **% Shaded.** Select the percent shading for the text tone. The lower the number, the more faded the tone. A setting of zero (0) causes the text to disappear. By default, this setting is 100.
 - **Tone Tools.** Select the text tone.
4. Click on Apply. (Continue to make changes as desired until you are satisfied with how the text looks.)
5. Click on Close; then deselect the text by clicking somewhere else on the page. *The text appears in the tone you chose.*

► **To change the text background tone:**

1. Select the text to change.
2. Select Text Background Tone from the Character menu. *A dialog box appears.*
3. Fill in the dialog box:
 - **Filled or Unfilled.** Select Filled to set other options in this dialog box. By default, the background is unfilled.
 - **% Shaded.** Select the percent shading for the text background tone. The lower the number, the more faded the tone. A setting of zero (0) causes the background to disappear. By default, this setting is 100.
 - **Tone Tools.** Select the text background tone or shade of gray from the palette.
 - **Pattern.** Select the pattern for the text background. By default, this setting is solid. A transparent pattern is also available on this palette.
4. Click on Apply. (You can continue to make changes as desired until you are satisfied with how the text looks.)
5. Click on Close; then click somewhere on the page to deselect text and see the new text tone.

Finding and Replacing Text

Use Find and Replace to quickly find a word or phrase in your document and, if you like, to replace it with a different word or phrase. You can also replace all occurrences of a word or phrase in a document.

Searching for text

Find and Replace also appears in the Edit menu and on the Advanced Functions tool bar.



Type exactly what you want to find without any extra spaces or characters.

You can search for any sequence of numbers, letters, spaces, and other printable characters (such as punctuation marks).

► To search for text:

1. Press **CTRL + F**. *A dialog box appears.*
2. Type the text you want to search for.
3. Click on either Find Next or Find Previous. *Word Processing starts the search from the insertion point forward or backward.*
 - If Word Processing finds a match, it highlights the text in the document. Stop the search here or click on Find Next or Find Previous to resume the search for another match.
 - For forward searches, if Word Processing reaches the end of the document, it starts searching from the beginning. For backward searches, if Word Processing reaches the beginning of the document, it starts searching from the end. If Word Processing cannot find the search text in the document, a message appears. Click on OK to close this message.
4. Click on Close.

Replacing text

You can replace any search text with different text.

► To replace text:

1. Press **CTRL + F**. *A dialog box appears.*
2. Type the text you want to search for.
3. Enter the text that will replace the search text.
4. Click on Find Next or Find Previous. *Word Processing starts the search from the insertion point forward or backward. If Word Processing finds a match, it highlights the text in the document. You have the following choices:*
 - Replace one occurrence of the selected text. To do this, click on Replace. Stop the search here or click on Find Next to continue searching.

- Replace all occurrences of the search text with the replacement text. To do this, click on Replace All. A dialog box appears asking if you want to replace all occurrences. Click on Yes to continue or No to quit.
- Replace in Selection is the same as Replace All, except that it replaces all occurrences only within selected text.

5. Click on Close.

Using wildcards and special characters

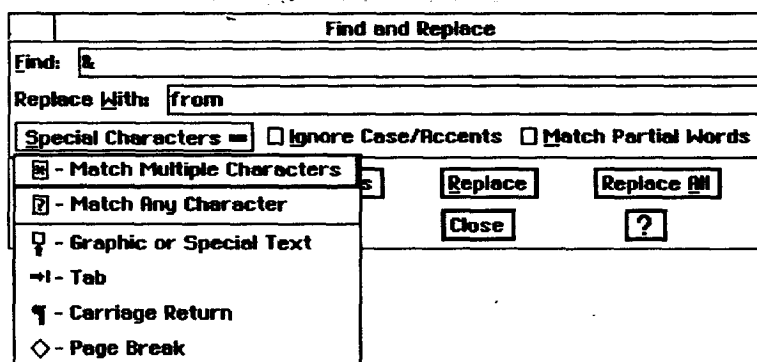
You can use two wildcards and all special formatting characters when you search and replace text. A **wildcard** is a symbol that substitutes for a single character (?) or a series of characters (*).

For example, to find any word that begins with the word math, use the Multiple Characters wildcard in your search text (math*).

You can also search and replace **special characters** in your document: graphics, special text, tabs, carriage returns, and page breaks.

► To use wildcards and special characters:

1. Press **CTRL + F**. The Find and Replace dialog box appears.
2. Click on Special Characters. A drop-down list appears:



3. Select the wildcard(s) and special character(s) you want to search for:
 - **Match Multiple Characters.** Matches text where the beginning or end of the text might vary (such as professor and professional).
 - **Match Any Character.** Matches text where one or more characters might vary (such as arise and arose).

- **Graphic or Special Text.** Adds a character to search for any graphic object or any special text character (dates, times, numbers, and so on) to the Find text.
- **Tab.** Adds a tab character to the Find or Replace With text.
- **Carriage Return.** Adds a carriage return character to the Find or Replace With text.
- **Page Break.** Adds a page break character to the Find or Replace With text.

For special characters, you can set the following options:

- **Ignore Case/Accents.** Instructs Word Processing to find every occurrence of the search text, ignoring uppercase, lowercase, and accent marks. For example, if the search string is Dog, Word Processing could find matches for Dog and dog.
 - **Match Partial Words.** Instructs Word Processing to search for a portion of a word. For example, if the search string is print, Word Processing could find matches on print, sprinter, reprint, and so on.
4. Click on Find Next or Find Previous to search the document for the search text, and click on Replace or Replace All to replace the search text with the replacement text.
 5. Click on Close.

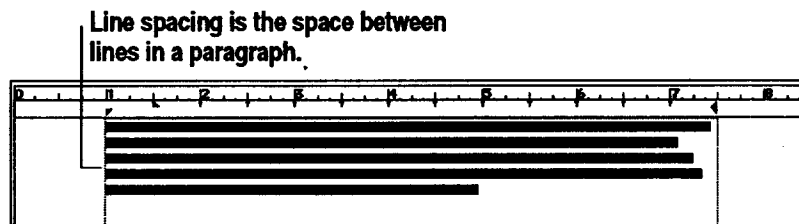
Formatting Documents

This section describes how to use the following document formatting features:

- Line and paragraph spacing
- Indentations, tabs, and rulers
- Borders
- Hyphenation
- Headers and footers
- Title pages
- Page breaks
- Columns
- Style sheets
- Master pages

Setting Line Spacing

Line spacing is the space between lines in a paragraph, also called *leading*.



To add more space between the lines of text in a paragraph, select from the following line spacing settings:

- **Single.** This is considered normal spacing. There is no extra line space between each row of text.
- **One and a Half.** A half line space is between each row of text.
- **Double.** A whole line space is between each row of text.
- **Triple.** Two whole lines are between each row of text.
- **Custom.** Set custom line spacing up to 12.

► To specify line spacing:

1. Select the text or move the insertion point into the paragraph you want to change.
2. Select Line Spacing from the Paragraph menu. *A submenu appears.*
3. Select one of the line-spacing options from the submenu.

► To specify custom line spacing:

1. Select Line Spacing from the Paragraph menu.
2. Select Custom Spacing. *A dialog box appears.*
3. Select the line spacing option:
 - **Line Spacing.** If Automatic is selected, select the line spacing you want.
 - **Manual Leading.** If Manual is selected, select the manual line spacing you want.
4. Click on Apply.
5. Click on Close.

► **To change spacing between paragraphs:**

1. Select one or more paragraphs to change.
2. Select Paragraph Spacing from the Paragraph menu. *A dialog box appears.*
3. Fill in the dialog box, selecting the options you want:
 - **Space On Top.** Select the spacing above a paragraph.
 - **Space On Bottom.** Select the spacing below a paragraph.
4. Click on Apply.
5. Click on Close.

Using Indentations, Tabs, and Rulers

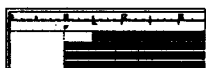
Setting indentations

The text of each paragraph wraps within the right and left indentations, which you can change using the Indentation markers on the ruler. To specify the right edge of the text, drag the Right Indent marker (a single triangle) to a new location.

The Left Indent marker is two triangles.

- The upper triangle sets the indentation of the first line of the paragraph.
- The lower triangle sets the indentation for the remaining lines of the paragraph (the hanging indent).

Indented paragraph



If both of the Left Indent triangles are together, all lines in the paragraph align beneath the markers. If the top triangle is to the right of the bottom triangle, the first line indents, as shown in the illustration at left.

► **To set indentations by dragging:**

1. Select all of the paragraphs you want to indent. (If you want to indent only a single paragraph, move the insertion point into that paragraph.)
2. Move the on-screen pointer to the the first Indent marker (the upper triangle); then click and hold the Select button.
3. Drag the marker to the place on the ruler where you want the indentation. *The existing text or text you type will be indented as specified.*
4. Select the Hanging Indent marker (the lower triangle) and press the Select button; drag the marker to the place on the ruler where you want the second and subsequent lines to align.

► **To set paragraph indents with the dialog box:**

1. Select one or more paragraphs you want to change.
2. Select Indents from the Paragraph menu. *A dialog box appears.*

Hanging indent

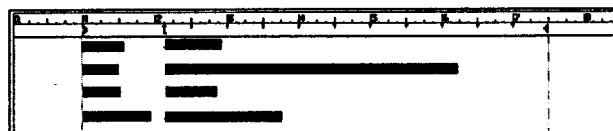


3. Fill in the dialog box, selecting the options you want:
 - **Left Indent of First Line.** Select the distance of the first line from the left margin of the page.
 - **Hanging Left Indent.** Select the distance of the text from the left margin of the page.
 - **Right Indent.** Select the distance of the text from the right margin.
4. Click on Apply.
5. Click on Close.

Setting tabs

Use tabs to create aligned columns, such as a table of contents or columns of numbers. Add your own tabs by clicking on the ruler.

You can set your own tabs, such as right aligned tabs, decimal tabs, custom positions, and **tab leaders** (dots or lines between tabbed items).



► To create tabs on the ruler:

1. Select the paragraphs for which you want to create tabs, or if you want to add a tab to a single paragraph, move the insertion point into the paragraph.
2. Click on the ruler. *The tab marker appears where you clicked. The automatic tabs disappear to the left of the new tab marker.*
3. If the tab is not exactly where you want it on the ruler, drag it to a new location.
4. Continue clicking and dragging until you have placed all the tabs.

► To create a new tab with the Tab dialog box:

1. Select one or more paragraphs to change.
2. Select Tabs from the Paragraph menu. *The Tabs dialog box appears.*
3. Fill in the dialog box:
 - **Tabs List.** Select Create New Tab in the Tabs list.
 - **Distance from Left Margin.** Select the distance of the tab from the left margin.

- **Tab Type.** Select the alignment of the text at the tab setting (Left, Center, Right, or Decimal). For example, use a decimal tab to align columns of numbers along the decimal point.
 - **Tab Leader.** Select the character that precedes the tab setting (None, Dot, Line, or Bullet).
 - **Vertical Line.** This option puts a vertical line at the tab position that spans the height of the paragraph. You can set the shading, line width, and line spacing.
4. Click on Apply. *The tab is applied to selected paragraphs.*
 5. Click on Close.

► **To change a tab:**

1. Select one or more paragraphs you want to change.
2. Select Tabs from the Paragraph menu. *The Tabs dialog box appears.*
3. Select the tab you want to change in the Tabs list.
4. Fill in the rest of the dialog box, selecting the options you want.
5. Click on Apply.
6. Click on Close.

► **To delete a tab:**

1. Select Tabs from the Paragraph menu. *The Tabs dialog box appears.*
2. Select the tab you want to delete in the Tabs list.
3. Click on Delete Tab or drag it off the ruler. *Word Processing deletes the tab and shifts the text to the next tab.*

OR

Click on Delete Every Tab. *Word Processing deletes all tabs, restores the default tabs for selected paragraphs, and adjusts the text if necessary.*

► **To set the default tabs:**

1. Select one or more paragraphs you want to change.
2. Select Default Tabs from the Paragraph menu. *A dialog box appears.*
3. Select a default tab (None, Centimeter, Half Inch, or One Inch).

OR

Set a custom default tab.

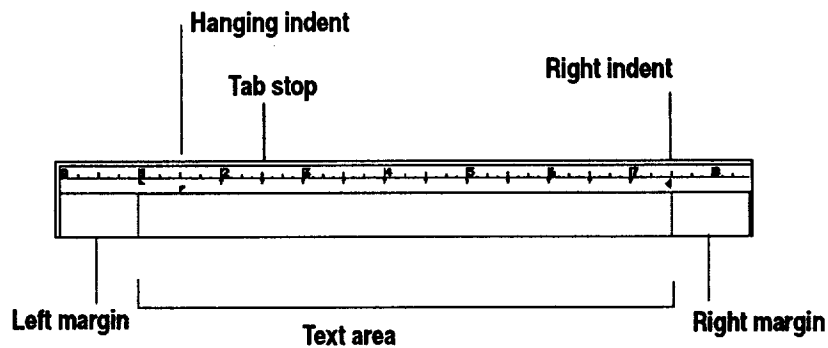
4. Click on Apply.
5. Click on Close.

Using rulers

When you open a new document, the margins are set for a 6-1/2 inch text area and the tabs are 1/2 inch apart. Use the ruler to change right and left indentations and to insert different tabs.

Ruler changes do not affect header and footer text. For more information, see Using Headers and Footers on page 27.

The indentations and tabs on the ruler affect the paragraph containing the insertion point. If you want to change the setting for the whole document, first select the document either by choosing Select All from the Edit menu or by clicking quickly five times.



Follow these steps to change options on the ruler:

Snap to Ruler Marks is explained on page 40.

► To align the ruler with the page:

1. Select Rulers from the Options menu. *A drop-down menu appears.*
2. Click on Align Ruler with Page. *The ruler moves to the left.*

► To show the horizontal and vertical rulers:

1. Select Rulers from the Options menu. *A drop-down menu appears.*
2. Click on Show Horizontal Ruler or Show Vertical Ruler. *The ruler appears.*
3. To remove the rulers, click again to deselect the check boxes.

► To change measuring units:

1. Select Rulers from the Options menu. *A drop-down menu appears.*
2. Click on Ruler Units. *A drop-down menu appears with units of measurement.*
3. Click on the measurement you want to use.

Adding Borders

You can place a border (lines or a box) around a paragraph to add emphasis. The border extends to the edge of the left and right indentation marker. You can also set the border tone to set it apart from other text.

► To make a simple border:

1. Select one or more paragraphs to border.
2. Select Borders from the Paragraph menu. *A submenu appears.*
3. Select the border option you want (*None, Thin, Thick, Double-Line, or Shadowed*).

► To make a custom border:

1. Select one or more paragraphs to border.
2. Select Borders from the Paragraph menu. *A submenu appears.*
3. Select Custom Border. *A dialog box appears.*
4. Fill in the dialog box, selecting the options you want:
 - **Sides to Border.** Select this to set the sides of the border (Left, Top, Right, and Bottom). Select all four sides to put a box around the text. Select Draw Inner Lines to draw between lines of text.
 - **Border Width (points).** Sets width of the border in points.
 - **Border Spacing (points).** Sets border spacing in points.
 - **Border Type.** Sets type of border (Normal, Shadow, or Double Line).
 - **Shadow Anchor.** If a shadow border is selected, select the anchor for the light source that creates the shadow (Top Left, Top Right, Bottom Left, or Bottom Right).
 - **Shadow Width (Points).** If a shadow border is selected, select the width of the shadow in points.
 - **Width Between Double Lines (Points).** If a double line border type is selected, select the space between the double lines in points.
5. Click on Apply.
6. Click on Close.

► To change the border tone:

1. Select one or more paragraphs to border.
2. Select Borders from the Paragraph menu. *A submenu appears.*
3. Select Border Tone. *A dialog box appears.*

4. Fill in the dialog box, selecting the options you want:
 - **% Shaded.** Select the percent shading for the border tone. The lower the number, the more faded the tone. A setting of zero (0) causes the border to disappear. By default, this setting is 100.
 - **Tone Tools.** Select the border tone from the tone palette.
 - **Pattern.** Select the pattern for the border tone. By default, this setting is solid. A transparent pattern is also available on this palette.
5. Click on Apply. (*Continue to make changes as desired until you are satisfied with the border.*)
6. Click on Close.

Setting Hyphenation

Word Processing hyphenates only those words that appear in its dictionary.

If hyphenation is active (by default, it is not active), a word extending beyond the right margin is split between syllables. Word Processing inserts a hyphen (-) and line break and wraps the rest of the word to the next line. Word Processing provides hyphenation settings that you can change. Note that some hyphenation can make a document easier to read, while too much hyphenation can make words harder to recognize and make the page look cluttered.

► To change hyphenation:

1. Select one or more paragraphs with the hyphenation you want to change.
2. Select Hyphenation from the Paragraph menu. A *dialog box appears*.
3. Fill in the dialog box:
 - **On or Off.** Select On to allow automatic hyphenation and to set other options on the dialog box (Off is the default selection).
 - **Maximum consecutive lines to hyphenate.** Restricts the total number of lines that can be hyphenated.
 - **Shortest word to hyphenate.** Limits the hyphenation to words of a certain length.
 - **Shortest prefix.** Sets the length of the shortest prefix to hyphenate, such as pre in prefix.
 - **Shortest suffix.** Sets the length of the shortest suffix to hyphenate, such as ing in hyphenating.
4. Click on Apply.
5. Click on Close.

Using Headers and Footers

A **header** contains anything (text, graphics, or both) that you want to appear at the top of every page. Likewise, a **footer** contains anything you want to appear at the bottom. Here are some of the things you can put in headers and footers:

- Page numbering
- Date the document was created or printed
- Title or file name of the document
- Your name or the name of your department, business, or school
- Chapter or section title
- Graphics, such as a logo or design

When you import a document, the headers and footers from the source document do not appear in the Word Processing document.

Header and footer information is optional and can contain text formatting (such as bold text) and multiple lines of text.

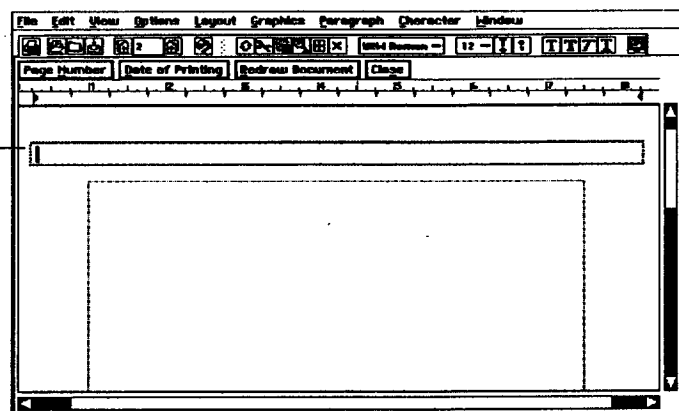
► To set up a header or a footer:

1. Select Edit Header from the Layout menu. A page appears with the insertion point in the upper-left corner of the header area.

OR

1. Select Edit Footer from the Layout menu. A page appears with the insertion point in the upper-left corner of the footer area.

Insertion point for a header



Page numbering comes from the starting page number you entered in the Page Setup dialog box.

2. Enter the header or footer information. Or use the following buttons to insert standard information that gets updated automatically:

- **Page Number.** Click to put the page number at the insertion point.

- **Date of Printing.** Click to put the date of printing at the insertion point.

3. Click on Close. *The document page reappears with the header or footer you created.*

► **To change the size of a header, footer, or body text region:**

1. Select Edit Header or Edit Footer from the Layout menu.
2. From the Drawing tool bar, select the pointer tool and then select the text region (header, footer, or body text) you want to resize.
3. Point to any handle, hold down the Select button, and drag the handle until the text region becomes the size you want.

Pointer tool



To delete a header or footer, select Edit Header or Edit Footer from the Layout menu. Select the text and press delete; then click on Close.

Creating a Title Page

The **title page** is typically the cover page of a document, which usually contains descriptive information such as the title of the document. The title page is numbered 0, but the number will not print.

► **To add a title page to a document:**

1. Select Title Page from the Layout menu. *A submenu appears.*
2. Select Create Title Page from the submenu. *A dialog box appears asking if you want to continue.*
3. Click on Yes to create the title page. *Word Processing creates a new Title Page at the beginning of the document. An empty title page appears, with the insertion point in the upper-left corner of the text area. (If your document has headers or footers, they will not appear on the title page.)*
4. Fill in your title page.
5. Return to the body of your document by scrolling downward or clicking on the Next Page button on the Basic Functions tool bar. (You can resume editing anywhere in the document.)

The title page appears with a page break line below the insertion point. To move the insertion point down the page, press ENTER.

► **To go to the title page:**

1. Select Title Page from the Layout menu. *A submenu appears.*
2. Select Go to Title Page from the submenu. *The title page appears.*

► **To delete the title page:**

1. Select Title Page from the Layout menu. A *submenu appears*.
2. Select Delete Title Page from the submenu. A *dialog box appears asking if you are sure you want to delete the title page*.
3. Click on Yes to delete the title page. *Word Processing deletes the title page. If the insertion point was on the title page, Word Processing moves it to the first page; otherwise, the insertion point remains in the same location.*

Using Page Breaks

If you have multiple columns in your document, a page break is the same as a column break.

Word Processing treats the text in a document as one continuous flow of information. Whenever you insert or delete text or graphics in a document, Word Processing automatically calculates the location of page breaks and column breaks and inserts them accordingly. Automatic page breaks are called **soft page breaks** because their location changes depending on the amount of information in a document. You can force a page break manually by inserting a **hard page break**. Do this whenever you want to start a new page in a specific location.

► **To insert a hard page break:**

1. Place the insertion point where you want the hard page break.
2. Press **CTRL + ENTER**. *Word Processing inserts the page break.*

Page Break also appears in the Insert Special submenu of the Edit menu.

► **To delete a page break:**

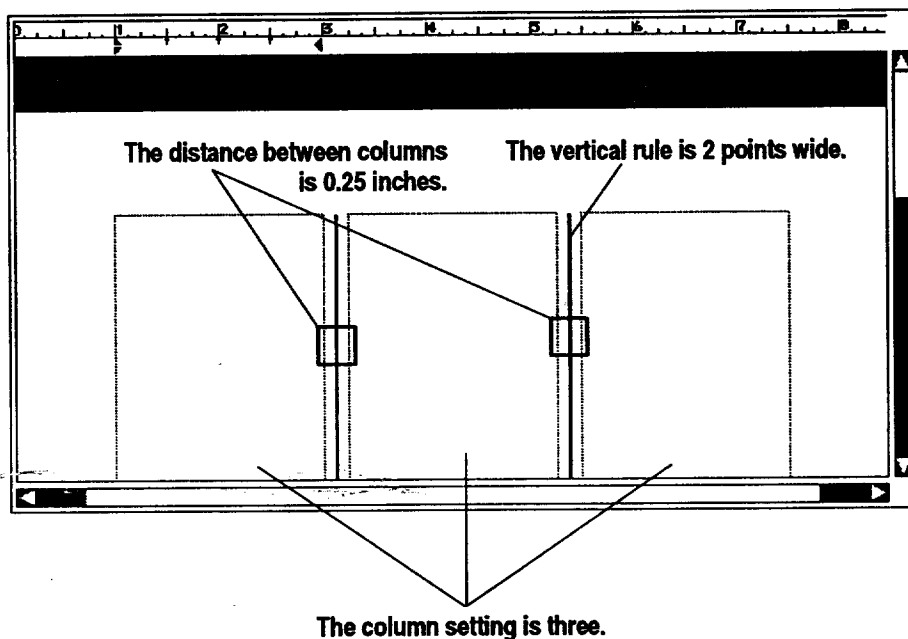
1. Select Show Invisibles from the Options menu (if not already selected). *The page-break markers (§) become visible.*
1. Double-click on the page break marker you want to delete.
2. Press **DELETE**. *Word Processing removes the page break, recalculates pagination, and redraws the screen.*

Managing Columns

You can have multiple columns of text in a document, just like those you see in a newspaper or a magazine. By default, a document has just one column of text. When you specify multiple columns, text flows from the bottom of one column to the top of the next.

To set up multiple columns, specify column options in the Page Setup dialog box (from the File menu). When you set multiple columns, specify the number of columns, the gutter (or spacing) between columns, and the width of any vertical rule(s) (the lines in between the columns). Word Processing initially calculates a uniform column width for all columns based on the number of columns, the spacing between columns, the size of the page, the page orientation, and the page margins.

The following sample document shows the result of setting the column characteristics:



► **To set or change the columns:**

1. Place the insertion point in the document.
2. Select Page Setup from the File menu. *A dialog box appears.*
3. Fill in the dialog box:
 - **Columns.** Select the number of columns.
 - **Spacing.** If you have more than one column, select the distance between columns (as well as the relative column width). Spacing is the same between all columns. By default, this setting is 0.125 inches; you can increase this up to 1.0 inch.
 - **Rule Width.** To place a vertical rule, select the width of a vertical rule. By default, this setting is zero (0) points, or no vertical rule; you can increase this up to 9 points.

4. Click on Apply.
5. Click on Close.

Using column breaks

To force Word Processing to move text to the top of the next column, press **CTRL + ENTER** to insert a hard page break and create a new column.

Using Text Style Sheets

A **style** is a collection of text and paragraph formats under a common name. A **text style sheet** is the set of all the named text styles used in a document.

Styles help ensure a consistent look to your text. They also make it easier to change a document because changing a style automatically updates all the paragraphs with that style.

You can record the following attributes in a text style:

- Text attributes, including character font, text size, text style, text tone, and character width and height.
- Paragraph attributes, including alignment, spacing, line spacing, indentations, tabs, and paragraph spacing.

Styles allow you to apply a group of attributes to text all at once. For example, if you want the headings in your document to be centered and bold, create a style to automatically center and bold them; then apply that style to heading text. Without a style, you would have to manually center and bold each heading.

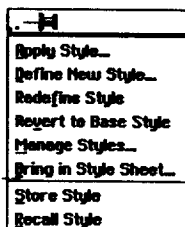
Using default styles

Word Processing provides three styles. Use them as is or as a starting point for creating your own custom styles:

- **Normal.** The base style for text that comes with Word Processing.
- **Header.** A standard style for the header of a document.
- **Footer.** A standard style for the footer of a document.

Applying a style

Change the format of a paragraph by applying a style from the style sheet.



► To apply a style to a paragraph:

1. Select one or more paragraphs to change.
2. Select Text Style Sheets from the Paragraph menu. *A submenu appears.*
3. Click on Apply Style from the submenu. *A scroll list appears.*

4. Select the style, scrolling the list if necessary. *Word Processing applies the style formatting to selected paragraphs.*
5. Click on the window control button in the top left corner to close the dialog box.

Storing and recalling text attributes temporarily

You can temporarily store the text and paragraph attributes from one paragraph and then apply them to another without first creating a named style. To do so, use Store Style. While named styles are saved with your document, graphic styles that you record with Store Style are not saved when you exit Word Processing.

► To store the text attributes:

1. Select a paragraph with the attributes you want to store.
2. Select Text Style Sheets from the Paragraph menu. *A submenu appears.*
3. Select Store Style from the submenu. *Word Processing remembers the attributes of the selected paragraph.*

► To recall the text attributes:

1. Select one or more paragraphs that you want to apply the stored attributes.
2. Select Text Style Sheets from the Paragraph menu. *A submenu appears.*
3. Select Recall Style from the submenu. *Word Processing applies the saved attributes to the selected text.*

Defining a new style

You can add a new style to the style sheet by giving it a name and defining its attributes. A **base style** is a style on which other styles depend; these styles are variations on the base style. If you change an attribute in the base style, all dependent styles will change except those that define the attribute uniquely.

For example, suppose you define a style called Head Level 2 using another style, Head Level 1, as its base style. If you add bold to Head Level 1, the text in Head Level 2 becomes bold. Word Processing updates all text in either style with the new attributes.

Alternatively, you can define a style so that its unique attributes change *relative* to changes in the base style. For example, if you set margins in Indent Level 2 relative to Indent Level 1 its base style, and you increase the left margin in Indent Level 1 by 0.25 inches, Word Processing increases the left margin in Indent Level 2 by 0.25 inches as well.

You can also define a new style without using a base style. Word Processing uses the default attributes or the attributes of selected text as the starting point.

► To define a new style:

1. Select a paragraph for which you would like to change the style. *Word Processing uses the attributes in the selected (or base) style to define the initial attributes of the new style.* (You can also start out with no text selected, using the default text and paragraph attributes.)
2. Change the format of the paragraph to your desired style.
3. Select Text Style Sheets from the Paragraph menu. *A submenu appears.*
4. Select Define New Style from the submenu. *A dialog box appears.*
 - **Description.** Shows a description of the selected style, which changes when you define text and character attributes. The base style appears first, then any changes you have made to character and paragraph formatting.
 - **Display in Tool Bar Pop-Down List.** Select whether the style appears in the Tool Bar Pop-down list on the Basic Functions tool bar. By default, this option is selected.
 - **Apply to Selection Only (Character Style).** Select whether you want to apply the style attributes to selected text only or to the entire paragraph.
 - **Point Size Relative.** Select to make the point size relative to the point size of the base style. Changing the point size in the base style changes the point size in the current style by the same amount.
 - **Margins Relative.** Select to make the margins relative to the margins of the base style. Changing the margins in the base style changes the margins in the current style by the same amount.
 - **Leading Relative.** Select to make the leading (or line spacing) relative to the leading of the base style. Changing the leading in the base style changes the leading in the current style by the same amount.
 - **Name.** Type a new style name. You can use letters, numbers, and spaces. For example, you could call a style Chapter Name.
5. Click on Define New Style. *Word Processing applies the new style to the selected text or paragraph.*
6. Click on Close.

Once you have defined a style to appear on the Basic Functions tool bar, use this button to apply a style to selected text.



Changing styles

You can change a style two ways: by changing its attributes (text size, paragraph spacing, and so on) or by changing the attributes of its base style (point size relative, margins relative, and so on). If the style serves as the base style for other styles, changes can affect those dependent styles as well.

► **To update a style:**

1. Select a paragraph in the style you want to change.
2. Set any character and paragraph attributes you want for this style.
3. Select Text Style Sheets from the Paragraph menu. A submenu appears.
4. Select Redefine Style from the submenu. *Word Processing updates the style with the formatting in the selected paragraph.*

► **To modify an existing style:**

1. Select Text Style Sheets from the Paragraph menu. A submenu appears.
2. Select Manage Styles from the submenu. A dialog box appears.
3. Find the style you want to change, scrolling the list if necessary, and then select it. *The text in the Description box changes to show the style you have selected.*
4. Click on Modify. A dialog box appears:

The 'Modify Style' dialog box contains the following elements:

- Style Name:** A text field containing 'Normal'.
- Display in Tool Bar Pop-Down List:** A checked checkbox.
- Attributes:** A group box containing four unchecked checkboxes:
 - ☐ Apply to Selection Only (Character Style)
 - ☐ Point Size Relative
 - ☐ Margins Relative
 - ☐ Leading Relative
- Base Style:** A list box showing a scrollable list with the following items: '<< No Base Style >>', 'Normal', 'Header', and 'Footer'.
- Buttons:** 'Modify', 'Cancel', and a help button '?'.

You can change the base style if you want by selecting it in the list. If you do not want a base style, select <<No Base Style>>.

5. Fill in the dialog box, selecting the options you want.
6. Click on Modify to change the style definition. *The Modify Styles dialog box disappears.*
7. Click on Apply. *Word Processing applies your changes to the selected text.*
8. Click on Close.

► **To delete a style:**

1. Select Text Style Sheets from the Paragraph menu. A submenu appears.
2. Select Manage Styles from the submenu. A dialog box appears.
3. Select the style you want to delete from the list. *If the selected style has a base style, the name of the base style appears in the style description box.*

Deleting a style you no longer need eliminates clutter in the style sheet. Once you delete a style, you cannot recover it.

4. Click on Delete. *Word Processing deletes the selected style. Word Processing attaches the base style to any paragraphs in the style you just deleted. However, Word Processing does not apply the attributes of those paragraphs with the attributes in the base style.*

OR

Click on Delete and Revert. *Word Processing deletes the selected style, attaches the base style to any paragraphs in the style you just deleted, and overrides the current attributes of those paragraphs with the attributes in the base style.*

5. Click on Close.

► **To revert to the base style:**

1. Select the text you want to change.
2. Select Text Style Sheets from the Paragraph menu. *A submenu appears.*
3. Select Revert to Base Style. *Word Processing applies the base style, overriding the current attributes of the selected text.*

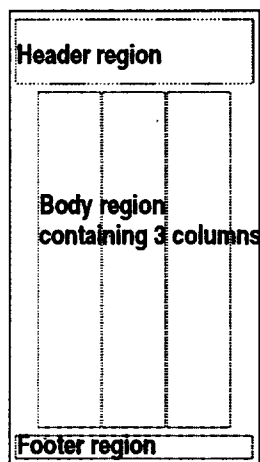
Using style sheets from other documents

You can copy style sheets from another document or template into a document you are working on. That way, you do not need to define the same styles all over again.

► **To get styles from another document:**

1. Select Text Style Sheets from the Paragraph menu. *A submenu appears.*
2. Select Bring In Style Sheet from the submenu. *A dialog box appears.*
3. Select a document or template from the list.
4. Click on Load Style Sheet. *Word Processing imports the styles from the template you selected. If a style with the same name appears in the template and the document, Word Processing uses the template style instead.*
5. Click on Close.

Using Master Pages to Design Documents



Use master pages to specify information that repeats on each page of a document. For example, you might want a logo to appear on every page.

The **master page** is a prototype of how text and graphics appear on every page. The master page defines the header and footer, the area where the body text appears on a page, and graphics (such as a logo) that repeat on every page. The illustration at the left shows a typical master page designed with three columns.

When you add a page, Word Processing uses the layout and information in the master page to create the new page. Once created, you can change the document to suit your needs without affecting the master page.

If you specify two pages in Page Setup (left and right), the document will have two master pages: one for the left and one for the right.

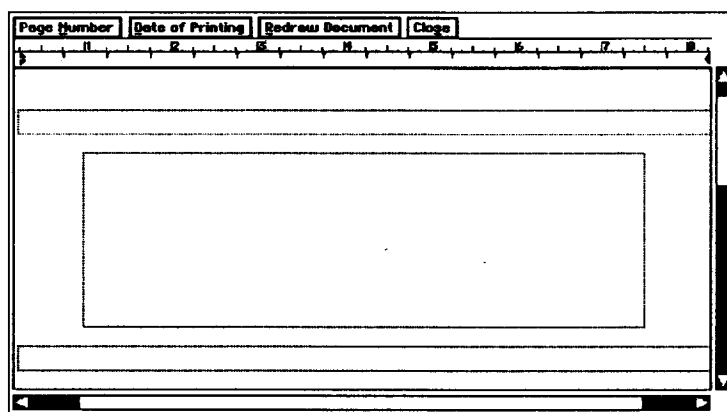
Editing the master page

To change the format of an individual page in your document, do not use a master page. Instead, reduce your document to Scale to Fit in the View menu; use the pointer from the Drawing tools; and select and resize header, footer, or main body region. This can be useful when you want the margins of a particular page to be different from the rest of the document.

When you edit the master page, Word Processing updates every page in the document with any changes you have made. For example, if you change the footer, Word Processing applies that change on every page.

► To edit the master page:

1. Select Edit Master Page from the Layout menu. *The master page appears:*



- **Page Number.** Click on this button to put the page number at the insertion point.
- **Date of Printing.** Click on this button to put the date of printing at the insertion point.

- **Redraw Document.** Click on this button to refresh the screen and implement any changes you have made.
2. Make your changes to the master page. *The changes you can make include:*
 - Adding any text or graphics you want to the header or the footer.
 - Resizing or moving the text region for the header, footer, or body text (including columns).
 3. When you are finished, click on Close. *Word Processing updates all affected pages with any changes you have made.*

Changing text regions on the master page

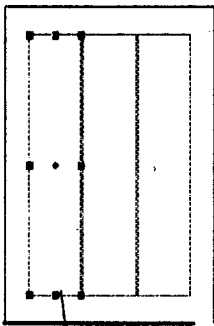
The **text region** defines where text flows on the page. You can move and resize the text region for the header, footer, and body text on a master page.

You might want to do this, for example, to set a custom width for columns on a page. When you set the number of columns in Page Setup, Word Processing calculates the column width for you. To adjust the width or position of these columns, edit the master page.

► To select a text region:

1. Select Scale to Fit from the View menu. *The page is scaled down.*
2. Open the Drawing tool bar from the Show Tools submenu of the Options menu. *This tool bar appears on the left of the screen.*
3. Select the Pointer tool. *The insertion point becomes an arrow.*
4. Point the tip of the arrow to a border of the text region (header, footer, or body text), and click the Select button. *Handles appear along the border of the text region to indicate that it is selected.*

Pointer tool



Handles show that the text region is selected. Once selected, you can move or resize it.

► To deselect a text region:

Point anywhere outside or inside the border of the text region and click. *The handles disappear.*

► To change the size of a text region:

1. Select the text region you want to resize.
2. Point to any handle, hold down the Select button, and drag the handle until the text region becomes the size you want.
3. Release the Select button.

You can also select Copy, Paste, and Delete from the Edit menu or from their buttons on the Basic Functions tool bar (see page 3).

► **To move a text region:**

1. Select the text region you want to move.
2. Point to the move handle in the center, hold down the Drag button, and drag the text region to where you want it to appear.
3. Release the Drag button.

► **To copy a text region:**

1. Select the text region you want to copy.
2. Press **COPY**. *Word Processing copies the text region to the clipboard.*
3. Place the insertion point to where you want to paste the text region.
4. Press **PASTE**. *Word Processing pastes the text region in the document.*

► **To delete a text region:**

1. Select the text region you want to delete.
2. Press **DELETE**.

Using Graphics in a Document

This section explains how to use graphics in a Word Processing document. The drawing and graphics features are very similar in Word Processing and Drawing. Complete information about drawing and graphics is included in the chapter on Drawing.

Graphics, especially large ones, take up more memory than text. If you use large graphics, you may need to break up your document and save the pages with graphics separately.

You can use any graphic image that you can paste from the clipboard. For example, you could draw a logo in Drawing, copy it to the clipboard, and paste it directly into your letterhead in Word Processing.

You can create a graphic image within Word Processing using the tools on the Drawing, Bitmap, or Graphics tool bar. That way, you can create a drawing without leaving your document. When creating graphics in Word Processing, select Show Tools from the Options menu; then click on Drawing Tools.

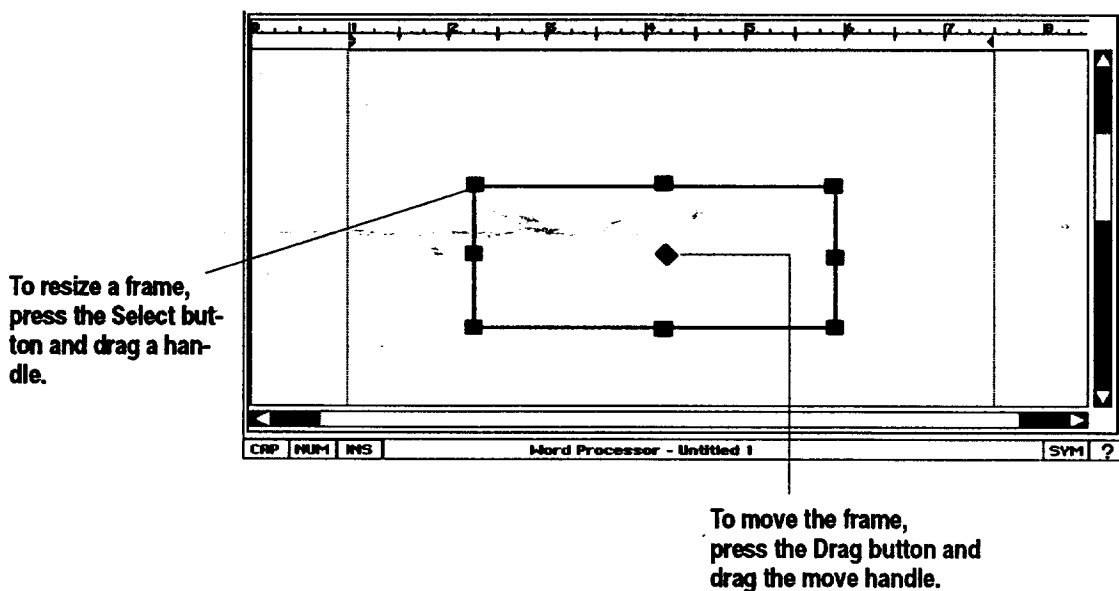
You can add a graphic frame (a rectangle with a simple border around it) anywhere on a page. You can paste graphics into a graphic frame, change its appearance, and control how it fits in the text. You can also paste graphics into a document without using a graphic frame.

Using Frames for Graphics and Text

A **graphic frame** is a rectangle that frames text or graphics. You can fill a graphic frame with tone and patterns, change the tone and thickness of its border, and make text wrap around it, wrap inside it, or even flow right through it. You can also resize, move, and delete a graphic frame.

► To create a graphic frame:

1. Select Create Graphic Frame from the Layout menu. *The Drawing tool bar appears on the left of the screen.*
2. Point to where you want to anchor the upper-left corner of the graphic frame.
3. Press the Select button and drag down and to the right until the graphic frame becomes the size you want. *An outline shows the borders of the graphic frame as you drag it.*
4. Release the Select button. *The graphic frame appears with handles along its borders, as shown in the following illustration:*



Text tool 

I-Beam tool 

To return to the text in your document, select the I-Beam tool.

When you use a frame for text, you can move the frame or create a border around it. Frames with text are also useful for footnotes (see page 47).

Pointer tool 

► To create a graphic frame for text:

1. If the Drawing tool bar is not open, select it from the Show Tools submenu of the Options menu.
2. Select the Text tool from the Drawing tool bar.
3. Place the insertion point in the document and drag to size the frame. *An outline shows the frame.*
4. Begin typing. *The text appears in the frame.*

► To select or deselect a graphic frame:

1. Select the Pointer tool from the Drawing tool bar.
2. Point the tip of the Arrow pointer to a border of the graphic frame and click on the Select button. *Handles appear along its border to show that it is selected.*

OR

To deselect, point anywhere outside or inside the border of the graphic frame and click.

► To change the size of a graphic frame:

1. Select the graphic frame you want to resize.
2. Point to any handle, hold down the Select button, and drag the handle until the graphic frame becomes the size you want.
3. Release the Select button.

You can also display a grid for aligning graphics. See page 42.

► To line up a graphic frame to a ruler (snap):

1. Select Rulers from the Options menu.
2. Select Snap to Ruler Marks. *Word Processing aligns graphics to the nearest ruler measurement mark.*

► To move a graphic frame:

1. Select the graphic frame you want to move.
2. Point to the move handle in the center, hold down the Drag button, and drag the graphic frame to where you want it to appear.
3. Release the Drag button.

► **To delete a graphic frame:**

1. Select the graphic frame you want to delete.
2. Press **DELETE**.

To fill a graphic frame, set the area attributes. To adjust the border of a frame, set the line attributes.

► **To set area attributes for a frame:**

1. Select the graphic frame.
2. Select Area Attributes from the Graphics menu. *A dialog box appears.*
3. If Filled is not selected, click on it; then select the Area Attributes you want.
4. Click on Apply; then click on Close.

► **To set line attributes for a frame:**

1. Select the graphic frame.
2. Select Line Attributes from the Graphics menu. *A dialog box appears.*
3. If Filled is not selected, click on it; then select the line attributes you want.
4. Click on Apply; then click on Close.

Using Grids

You can position graphics using the grids, snapping objects into place for you automatically. The **grid** is a pattern of evenly-spaced vertical and horizontal lines that help you align and size objects. You can also change the spacing of the grid.

You can also automatically snap (or position) objects along grid lines when you create them. Snapping objects to the grid is often faster and more accurate than positioning them manually.

► **To show or hide the grid:**

1. Select Grids from the Layout menu. *A dialog box appears. If Snap to Grid is selected in this dialog box, Word Processing aligns objects to the grid.*
2. Select Show Grid to show the grid.
OR
Deselect Show Grid to hide the grid.
3. Click on Apply.
4. Click on Close.

When you change the units of measure for the grid, you will find it helpful to change the units on the ruler also. See page 24.

► **To set the grid spacing:**

1. Select Grids from the Layout menu. A *dialog box appears*.
2. Select the units of measure (Inches, Centimeters, Points, or Picas). *By default, the units of measure are the same as the ruler setting.*
3. Select the distance between grid lines.
4. Click on Apply.
5. Click on Close.

► **To snap graphics to the grid:**

1. Select Grids from the Layout menu. A *dialog box appears*.
2. Select Snap to Grids.
3. Click on Apply.
4. Click on Close.

Using Clip Art in Documents

Pasting graphics into a document

You can paste any graphic from another program into a Word Processing document. Paste it into a graphic frame in the graphic layer or directly into the text.

► **To copy and paste a graphic object:**

To select and copy more than one graphic object at a time, press and hold **CTRL** while selecting objects.

You can also select Copy and Paste from the Edit menu or from their buttons on the Basic Functions tool bar.

1. In the program you are using to draw the graphic (Drawing, Spreadsheet, or even Word Processing), select the graphic object you want to copy.
2. Press **COPY**.
3. Open the Word Processing document into which you want to paste the graphic object or objects.
4. Place the insertion point on the page on which you want the graphic object or objects to appear.
5. Press **PASTE**. *You are asked if you want the graphic object on the text layer or graphics layer. On the text layer, the graphic will move or flow with the text. On the graphic layer, it will stay where it is on the page no matter what changes are made to the text.*
6. Select the layer by clicking on the button. The graphic appears on the page.
7. Resize or move the graphic objects as desired.

You can also change the size by selecting Transform from the Graphics menu and clicking on Scale.

► **To change the size of a graphic object:**

1. Select one or more graphic objects you want to resize.
2. Point to any handle, press and hold down the Select button, and drag the handle until the graphic object becomes the size you want.
3. Release the Select button.

► **To move a graphic object:**

1. Select one or more graphic objects to move.
2. Point to the move handle (in the middle), press and hold down the Drag button, and drag the selected graphic objects to where you want it to appear.
3. Release the Drag button.

Pasting clip art into a document

Scrapbook converts the clip art image to a format that Word Processing understands.

To paste clip art into your document, first open Scrapbook, retrieve a clip art image from a diskette, and store it in your scrapbook. Then, copy the graphic image from your scrapbook into your Word Processing document.

► **To copy and paste a piece of clip art:**

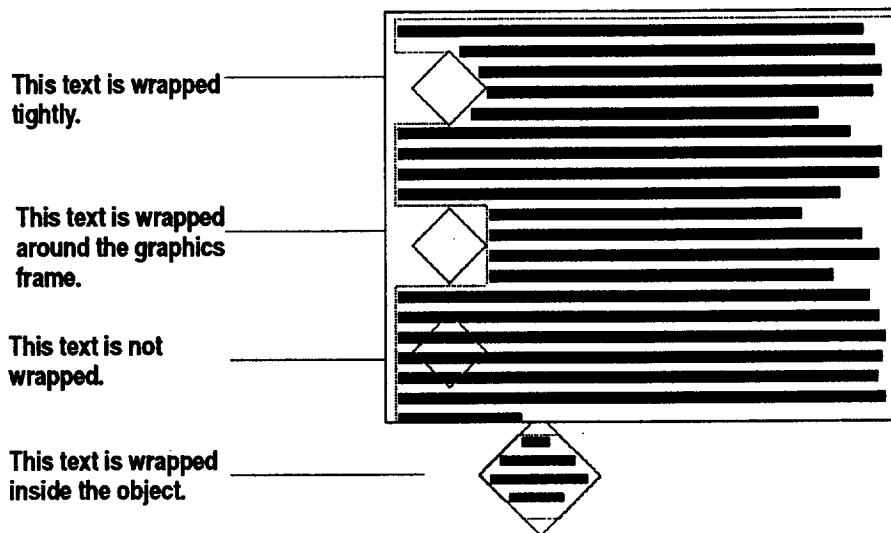
1. Open a scrapbook. If you do not want to place the clip art in your Default Scrapbook, create another scrapbook. (See Scrapbook, page 167.)
 - If you have never created your Default Scrapbook, a message appears telling you to create it by clicking on New. (See Scrapbook, page 167.)
 - If for some reason you have a scrapbook, but it is not labeled as Default Scrapbook, the program tells you that it cannot find your Default Scrapbook. Click on Cancel to open a New/Open Scrapbook dialog box. Then select your scrapbook name and click on open.
2. Locate the page in your scrapbook that will follow the clip art to be imported. The imported graphic image will be inserted in front of the scrapbook page that appears on the screen.
3. Insert the diskette labeled Clip Art.
4. Select Import Scrap from the File menu. *The Import Scrap dialog box appears and lists file names.*
5. Select the name of the file you want to import, and click on Import. *It may take several seconds for the graphic to be imported and placed in the scrapbook.*
6. Press **COPY**; then press **EXIT**. *Scrapbook closes. Scrapbook gives you the option to save the scrapbook or discard it.*
7. Open the Word Processing document to paste the clip art into.
8. Place the insertion point where the clip art is to be inserted.

If the file is very large, it could take several minutes to import. You cannot interrupt this process.

9. Press **PASTE**. *You are asked if you want the graphic on the text layer or graphics layer.*

Wrapping Text

Wrapping text means that text can go outside or inside the borders of a graphic object. The following illustration shows examples:



► To set text wrapping:

1. Select the graphic frame you want to use.
2. Select **Wrap Type** from the **Graphics** menu. *A submenu appears.*
3. Select one of the following options:
 - **Wrap Tightly.** This wraps text tightly around the borders of selected graphic objects.
 - **Wrap Around Rectangle.** This wraps text around a rectangular area that completely encloses the selected graphic objects.
 - **Wrap Inside Object.** This wraps text inside the border of selected graphic objects.
 - **Don't Wrap.** This suppresses text wrapping. The text goes right through the object.

Inserting, Appending, and Deleting Graphic Layouts

To keep graphics and text together on the same page, use Insert, Append, and Delete. These functions allow you to insert or delete pages in between existing pages without changing the layout of the graphics and text on the existing pages.

► To insert or append a graphic layout:

1. Place the insertion point on a page in the document where you would like to add a graphic layout.
2. Select Graphic Layouts from the Layout menu.
3. If you want to insert a graphic layout before the current page, select Insert (Before This One) and click on Yes when the message box appears.
 - *If you have graphics on this page that are not in the master page, they will be pushed to the next page.*
 - *If you have graphics on the last page that are not on the master page, a message box appears. Click on Delete Graphics if you want to delete the graphics on the last page. Click on Move Graphics to keep the graphics on the last page. Click on Cancel Delete to create a new page that contains just the graphics from the last page.*

OR

If you want to insert a graphic layout after the current page, select Append (After This One) and click on Yes when the message box appears.

- *If you have graphics on the following page that are not in the master page, they will be pushed to the page following the next page.*
- *If you have graphics on the last page that are not on the master page, a message box appears. Click on Delete Graphics if you want to delete the graphics on the last page. Click on Move Graphics to keep the graphics on the last page. Click on Cancel Delete to create a new page that contains just the graphics from the last page.*

► To delete the graphic layout for a page:

1. Place the insertion point on the page to delete.
2. Select Graphic Layouts from the Layout menu.
3. Select Delete. A message appears asking if you want to delete the current page.
4. Click on Yes. *Any graphics on the current page not contained in the master page are removed.*

When deleting the graphic layout for a page, you will not lose the text, just the graphic layout.

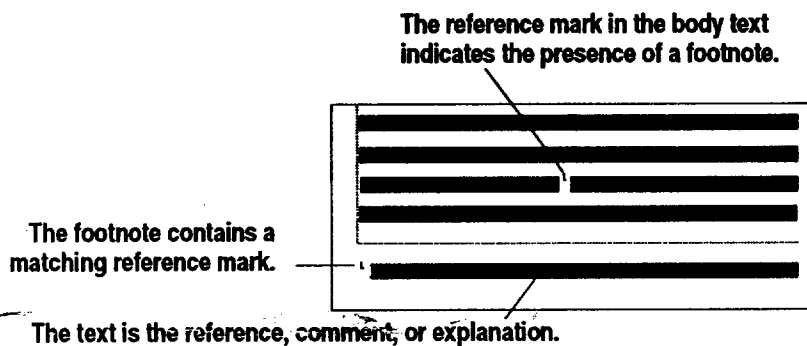
Finishing Your Document

This section explains how to put the finishing touches on your document: footnotes, a table of contents, and a bibliography.

Using Footnotes

A **footnote** is a reference or explanation that appears at the bottom of the page or in a footnote section at the end. A footnote typically cites an author or publication or clarifies a point.

A footnote has two parts: a **reference mark** in the body and the accompanying footnote itself, which usually appears at the bottom on the same page.



Typically, footnotes are numbered sequentially. If you use numbers for your reference mark, you must update the numbering sequence manually. A footnote remains on the page on which you added it. If the text with the reference mark moves to a different page, you must manually move the footnote to the new page. For these reasons, it is best to add footnotes (starting from the front of the document) when your document is nearly finished.

► To create a reference mark:

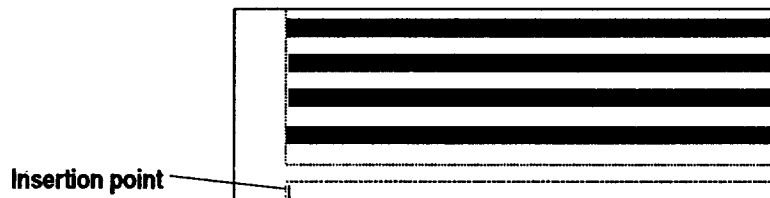
1. Select Scale to Fit from the View menu, if necessary.
2. Place the insertion point behind the footnote text.
3. Type the symbol or number of the footnote reference.
4. Select Styles from the Character menu. A *submenu appears*.
5. Select Superscript. *Word Processing displays the footnote reference in a superscript format.*

Text tool 

If you have a footer already, and you need more room for the footnote, reduce your document to Scale to Fit in the View menu. Use the pointer from the Drawing tools and select and resize header, footer, or main body region.

► **To create a footnote at the bottom of a page:**

1. Select Show Tools from the Options menu; then select Drawing Tools. *The Drawing tool bar appears on the left of the screen.*
2. Select the Text tool from the Drawing tool bar.
3. Point to where you want to anchor the upper-left corner of the text frame (usually near the bottom of the page), along the left margin and above the footer.
4. Hold down the Select button; then drag down and to the right until the text frame becomes the size you want (usually along the right margin and as tall as needed for any footnote(s)). *An outline shows the borders of the text frame as you drag it.*
5. Release the Select button. *The text frame appears with the insertion point in the frame:*



6. Type and format the reference marker.

OR

Copy the reference marker from the body text to the clipboard; then paste it here.

7. Type the footnote text.
8. Click on the I-beam tool to resume editing your text.

I-beam tool 

Creating a Table of Contents

Style sheets can help you create a table of contents for a document, which typically looks like this:

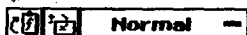
The diagram shows a window titled "Table of Contents" with a ruler at the top. Two labels with arrows point to specific parts of the table: "Dot tab leader" points to the dotted line between the heading and the page number, and "Right tab type" points to the right-aligned page numbers.

Table of Contents	
Introduction	1
Part I Freedom of Conscience and Expression.....	3
Part II Judicial Power and Equality Under the Constitution.....	8
Part III Rights of the Victim.....	15
Part IV Rights of the Accused.....	28
Part V Governing the Nation.....	39
Part VI The Constitution - Past, Present, and Future.....	62
Bibliography	73
Index	80

For example, for each heading level in your document, create a style with the following characteristics:

- Right tab type with a dot leader
- Indented paragraphs for each heading level

To apply a style, select the text and select a style from the Basic Functions tool bar.



Once you have created the styles, enter the heading text, press **TAB**, enter the page number, and then apply the style for the heading level. See page 31 for more information on creating and applying styles.

Creating a Bibliography

Style sheets can also help you quickly create a bibliography for a document. A typical bibliography looks like this:

The diagram shows a window titled "Bibliography" with a ruler at the top. Two labels with arrows point to the first two entries: "Hanging indentations" points to the indentation of the text on the line following the first line of each entry.

American Bar Association. <i>Sources of Our Liberties</i> . Chicago: ABA Press, 1978. Text of major governing documents and declarations of rights such as Magna Carta and U.S. Constitution, with introductory essays.
Berger, Raoul. <i>Government by Judiciary: the Transformation of the Fourteenth Amendment</i> . Cambridge: Harvard University Press, 1977. An historical examination of the uses and abuses of judicial power by an advocate of restraint.

Bibliography entries

For example, create a style (such as Biblio) that is a hanging indented paragraph. Once you create this style, type the bibliography entry and apply the style to it. See page 31 for more information on creating and applying styles.

Proofing Your Document

Word Processing provides two proofreading tools. Spell check finds misspelled words and typographical errors. The thesaurus finds words with similar meanings.

Word Processing also lets you create a custom **user dictionary**, which contains special or unique words or spellings of words. When the diskette with your user dictionary is in the disk drive, spell check will use both the system and user dictionary. You can add proper names, special terminology, or anything else to the user dictionary.

Checking Your Spelling

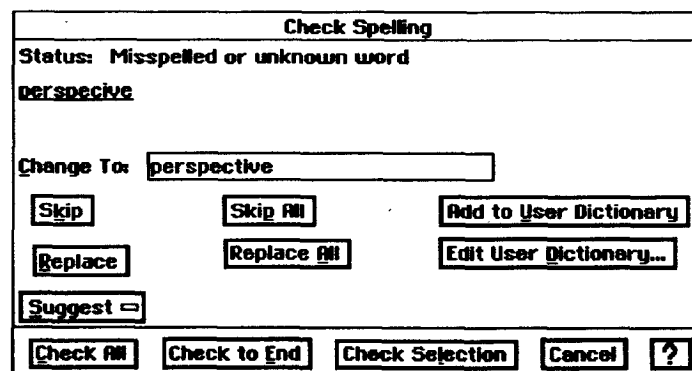
Word Processing has an electronic spelling dictionary of 114,000 words that it checks to look for mistakes. When it finds a word that is not in the dictionary, it displays it in the Check Spelling dialog box and lets you decide what to do with it.

► To check the spelling of a word or block of text:

You can also select **Check Spelling** from the **Edit** menu or from its button on the **Basic Functions** tool bar.



1. Select the word or block of text you want to check.
2. Press **SPELL CHECK**. A dialog box appears:



3. Select how much of the text you want to spell check:
 - **Check All.** Checks all the text in the document.
 - **Check to End.** Checks the text from the position of the insertion point to the end of the document.

- **Check Selection.** Checks only selected text.

The first misspelled word (or word that is not in the dictionary) appears in the Change To box.

4. Select the action you want to take on this word:

- **Skip.** Click on this button to ignore this spelling.
- **Skip All.** Click on this button to ignore all occurrences of the spelling.
- **Replace.** Type the word correctly; then click on this button to replace the misspelled word.
- **Replace All.** Type the word correctly; then click on this button to replace all occurrences of the misspelled word.
- **Suggest.** Click on this button to display a list of possible spellings. When the suggestions appear, select the spelling you want and then click on Replace. If no suggestion is correct, type the word correctly in the Change To box; then click on Replace.
- **Add to User Dictionary.** Click on this button to add the word to the user dictionary stored on diskette. If you do not have a user dictionary yet, you will automatically create one when you add your first word to it (be sure you have a diskette to save this on). From this point forward, spell check will accept this spelling in this and other documents.
- **Edit User Dictionary.** Click on this button to edit the user dictionary. For instructions, see the next procedure.

5. When you are finished checking the spelling, a message window appears. Click on OK.

Creating a User Dictionary

Use this feature when your document contains correctly spelled words not found in the dictionary, such as proper names or special terminology. You can also delete words in the user dictionary.

► To create the user dictionary:

1. Open a Word Processing document.
2. Press **SPELL CHECK**. *A message appears asking you to insert a user dictionary that you would like to use.*
3. Click on OK. *Word Processing automatically creates a user dictionary.*

► To edit the user dictionary:

1. Insert the diskette that contains your user dictionary.
2. Press **SPELL CHECK**.
3. Click on Edit user dictionary. *A dialog box appears with one of the existing words from the user dictionary highlighted and with this same word entered in the new word box.*
4. Fill in the dialog box, selecting the options you want:
 - **Words in User Dictionary.** This lists the words in the user dictionary.
 - **Delete Selected Word.** To delete a word, select it from the list; then click on this button.
 - **Add New Word.** To add a new word, type it here; then click on Add New Word. If you attempt to add a word that already exists, a message appears; click on OK and continue.
 - **Load Dictionary.** Click on this button to use a user dictionary on another diskette.
5. Click on Close. *The Edit User Dictionary dialog box disappears.*
6. In the Check Spelling dialog box, click on Close.

To add a new word, type over the highlighted word in the New Word box.

Using the Thesaurus

While writing or editing a document, you might sometimes need a **synonym**, which is another word with a similar meaning. To look up synonyms, Word Processing gives you an online **thesaurus** of over 44,000 words.

A word may have different meanings, and each meaning has a different set of synonyms; so be aware of the meaning you want.

► **To use the Thesaurus:**

1. Select Thesaurus from the Edit menu. *A dialog box appears.*
2. If you select a word in your text, its definition and synonym will automatically appear.

OR

Type the word and click on Lookup.

3. If more than one definition for the current word appears in the Definitions For box, select the definition you want. This list contains possible definitions for the current word, including the part of speech (noun, verb, adjective, and so on) and first part of the definition text. *When you select a different definition, the list of synonyms in the Synonyms for This Definition box changes. The text in the Full Text of Definition box changes as well.*
4. Select the synonym in the Synonyms for This Definition box. *The synonym you selected becomes the current word and appears in the current word box.*

OR

Type a different word in the current word box.

5. To look up a definition and synonym for the current word, click on Lookup.
6. To go back to a previous word, click on Back and select the previous word you want. *It appears in the current word box.*
7. Click on Replace. *Word Processing replaces the text.*
8. Click on Close.

Printing or Faxing Your Document

Once you create and save a document, you are ready to print it or fax it.

If you have not printed a document before, see Setting Printer Options in Getting Started (Book 1) to set up the printer. Also, check Page Size and Page Setup from the File menu to be sure your margins and other options are set the way you want them (see page 6).

If you have not sent a fax before, review the Fax and Data Modem chapter in Book 1.

► **To print:**

1. Press **PRINT** from the function key row. *A dialog box appears.*
2. Select the print options and click on Print.

► **To fax:**

1. Select Send from the File menu. *A submenu appears.*
2. Select Fax. *A dialog box appears.*
3. Select the Fax options and click on Fax.

Merging Information from Other Programs

When you print a Word Processing document, you can **merge** (combine) information from other programs. Merging allows you to print form letters, envelopes, mailing labels, reports, and other types of documents using information you have already entered instead of typing it again in Word Processing.

For example, you can send the same document to different people by merging the different names and addresses into Word Processing.

Merging involves two documents: the data document and the merge document. The data document is an Addressbook or Spreadsheet document that contains data (names and addresses) stored in a consistent format. For example, an Addressbook document might contain the names and addresses of your friends. The information in the data document gets inserted into various places (merge fields) in the merge document.

A merge document is a Word Processing document that contains text, graphics, layout, and formatting. It also contains **merge fields** that mark where Word Processing places the information from the data document.

The easiest way to use the merge feature is to follow this general sequence of tasks:

► **To get ready for merging:**

1. Create the data document (with names, addresses, etc.) in Addressbook or Spreadsheet.
2. Create the Word Processing merge document with merge fields for names, addresses, etc. (See page 54).
3. Copy the information you want to merge from the Addressbook or Spreadsheet data document to the clipboard. (See pages 55 and 56).

After following the above steps, you are ready to print the merge document.

Setting up the Merge Fields

If appropriate, consider using these field names in Spreadsheet. That way, you can copy merge data easily between both programs.

The merge document is created in Word Processing, and it contains text, graphics, formatting, and page layout. It also contains merge fields (for names, addresses, etc.) that correspond to the information in the data document. The merge fields have field names, which must match exactly the field names used in the source data document. These fields are case-sensitive, meaning they must match uppercase and lowercase exactly. For example, a merge field with the name HomeAddress will not match homeAddress.

Addressbook requires that you use the following field names exactly as they appear in the merge field (including underscores):

Field Name	Description
Index_Field	Name of person, company, or other sorted information.
Addr_Field	Address information.
Note_Field	Notes box.
Home	Home phone number.
Office	Office phone number.
Car	Car phone number.
Fax	Fax phone number.
Phone_5	Additional phone number.
Phone_6	Additional phone number.
Phone_7	Additional phone number.

► To add merge fields in a Word Processing document:

1. Place the insertion point where you want the merge field to appear. (It can appear on a line by itself or embedded in other text.)
2. Press **CTRL + MENU + **. A double-left bracket appears (<<).
(This identifies the start of the merge field.)
3. Type the field name exactly as it appears in the list on page 54.
4. Press **CTRL + MENU + SHIFT + **. A double-right bracket appears (>>).
(This identifies the end of the merge field.)
5. If you want, select the character formatting (such as style, size, tone, and so on) for the field.

Put the Addr_Field data here.

Index_field

Addr_field

Merging Addressbook Information

When using Addressbook to create a data document for merging information, you can copy one name or all names in the Addressbook document to the clipboard. For this reason, you might want to store the information for different groups of people in different Addressbook documents. For example, you might want to keep friends in one Addressbook document and business associates in another. That way, you can merge and print a personal letter to all your friends without involving business associates.

Once your Addressbook document contains the information for merging, copy that information to the clipboard; then merge it into Word Processing.

Addressbook uses standardized field names. The merge fields in your Word Processing merge document must match these field names exactly.

► To copy a single record to the clipboard:

1. In Addressbook, open the record you want to copy.
2. Select Copy Record from the Edit menu. *Addressbook copies the current record to the clipboard.*

► **To copy all records to the clipboard:**

1. In Addressbook, select Other from the File menu. A submenu appears.
2. Select Export Document from the submenu. A dialog box appears.
3. Select Comma Separated Values format from the right.
4. Give the file a name and click on Export to Clipboard. Addressbook exports all the records to the clipboard and prepares the data for merging.

Merging Spreadsheet Information

To use Spreadsheet to store the merge information (names and addresses), arrange the information in the Spreadsheet document in a single table:

Field names appear in the first row. Each column is a different field. Field names are consecutive.

	A	B	C	D	E	F	G
	First Name	Last Name	Street Address	City	State	Zip Code	Phone Number
1	Elizabeth	Adams	224 Main Street	Oaktown	ND	85164	802-538-4891
2	Audrey	Blake	18946 California Street	Stockton	CA	24398	901-767-1237
3	Luke	Chin	45 college Street #125	Palo Alto	CA	94389	508-378-4873
4	Frank	Goodman	3867 Shamrock Avenue	Riverton	WY	51875	206-478-2873
5	Sarah	Lawson	3755 Flagstaff Drive	Laramie	WY	38958	303-578-2976
6	Barbara	Leonard	775 Mountain Drive	Sheridan	MT	57861	305-986-0987
7	Phillip	Mitchell	1759 Holloway Street	Pine Bluff	AR	81254	602-564-3762
8	Andrea	Newton	13689 22nd Avenue	Casper	WY	60195	708-884-9785
9	Bill	O'Brien	35 Crown Avenue	Evanston	UT	86295	512-337-8733
10	William	Powell	544 Third Avenue	Rock River	CO	83659	806-868-8976
11	Carol	Sanders	358 Tidewater Drive	Lander	SD	95458	207-875-5578
12	Donna	Thomson	158390 Deer Trail Way	Jackson Hole	NE	56395	402-685-9783
13	Edward	Towers	385 Airport Circle #125	Thermopolis	ID	38502	208-995-3028
14	Merle	Windem	386 Hirless Avenue	Red Bluff	WY	83950	615-308-0835
15							
16							
17							
18							

You can use any field name you want, as long as it matches the name of the merge field in the Word Processing document. A field name usually describes the information it contains, such as Customer ID or Fax Number.

Entries appear in the rows below.
Each row is a different entry.

► **To design a Spreadsheet data document:**

1. Add field names to the first row in the merge table, starting with the first cell (such as A1) and moving to the right (such as cell B1, cell C1, and so on) until you have defined a name for each field:
 - A field name can be any combination of letters, numbers, spaces, and punctuation.

- Field names must be contiguous. (You cannot have an empty cell between field names.)
2. Fill in the rows beneath the field names. (Each row will be used one at a time to create individual documents when merging.)

► **To copy the Spreadsheet merge data to the clipboard:**

Do not lock the titles before merging.

1. Change the order of the rows so that the rows at the top are the ones you want to merge.
2. Select the first row (with field names) and any subsequent rows you want to merge.
3. Press **COPY**. *Spreadsheet copies the field names and entries to the clipboard and prepares them for merging.*

Printing a Merge Document

Once you have set up your Word Processing merge document, you are ready to print it. Be sure you have created the data document in Addressbook or Spreadsheet, added merge fields to the Word Processing document, and copied the merge information (from the Addressbook or Spreadsheet data document) to the clipboard.

If you see <<field>> on a printed document, check to see that you selected either Merge One or Merge All. Next, make sure that the name of the field in the data document matches the name of the merge field in the merge document.

► **To print a merge document:**

1. In your Word Processing merge document, press **PRINT**. *A dialog box appears.*
2. In the Print dialog box, select a merge option:
 - **No Merge.** Select this to prevent merging. If you print a merge document without merging, Word Processing prints the merge fields instead.
 - **Merge One.** Select this to merge only the first entry in the clipboard.
 - **Merge All.** Select this to merge all merge entries in the clipboard.
3. Click on Print. *Word Processing merges one or all of the entries in the clipboard with the Word Processing merge document.*

For each merge entry, Word Processing merges the fields and prints a copy of the document. If a field appears in the clipboard but not in the merge document, Word Processing skips it. If a field appears in the document but not in the clipboard, the empty merge field (<<field>>) will appear in your document.

Special Effects

Displaying Invisible Characters

You can display invisible characters to see and edit what you have typed. For example, you might want to know if you have unwanted extra spaces in your document.

Invisible characters are characters that you type but do not normally see on-screen, such as spaces, tabs, paragraph marks (carriage returns), page and column break marks, and section break marks.

This table shows the on-screen symbols that represent invisible characters:

Symbol	Character Represented
¶	Paragraph Mark (carriage return)
↵	Tab
·	Space
±	Page Break

► To display invisible characters:

Select Show Invisibles from the Options menu. *Word Processing displays the invisible characters.*

Displaying Counts

You can make changes to the text while the dialog box is visible; then recalculate the counts if you want to see the impact of a change to the document.

Word Processing counts the number of characters, words, lines, and paragraphs in a document. Use this feature when your document needs to be a minimum or maximum size, such as a report that must be 250 to 300 words.

► To view document counts:

1. Select Counts from the Edit menu. *The Counts dialog box appears, listing the number of characters, words, lines, and paragraphs.*
2. If you want to recalculate the document counts, click on Count Again.
3. Click on Close.

Using Abbreviated Phrases

Use Abbreviated Phrase to quickly insert long phrases into your Word Processing documents. For example, if you commonly use the phrase Chief Executive Officer, put it in the abbreviated phrase list with the abbreviation ceo. Then, whenever you want to insert the long phrase in the document, just type ceo, press **CTRL + X**, and Chief Executive Officer will appear. Note: if you capitalize the abbreviation in the Abbreviated Phrase dialog box, you must also capitalize it when you type it in the document.

► To create, add to, or edit the abbreviated phrase list:

1. Select Abbreviated Phrase from the Character menu. *The Abbreviated Phrase dialog box appears.*
2. Click on Add. *The Add Abbreviation dialog box appears.*
3. Type the abbreviation in the Abbreviation box (example: ceo).
4. Type the phrase in the Phrase box (example: chief executive officer).
5. Click on Apply. Your abbreviated phrase appears in the Abbreviated Phrase dialog box.
6. To edit any abbreviated phrase or abbreviation, select it and click on Edit.
7. Make your changes in the Edit Abbreviation dialog box and click on Apply.
8. To save your abbreviated phrase list, click on Save. *Your list is automatically saved as ABBREV.*

The phrase cannot be longer than 64 characters.

► To use an abbreviated phrase:

1. In your document, type the abbreviation that you entered in the Abbreviated Phrase dialog box.
2. Press **CTRL + X** to automatically enter the long phrase.

► To delete an abbreviation:

1. Select Abbreviated Phrase from the Character menu. *The Abbreviated Phrase dialog box appears.*
2. Select the abbreviated phrase to delete and click on Delete. Then click on Close.
OR
To delete all, click on Delete All. Then click on Close.

Inserting Special Characters

You can insert special characters in a document that display dates, times, and numbers. Special characters are useful because they save you from typing and calculating information. For example, if you want the current date in a letter template to be updated each day, use a special character instead of retyping the date.

A page break is another kind of special character. For more information, see Page Breaks on page 29. You can also search a document for these special characters. See Finding and Replacing Text on page 17.

Inserting the current date

You might insert the current date so it will print at the top of a letter or memo in one of two formats: longhand or numeric. You can also insert special date characters to add the current date in a different format. For more information, see Inserting special dates on page 61.

► To insert the current date:

1. Place the insertion point where you want to insert the current date.
2. Select Insert Special from the Edit menu. *A submenu appears.*
3. Select the date format you want from the submenu:

Word Processing inserts the current date in the format you selected. The date is entered just as if you had typed it yourself and is automatically updated.

- **Longhand Date.** This option inserts the current date in a longhand format.
- **Numeric Date.** This option inserts the current date in a numeric format.

Inserting the current time

You can insert the current time in a document. The time appears in the HH:MM:SS format (hours: minutes: seconds). You can also insert special time characters to add the current time in a different format.

► To insert the current time:

1. Place the insertion point where you want to insert the current time.
2. Select Insert Special from the Edit menu. *A submenu appears.*
3. Select Current Time from the submenu. *Word Processing inserts the current time in the HH:MM:SS format (such as 12:45:59 PM). The time is entered just as if you had typed it yourself and is automatically updated.*

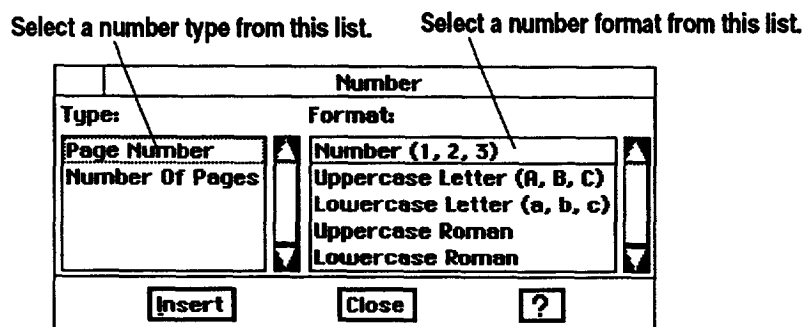
Inserting a number (counter)

Once you insert special numbers, you cannot change their value; the value depends on internal Word Processing calculations.

Word Processing keeps track of certain information in a document, such as the current page number, or the number of pages. To display any of these numbers, insert the appropriate special number character in your document in the format you want.

► To insert a special number:

1. Place the insertion point where you want to insert the number.
2. Select Insert Special from the Edit menu. A submenu appears.
3. Select Number from the submenu. A dialog box appears:



4. Select the special number from the Type list:
 - **Page Number.** This displays the current page number in the document. You can set the starting page number for a document.
 - **Number of Pages.** This displays the total number of pages in the document.
5. Select the number format from the Format list: Number, Uppercase Letter, Lowercase Letter, Uppercase Roman, and Lowercase Roman (Roman numerals such as XII or xii).
6. Click on Insert. *Word Processing inserts the number from the list in the format you specified.*
7. Click on Close.

Inserting special dates

Word Processing keeps track of date information, such as the current date and the date a document was created, revised, or printed. To display any of these dates, insert the appropriate special date character in your document. For example, you might use special dates in a footer to display the date on which you printed or last revised a document.

Once you insert special dates you cannot change their value; the value depends on internal Word Processing calculations.

► **To insert a special date:**

1. Place the insertion point where you want to insert the date.
2. Select Insert Special from the Edit menu. *A submenu appears.*
3. Select Special Date from the submenu. *A dialog box appears.*
4. Select the special date from the Type list. The choices include the following:
 - **Today's Date (Won't Change).** This date is the date that you insert the character. It does not change.
 - **Date Document Created.** This date shows when the document was created.
 - **Date of Last Revision.** This date shows when the document was last saved.
 - **Date of Printing.** This date shows when the document was last printed. Word Processing inserts the date even if you have not yet printed the document.
5. Select the date format from the Format list: Longhand, Abbreviated, Numeric, and so on. *A sample of the selected date format appears.*
6. Click on Insert. *Word Processing inserts the special date from the list in the format you specified.*
7. Click on Close.

Inserting special times

Word Processing keeps track of time information, such as the current time and the time a document was created, revised, or printed. To display any of these times, insert the appropriate special time character in your document, in the format you want. For example, you might use special times in a footer to display when you printed or last saved a document.

Once you insert special times, you cannot change their value; the value depends on internal Word Processing calculations. However, you can change the value when you insert the current time.

► To insert a special time:

1. Place the insertion point where you want to insert the time.
2. Select Insert Special from the Edit menu. *A submenu appears.*
3. Select Special Time from the Insert Special menu. *A dialog box appears.*
4. Select the special time from the Type list. The choices include the following:
 - **Now (Won't Change).** This time shows the system time when you inserted the character. It does not change if the system time changes.
 - **Time Document Created.** This time shows when the document was created.
 - **Time of Last Revision.** This time shows when the document was last saved.
 - **Time of Printing.** This time shows when the document was last printed.
5. Select the time format from the Format list. *A sample of the selected time format appears.*
6. Click on Insert. *Word Processing inserts the time from the list in the format you specified.*

Importing and Exporting Documents

You can open documents created with other word processing programs by importing them into Word Processing. Likewise, you can export a document from Word Processing to another word processing program. You can import from and export to the following word processing programs:

Import and Export Programs
ASCII or plain text
Microsoft Word 3.0, 4.0, 5.0 & 5.5
WordPerfect 5.0 & 5.1
WordPerfect for Windows 5.1
WordStar 3.45 or below
WordStar 4.0, 5.0, 5.5, 6.0 & 7.0

► To import a document from another word processing program:

1. Insert the diskette containing the document you want to open.
2. Select New/Open from the File menu. *The New/Open dialog box appears.*
3. In the New/Open dialog box, click on Import. *The Import Document dialog box appears.*
4. Select the program it was created in from the right and select the document from the left.
5. Click on Import.

If you are importing a document and do not know the program it was created in, select No Idea and Word Processing will analyze the document to see if it can be imported.

► To export a document:

1. Open the document you want to export.
2. Select Other from the File menu. *A submenu appears.*
3. Click on Export Document. *A dialog box appears.*
4. Select the format from the right and the folder to save it in from the left.
5. Give the document a name and select Export.

2 Spreadsheet

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- Working with Documents
- Saving Documents
- Working with Menus
- Working with Dialog Boxes

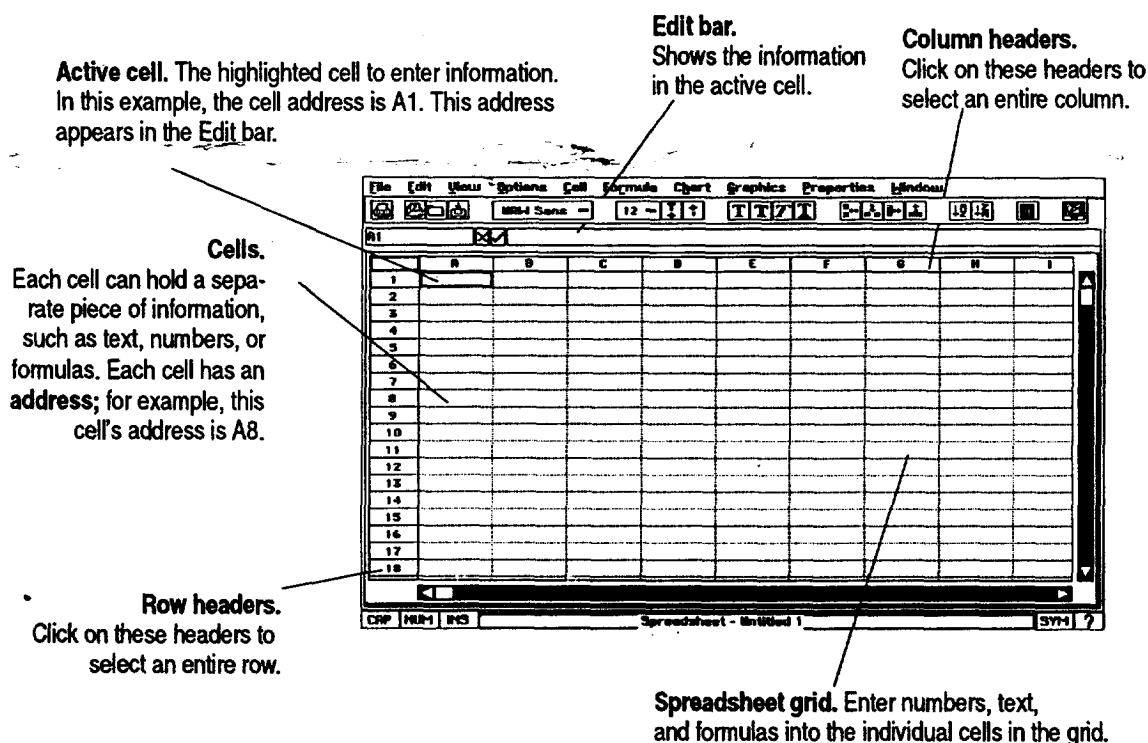
Spreadsheet makes calculations quickly and efficiently. You can use spreadsheets for keeping track of a budget or for creating presentations with charts.

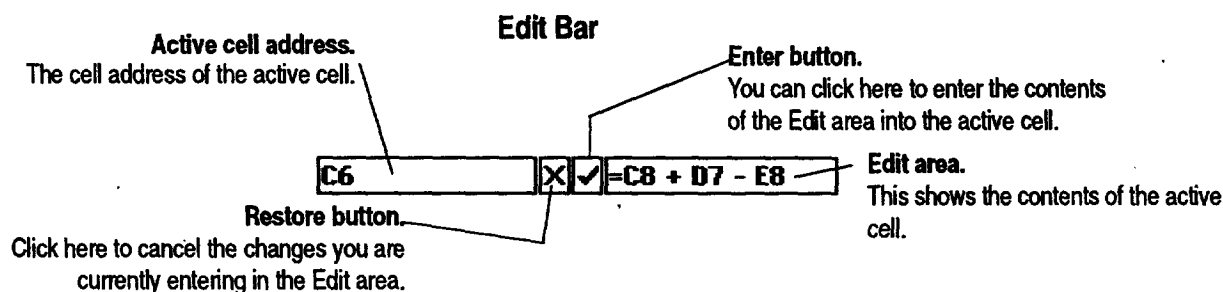
Starting Spreadsheet

► To start Spreadsheet:

If you receive error codes or messages, refer to page 124 in this chapter.

Click on Spreadsheet from the Main Menu. *Spreadsheet opens and shows the New/Open dialog box.* Select New. *An empty Spreadsheet document appears:*





Opening a Document

► To open a new spreadsheet document:

For more information about using the New/Open dialog box, see *All About Documents in Getting Started* (Book 1).

Click on Spreadsheet from the Main Menu. *Spreadsheet opens an empty Spreadsheet document.*

► To open an existing document or template:

Spreadsheet templates are available. See *Using Templates in Getting Started* (Book 1).

1. Select New/Open from the File menu. *The New/Open dialog box appears.*
2. Select the drive; if the document is on diskette, insert it in the disk drive.
3. Then select the document or template by name and click on Open. *Spreadsheet opens your file.*

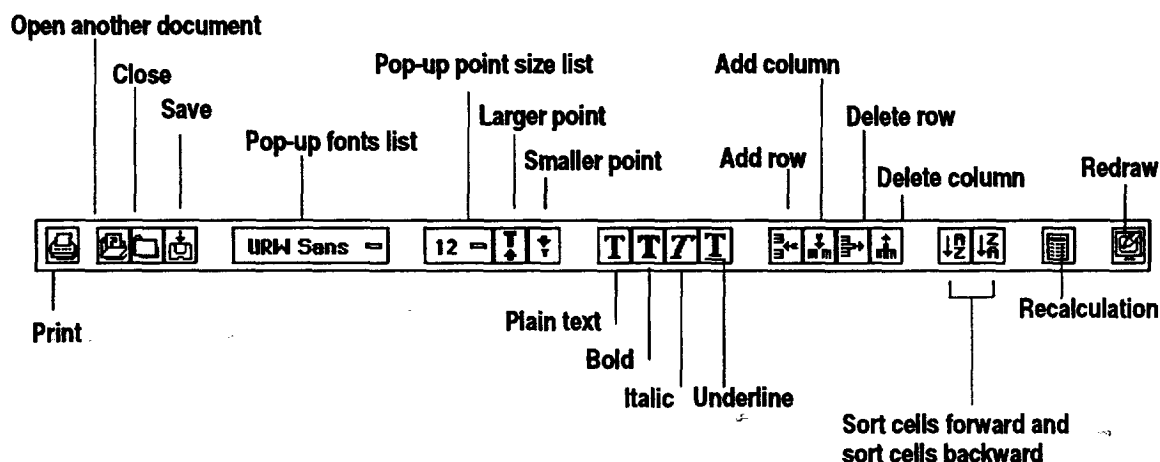
Using the Tool Bars

The tool bars in Spreadsheet provide quick access to menu functions. Like Word Processing, Spreadsheet contains five tool bars: Basic Functions, Advanced Functions, Graphic Bar, Drawing Tools, and Bitmap Tools.

► To open a tool bar:

1. Select Show Tools from the Options menu. *A submenu appears.*
2. Select the tool bar. *The tool bar appears on the screen.*

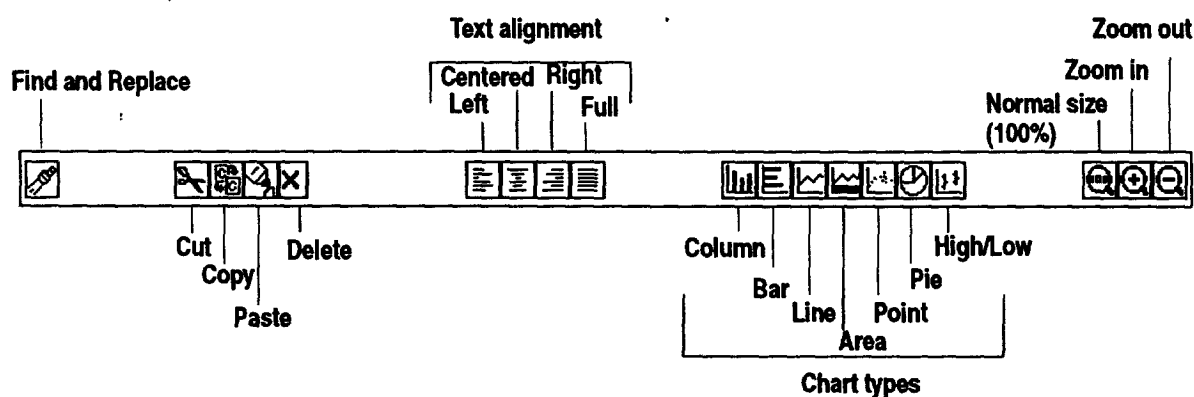
The Basic Functions Tool Bar



Button	Tool Name	Description
	Insert Row	Adds one row above the current row. If you have selected multiple rows, Insert Row adds the same number of rows above the selection.
	Delete Row	Deletes the current row. If you have selected multiple rows, Delete Row deletes the rows containing the selected cells.
	Insert Column	Adds one column left of the current column. If you have selected multiple columns, Insert Column adds the same number of columns to the left of the selection.
	Delete Column	Deletes the current column. If you have selected multiple columns, Delete Column deletes the columns containing the selected cells.
	Sort Forward	Sorts the selected cells in alphabetic or numeric order.
	Sort Backward	Sorts the selected cells in reverse alphabetic or numeric order.
	Recalculation	If you have specified manual calculation using Calculate on the Options menu, you can click on this button to make Spreadsheet calculate all formulas in the spreadsheet.

The Advanced Functions Tool Bar

Use the Advanced Functions tool bar for more advanced menu functions like creating charts from spreadsheet data.



Button	Tool Name	Description
	Column	A column chart plots each category as a series of vertical bars. The height of the bar corresponds to the value of the category.
	Bar	A bar chart is like a column chart except that the bars are horizontal rather than vertical.
	Line	A line chart is a plot of values connected by straight lines.
	Area	An area chart is a line chart in which the area below the line is filled with a pattern.
	Point	A point chart is a plot of points.
	Pie	A pie chart is a circular chart where each slice represents a part of the whole.
	High/Low	A high/low chart is useful for tracking pairs of data that mark a high and low or a start and end value, such as the price of stocks or the day's temperature range.

Graphic Bar, Drawing Tools, and Bitmap Tools

Use the Graphic Bar, Drawing tools, and Bitmap tools for creating and editing graphic objects in Spreadsheet. For more information on creating and editing graphic objects, see the chapter on Drawing, which begins on page 125.

Moving around in a Spreadsheet

You can scroll through a spreadsheet by clicking on the scroll bars at the right of the screen or by using the keyboard.

► To scroll using the keyboard:

Use any of the following keystrokes to scroll through a spreadsheet:

- **PAGE UP.** Scrolls the screen up.
- **PAGE DOWN.** Scrolls the screen down.
- **CTRL + PAGE UP.** Scrolls the screen left.
- **CTRL + PAGE DOWN.** Scrolls the screen right.

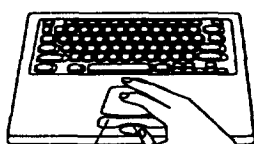
Selecting Cells and Ranges

When you select a range of cells, all selected cells appear highlighted. One cell within the range is the active cell, appearing with a border around it.

To enter information in a cell or make changes to it, first select it to make it the active cell. The active cell appears highlighted with a heavy black border around it, as shown in the illustration below.

When you want to work with a group of cells, first select the entire group or **range** of cells. For example, to copy a group of cells from one part of a spreadsheet to another, first select the range that includes all the cells you want to copy, as shown in the following illustration.

To select (or click on a cell or other item): place the on-screen pointer in a cell; then click on the Select button or tap once on the glidepad.



Select button (left button on a mouse)

Drag button (right button on a mouse)

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Active cell

Selected range

Like individual cells, ranges have addresses. A range address consists of the address of the upper left cell, followed by a colon (:), followed by the address of the lower right cell. In the illustration on the previous page, the address for the selected range is B3:D13.

To deselect a cell, select something else.

► **To select a single cell:**

Click on the cell you want to select.

OR

Double-click on the cell address that appears in the Edit bar, type the address of the cell you want to select, and then press **ENTER**.

OR

Select Go to Cell from the View menu, type the address of the cell you want to select, and then click on Go To.

► **To select a range of cells:**

Drag from the first cell to the last cell of the range you want to select.

OR

Select Go to Cell from the View menu, type the address of the cells you want to select (for example, A1:H10), and then click on Go To.

► **To select an entire row or column:**

Click on the row or column header.

► **To select multiple rows or columns:**

Drag from the first row or column header to the last row or column header. *Spreadsheet highlights the rows or columns as you drag.*

When an area is locked with the Lock Titles command (rows or columns), you cannot change any information or format of the cells in the locked area. See page 118 in this chapter.

If you attempt to enter the locked area via the View/Go To Cell menu item, the following message appears: The selected cell is located in the locked area. Unlock the titles and try the operation again.

► **To select a cell using the keyboard:**

Use any of the following keystrokes to select a cell:

- **ARROW KEYS** (↑ × ↓ × ← × →). Selects the next cell in the direction of the arrow.
- **HOME**. Selects the first cell in the current row.
- **CTRL + HOME**. Selects the first cell in the spreadsheet (A1).
- **END**. Selects the last filled cell in the current row.
- **CTRL + END**. Selects the last filled cell in the spreadsheet's active area.
- **CTRL + →**. Selects the last filled cell to the right in the current row, or the first filled cell to the right, or if no more filled cells to the right, the last unfilled cell in the row.
- **CTRL + ←**. Selects the last filled cell to the left in the current row, or the first filled cell to the left, or if no more filled cells to the left, the first unfilled cell in the row.
- **CTRL + ↑**. Selects the last filled cell above the active cell in the current column, or the first filled cell to the right, or if there are no more filled cells above the active cell, the first unfilled cell in the column.
- **CTRL + ↓**. Selects the last filled cell below the active cell in the current column, or the first filled cell to the right, or if no filled cells appear below the active cell, the last unfilled cell in the column.

► **To select a range of cells using the keyboard:**

Hold down **SHIFT** while using one of the keystrokes shown above. This selects the range from the active cell to the destination for the keystroke you use. For example, if C23 is the active cell, you can press **SHIFT + CTRL + HOME** to select the entire range A1:C23.

Working with Values and Labels

Build a spreadsheet by entering *values*, *labels*, and *formulas*.

Values. Values are numbers, for example, sales figures for the past four quarters.

Dates can be entered as labels or as formulas, depending on how you want to use them. See Entering and Changing Dates on page 75.

Labels. Labels are text; they are the titles or descriptive text that describe the contents of rows and columns, for example, First Quarter, Second Quarter, Third Quarter, and Fourth Quarter.

Formulas. Formulas perform calculations, like averaging a list of values. Spreadsheet contains prewritten formulas called **Built-in Functions**; for example, a built-in function called SUM totals values, such as the sales for all four quarters.

This section explains how to enter values and labels in a spreadsheet. For more information about formulas, see Working with Formulas on page 85.

Entering Values and Labels

► To enter values or labels:

1. Select the cell in which you want the entry to appear.
2. Type the entry (numbers or words) in the cell. If you are using the numeric keypad to enter numbers, be sure the **NUM LOCK** key is on. To turn it on, click on the **NUM** button in the lower left corner of the screen or press **NUM LOCK**. If you make a typing mistake, press **BACKSPACE** to erase characters to the left of the insertion point in the Edit Area.
3. Press one of the following keys to complete the entry:
 - **ENTER.** Moves the highlighting down one cell.
 - **SHIFT + ENTER.** Moves the highlighting up one cell.
 - **TAB.** Moves the highlighting to the right one cell.
 - **SHIFT + TAB.** Moves the highlighting to the left one cell.
 - **(↑ × ↓ × ← × →).** Moves the highlighting one cell in the direction of the arrow.
 - **CTRL + ENTER.** Keeps the highlighting in the current cell; the active cell does not change.

*If you have selected a range of cells, press **ENTER** to move down columns and press **TAB** to move across rows.*

You can also complete your entry by clicking on Enter in the Edit bar. In this case, the highlighting does not move.

Notes on Entering Labels

	B	C	D	
	The Last Final Deadlines			

If you enter a label wider than the cell, it spills over into the next cell to the right as long as that cell is empty. If the cell to the right is full, the text appears cut off. The complete text of the label *is* stored in the cell, but you cannot see it unless you make the column wider (see *Changing the Appearance of a Spreadsheet* on page 82).

To enter a number as a label or to enter a label that begins with an equal sign (=), start by typing an apostrophe (') or a double quotation mark ("). When you start an entry with a double quotation mark, the entry appears left justified and the double quotation mark does not appear. For example, to enter **1993** as a label, type "1993. To enter **=National Average** as a label, type "=National Average.

Notes on Entering Values

<input checked="" type="checkbox"/> 572833417648273			
B	C	D	
The Last Minute Predictions			
111			

If a cell is not wide enough for a numeric value you enter (or for the result of a formula), the symbol ### appears in the cell, as shown in the illustration to the left. The value *is* stored in the cell, but you cannot see it unless you make the column wider. (See *Changing the Appearance of a Spreadsheet* on page 82.)

You can enter values between 10^{-4932} and 10^{4932} . All numbers and calculations are accurate to 15 decimal places. Even when Spreadsheet rounds off a number to fewer than 15 decimal places, it uses all 15 decimal places in calculations.

Do not enter commas or dollar signs when you enter values, although you can specify a format that adds commas automatically. (See *Changing the Number Format for Values* on page 74.)

You can use any of the following characters in the values you enter:

1 2 3 4 5 6 7 8 9 0 + - E e.

Use **E** or **e** to specify scientific notation. For example, to enter 3.75×10^{15} , you can type either of the following: **3.75e15** or **3.75E15**.

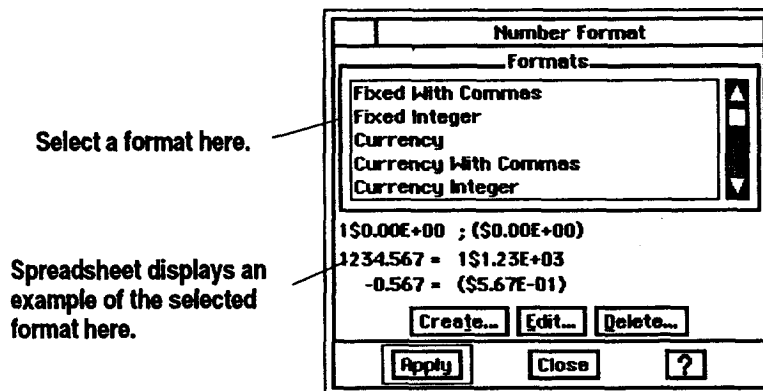
Changing the Number Format for Values

When you enter a value, Spreadsheet automatically shows it in a standard format; however, you can change the format to suit your needs. The following table shows the available formats for values:

Format	You Type...	Spreadsheet Displays
General	1234567	1234567
Fixed (2 decimal places)	123.4567	123.46
Fixed with Commas	1234.567	1,234.57
Fixed Integer (rounded to a whole number)	1234.567	1235
Currency	1234.567	\$1234.57
Currency with Commas	1234.56	\$1,234.57
Currency Integer (rounded to nearest dollar)	1234.567	\$1235
Percentage (times 100)	.085	8.50%
Percentage Integer (times 100, rounded to whole percent)	.4275	43%
Thousands (divided by 1000 and rounded)	1234567	1234.57
Millions (divided by one million and rounded)	123456789	123.46
Scientific	1234.5678	1.23E+03

► **To change the format of values:**

1. Select the cell(s) containing the value(s) whose format you want to change.
2. Select Number Format from the Properties menu. *A dialog box appears:*



3. Select the format you want from the Formats list. *An example of the format appears in the dialog box.*
4. Click on Apply. *Spreadsheet changes the format of the selected cell(s).*
5. Click on Close. *The dialog box disappears.*

Entering and Changing Dates and Times

There are two ways to enter dates and times in your spreadsheet: as labels or as formulas.

► **To enter a date or time as a label:**

Type the date exactly as you want it to appear. For example, you could type any of the following:

- Jan 15, 1997
- January 15, 1997
- 1/15/97
- 97-01-15

OR

Type the time exactly as you want it to appear. For example, type 12:00.

Entering dates and times as formulas

Dates entered as formulas are stored as serial numbers representing the number of days since January 1, 1900. For example, January 1, 1993 would be stored as the number 33969.

When a date is stored as a serial number, you can use Spreadsheet to change its format automatically. You can also use the date in formulas. For example, you can change Jan 15, 1993 to 1/15/93 without retyping. And you can subtract May 3, 1990 from June 15, 1991 to determine the number of days between the two dates (408). To take advantage of these features, first enter your date as a formula using the built-in DATE function.

Times entered as formulas are also stored as serial numbers. For example, if you enter =TIME (12,34,23) and press **ENTER**, Spreadsheet returns 0.523877, the serial number format of 12:34 and 23 seconds. You can change the format of the cell to show the time in normal format (12:34:23).

► To enter a date or time as a formula:

1. Select the cell in which you want to enter a date.
2. Type =DATE. *The characters appear in the Edit Area.*

OR

Type =TIME. *The characters appear in the Edit Area.*

3. Type an open parenthesis, followed by numbers representing the year, month, and day of the date you want to enter. Then, type a close parenthesis. Be sure to type the year, month, and day in that order.

OR

Type an open parenthesis, followed by numbers representing the time. Then type a close parenthesis. Type the hour, minute, and second in that order.

4. Press **ENTER**. *The serial number for the date or time appears in the cell.*

Unless you want the date or time to appear in your spreadsheet as a serial number, change the date or time format. The next section explains how to do this.

Format Formulas

When you enter a date or time value as a formula, Spreadsheet initially displays a number; however, you can change the format to suit your needs. The following table shows the available date and time formats:

Format	Example
Date : Long	23456 = Saturday, March 21st, 1964
Date : Long, Condensed	23456 = Sat, March 21st, 1964
Date : Long, No Weekday	23456 = March 21st, 1964
Date : Long, Condensed, No Weekday	23456 = Mar 21st, 1964
Date : Short	23456 = 3/21/64
Date : Short, Zero Padded	23456 = 03/21/64
Date : Long, Month & Day	23456 = Saturday, March 21st
Date : Long, Month & Day, No Weekday	23456 = March 21st
Date : Short, Month & Day	23456 = 3/21
Date : Long, Month & Year	23456 = March 1964
Date : Short, Month & Year	23456 = 3/64
Date : Year	23456 = 1964
Date : Month	23456 = March
Date : Day	23456 = 21st
Date : Weekday	23456 = Saturday
Time : Hour Min Sec	1234.567 = 2:36:29PM
Time : Hour Min	1234.567 = 2:36PM
Time : Hour	1234.567 = 2 PM
Time : Min Sec	1234.567 = 36:29

Use the same procedure to change date and time formats that you use to change number formats.

► To change the format for dates or times:

1. Select the cell(s) containing the value(s) whose format you want to change.
2. Select Number Format from the Properties menu. *The Number Format dialog box appears.*
3. Select the format you want from the Formats list. *An example of the format appears in the dialog box.*
4. Click on Apply. *Spreadsheet changes the format of the selected cell(s).*
5. Click on Close. *The dialog box disappears.*

Formatting Spreadsheets

Formatting options do not affect calculations; instead, they allow you to change the appearance of a spreadsheet. This section describes how to do the following:

- Show and print grid lines
- Display cell borders
- Create headers and footers
- Add tone, shades of gray, or various patterns
- Create notes

Showing Grid Lines

A **grid** is the matrix of horizontal or vertical lines dividing the spreadsheet into rows and columns. Each individual line is a **grid line**. You can show grid lines on screen and print your spreadsheet with or without them. The default setting for grid lines is to display them.

You can print grid lines whether they are visible on screen or not. Use Page Setup from the File menu to specify printing grid lines.

► To show or hide grid lines:

1. Select Other Settings from the Options menu.
2. Select Draw Grid Lines to show the grid lines.

OR

Deselect Draw Grid Lines to hide the grid lines.

Showing Cell Borders

To create an interesting visual display of your numeric information you can display cell borders.

► To display cell borders:

1. Select the cells to border.
2. Select Cell Borders from the Properties menu. *The Cell Borders dialog box appears.*
3. Select the borders you want. *The Outline option displays a border around the selection and deselects Left, Top, Right, and Bottom.*
4. Click on Apply. *The dialog box remains on the screen until you close it, so that you can make changes.*
5. Click on Close.

Using Headers and Footers

Headers and **footers** are the text that prints at the top or bottom of each page. They can be as simple as the page number, or they can include more descriptive information, such as the following:

Enter header and footer text in cells that are not part of the main information in your spreadsheet. Then, when you print, select a print range that excludes the cells containing the header and footer text. If you include the cell containing the header or footer in the print range of cells, then the header or footer will print twice. See page 120 for printing your spreadsheet.

- Date the document was created or printed
- Page number
- Name of the document
- Your name or the name of your department, business, or school
- Graphics such as a logo or drawing

Header text size cannot exceed 24 points.

► To create a header or footer:

1. Enter the header or footer text in a cell or range of cells that is not part of the main information. (See the sidenote on the left.)
2. Select the cell or range.
3. Select Header/Footer from the Cell menu. A *submenu appears*.
4. Select either Set Header or Set Footer from the submenu. *The selected information will print at the top or bottom of the page, as you have indicated.*

To create page numbers that automatically number themselves, type the page number function formula. See page 223. Be sure to type = to start your page formula.

► To number pages consecutively:

1. Select the footer cell that you created above.
2. Select Insert Function from the Formula menu.
3. Select Print from the box on the left, and Page from the box on the right.
4. Select Paste. *The formula is pasted in the text entry box.*
5. Press **ENTER**. *Your pages will be automatically numbered.*
6. Click on Close. *This exits you from the footer Edit bar.*

Using Tones

To add interest to your spreadsheet presentation, use tones or shades of gray for the following elements in a spreadsheet:

- Text
- Background
- Cell borders

► To change the text tones:

1. Select the cells that contain the text to which you want to apply different tones.
2. Select Text Tone from the Properties menu. *A dialog box appears.*
3. Fill in the dialog box:
 - **% Shaded.** Select the percent shading for the text tone. The lower the number, the more faded the tone. By default, this setting is 100. If Unfilled is selected, this attribute is set to zero (0).
 - **Tone Tools.** Select the text tone from the tone palette.
4. Click Apply. *The dialog box remains on the screen until you close it so that you can change the tone of different text selections.*

The background is the cell itself. If you set the background tone to white and the text tone to black, the cell entries will appear as black text on a white background.

► To change the tone of the background:

1. Select the cells for which you want to change the background tone.
2. Select Text Background Tone from the Properties menu. *A dialog box appears.*
3. Fill in the dialog box:
 - **Filled or Unfilled.** Select Filled to set other options in this dialog box. By default, the text background tone is unfilled.
 - **% Shaded.** Select the percent shading for the text background tone. The lower the number, the more faded the tone. A setting of zero (0) causes the text to disappear. By default, this setting is 100.
 - **Tone Tools.** Select the text background tone from the tone palette.
4. Click on Apply. *The dialog box remains on the screen until you close it so that you can change the background tone of different cell selections.*

► To change the tone of cell borders:

If you have added cell borders, you can change the tone of those borders.

1. Select the cells for which you want borders.
2. Select Border Tone from the Properties menu. *A dialog box appears.*

3. Fill in the dialog box:
 - **% Shaded.** Select the percent shading for the text tone. The lower the number, the more faded the tone. By default, this setting is 100. If Unfilled is selected, this attribute is set to zero (0).
 - **Tone Tools.** Select the text tone from the tone palette.
4. Click on Apply. *The dialog box remains on the screen until you close it, so that you can change the tone of different cell borders.*

Creating Notes

Notes provide additional information about the contents of your spreadsheet. They can be a reminder to check a reference or a message to a reviewer of the spreadsheet information.

Marian Plaza	10:30
Seaside Drive	11:35

Note Indicator

When you attach a note to a cell, a Note Indicator appears (see example on the left).

The note does not appear in the document; instead, it appears in a special box that you can print with the spreadsheet, if you want.

► To attach a note:

1. Select the cell to which you want to attach a note.
2. Select Notes from the Cell menu. *The Notes dialog box appears.*
3. Type the note in the dialog box.
4. Click on Apply. *A Note Indicator, a small square, appears to indicate that a note is attached.*
5. Click on Close.

► To show or hide the Note Indicators:

1. Select Other Settings from the Options menu. *A submenu appears.*
2. Select Show Notes to display the Note Indicators in cells that have attached notes.

OR

Deselect Show Notes to hide them.

► To print notes:

1. Press **PRINT**. *The Print dialog box appears.*
2. Select Print Cell Notes.
3. Click on Print. *Spreadsheet prints the spreadsheet with the notes attached.*

Changing the Appearance of a Spreadsheet

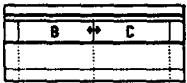
You may want to change the appearance of a spreadsheet to improve its presentation. For example, you might want to emphasize certain aspects with a different text style or alignment.

This section explains how to do the following:

- Adjust the width of columns and the height of rows
- Change the alignment of information in cells
- Change the text style of information in cells

Adjusting Column Width and Row Height

Sometimes when you enter information, it appears truncated or as ### because the column is not wide enough. You can change the column width by dragging the on-screen pointer or by selecting from the Cell menu.



► To change the column width by dragging:

1. Move the pointer to the header area at the top of the spreadsheet. *When the pointer is over the divider that separates the column letters, it changes to a double arrow, as shown in the illustration at left.*
2. Press and hold the Select button and drag the column divider on the right side of the column until the column is the width you want.

OR

With the Select button, double-click on the column divider on the right side of the column to set the column width just wider than the longest entry in the column. This is the same effect you get if you select Best Fit from the Cell menu.

► To change the column width using the Cell menu:

1. Select a cell anywhere in the column whose width you want to change.
2. Select one of the following from the Cell menu:
 - **Narrower** makes the column 8 points narrower. The default width is 64 points.
 - **Wider** makes the column 8 points wider. The default width is 64 points.
 - **Best Fit** makes the column wide enough to fit the widest entry it contains.

Using the menu, you can adjust column width and row height when titles are locked. However, you cannot do this for entire rows or columns that are locked.

A standard column is 64 points wide. A point is nearly 1/72 of an inch.

Normally the height of each row adjusts automatically to accommodate the text size you use. However, you can manually change the row height.

► To set a column width exactly:

1. Select the column for which you want to set the width. To do so, you can either click on the column header or select a cell in the column.
2. Select Column Width from the Cell menu. *A dialog box appears.*
3. Enter the number of points you want to use for the column width.
4. Click on Apply. *The dialog box remains on the screen until you close it, so that you can keep adjusting the width.*
5. Click on Close.

► To set a row height manually:

1. Select the row for which you want to set the height. You can either click the row header or select a cell in the row.
2. Select Row Height from the Cell menu. *A dialog box appears.*
3. Click on the Automatic check box to turn it off, and click inside the Height value selector.
4. Enter the number of points you want to use for the row height.
5. Click on Apply. *The dialog box remains on the screen until you close it, so that you can keep adjusting the height.*
6. Click on Close.

Changing Alignment

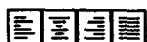
When you enter labels in a cell, Spreadsheet aligns it at the left edge. When you enter values, Spreadsheet aligns it at the right. And if you enter a formula, the result of the formula appears right-aligned.

► To change the alignment of cells:

Select the cells you want to align; then use the following control keys:

Control Key	Alignment
CTRL + L	Left
CTRL + E	Center
CTRL + R	Right
CTRL + J	Justified

You can also select Alignment from the Properties menu or from the Advanced Functions tool bar (see page 68).



Using Different Text Styles

You can apply more than one style to your text, such as **bold italic**.

Using different text styles can highlight important information and improve the overall appearance of a spreadsheet. You can change the text style for any cell or range of cells in your spreadsheet, whether they contain labels, values, or formulas.

► To change the style of text:

1. Select the cell or range of cells you want to change.
2. Select Styles from the Properties menu.

Selecting either superscript or subscript affects the entire cell. You cannot make a portion of the cell's contents superscript or subscript.

Plain, Bold, Italic, and Underline can also be selected from the Basic Functions tool bar.

- Plain (the text style without bold, italic, or underline)
- **Bold**
- *Italic*
- Underline
- ~~Strikethru~~
- Superscript (e.g. $a^2 + b^2 = c^2$)
- Subscript (e.g. H_2O)

► To change the font:

1. Select the cell or range of cells you want to change.
2. Click on the Pop-up fonts list from the Basic Functions tool bar. A list of available fonts appears.
3. Select the font that you want. The text in the selected cell(s) changes to the new font.

T T T T

The current font appears on the Basic Functions tool bar's Pop-up fonts list.

URW Sans —

Working with Formulas

Spreadsheet uses floating point math, which has benefits such as speed. But it produces errors in the 17th or 18th significant digit. These errors only become apparent in some calculations, especially when you use financial functions like IRR and NPV. Spreadsheet adheres to the IEEE 754 standards for floating point calculations.

Formulas describe calculations you want Spreadsheet to perform. When you start to use formulas, you see the power of a spreadsheet. Each time you change the contents of a cell anywhere in your spreadsheet, Spreadsheet automatically recalculates *every* formula in the spreadsheet.

Formulas are made up of the following elements:

- **References** to particular cells or ranges like A1 or B12:C18
- **Operators** like + and – for addition and subtraction
- **Values** like 5, 100, and 0.25
- **Built-in functions** or prewritten formulas built into Spreadsheet (DATE, SUM, and AVG are built-in formulas)

This section explains how to combine these elements in a formula that performs a calculation.

Entering Formulas

B4 =B1+B2+B3			
	A	B	C
1	Dinner	25.00	
2	Tickets	15.00	
3	Parking	5.00	
4	TOTAL	45.00	
5			

Begin a formula by typing = (an equal sign). Next, use references, values, operators, and built-in functions to describe the calculation you want to perform. The illustration at the left shows how you might use a formula to add expenses.

Cell B4 contains the following formula: **=B1+B2+B3**

This formula tells Spreadsheet to add the values in cells B1, B2, and B3; and show the result in cell B4. Here are the elements of this formula:

- The equal sign (=) tells Spreadsheet it is a formula. All formulas must start with an equal sign.
- B1, B2, and B3 are references.
- The plus signs (+) are operators.

The example above does not include a built-in function, which is a prewritten formula built into Spreadsheet. For more information about built-in functions, see page 88.

► To enter a formula:

1. Select the cell in which you want to enter the formula.
2. Type = to begin the formula. *The equal sign appears in the Edit Area.*
3. Click on the first cell you want to use in the calculation. *The cell address appears in the Edit Area.*
4. Type the mathematical operator you want to use. For example, type * for multiplication (see page 88 for a list of operators).
5. Click on the second cell you want to use. *The cell address appears in the Edit Area.*
6. Continue clicking and typing operators until the formula in the Edit Bar appears as you want it.
7. Click on the Enter button next to the Edit Area. *The result of the formula appears in the cell.*

Using References in Formulas

Most formulas include at least one reference.

A **reference** tells Spreadsheet where to look to find the values you want to use in a formula.

You can use two types of references in the formulas you create: **relative references** and **absolute references**. Your choice depends on how you want Spreadsheet to treat the references when you copy or move the formula from one cell to another.

Relative references

A **relative reference** tells Spreadsheet how to find a particular cell starting from the cell containing the formula, such as: go two rows up and one column to the right. It is like telling someone how to get to your house from theirs: go three blocks east and then four blocks south.

Relative references are cell addresses; for example, B4, D8, and A1.

When you copy a formula that contains relative references from one location to another, Spreadsheet adjusts the references in the formula relative to the new position of the formula. For example, in an annual budget spreadsheet, you could use a formula with relative references to add the numbers in the January column; then, when you copy the formula to the columns for February through December, Spreadsheet adjusts the relative references so that each formula totals the numbers for the column in which it appears.

Absolute references

B7	=B4*B7\$B\$212.08		
	B	B	C
1			
2			
3		0.08	
4			

An *absolute reference* tells Spreadsheet the specific address of a cell. An absolute reference is like telling someone your exact address: 3628 Sixteenth Avenue. When you copy a formula from one location to another, Spreadsheet does not adjust absolute references. Use an absolute reference when you want to refer to the same cell, regardless of where you may copy the formula in the spreadsheet. (For details on copying formulas, see page 95.)

For example, when performing financial calculations, you might want to refer to a specific cell containing an interest rate; for example, 8% in cell B3. When you want to copy the formula, the reference to cell B3 must not change. Otherwise each calculation would be based on a different interest rate. To ensure that all copies of the formula use the value in cell B3, you enter the absolute reference **\$B\$3**. (For more information on the financial function, see Using Built-in Functions in Formulas on page 88. Also see the Appendix for a listing of the financial functions.)

REFERENCE	TYPE
B3	Relative reference
\$B\$3	Absolute reference
B\$3	Relative column, absolute row
\$B3	Absolute column, relative row

To enter an absolute reference, enter the address with a dollar sign before the column and/or row indicators. B3 is a relative reference. **\$B\$3** is an absolute reference, with both the column and the row absolute. You can also create hybrid references making either the column or row absolute and the other relative, as shown in the table on the left.

Using Operators in Formulas

Notice that percentage is a form of multiplication.

To use the exponentiation operator, click on the SYM button to open the On-screen Keyboard.

Operators describe the type of calculation you want to perform, for example, addition or subtraction. The following table shows the operators you can use in formulas.

Operator	Description	Example
%	Percentage	A14*22%
^	Exponentiation	13^3
* and /	Multiplication and division	A14*B12
+ and -	Addition and subtraction	A14+B12
&	Concatenation	"Rate "&A1&"%"

When you use more than one operator in a formula, Spreadsheet performs the calculations in the order shown in the table above; for example, % first, ^ second, and so forth. If you use more than one operator with the same priority (like + and -), Spreadsheet performs those calculations from left to right.

FORMULA	RESULT
50 + 100/2	100
(50 + 100)/2	75

Change the order of calculations by enclosing within parentheses those expressions you want calculated first. Spreadsheet evaluates expressions enclosed in parentheses first and then uses those results to calculate the rest of the formula. The table at the left shows some examples.

Using Built-in Functions in Formulas

Built-in functions perform common calculations automatically. Use them in formulas to simplify your work. For example, the SUM function totals a group of numbers, and the NPV function computes the net present value of an investment.

Keywords and arguments

Each built-in function includes a **keyword** like SUM or AVG. Most functions also require that you specify **arguments**. Arguments are the values to calculate, such as the numbers to total using the SUM function.

To specify arguments, use a list of values, separated by commas and enclosed in parentheses. If the values are in cells, you can list those cells as the arguments. For example, to sum the numbers 2, 3, 5, and 6 enter SUM(2,3,5,6). Or if those numbers are in cells A1, A2, A3, and A4, you can enter one of the following:

SUM(A1,A2,A3,A4) or SUM(A1:A4)

Placeholder arguments

When you insert a built-in function in a cell, you can automatically insert placeholders for the arguments. These placeholders appear with the function in the Edit Area. Since each function has different arguments, the placeholders can help you remember what arguments to enter for a particular function. After inserting the function, replace the placeholders with the actual arguments you want to use.

For example, you can insert the AVG function with placeholders inside the parentheses to remind you to enter the values to be averaged. If you insert the AVG function with placeholders, the following appears in the Edit Area:

=AVG(value 1, value 2, ...)

To use the AVG function to average the values, for example, in cells A1, A2, A3, A4, and A5, replace the placeholders with addresses of cells that contain the values, as in the example below.

=AVG(A1, A2, A3, A4, A5) or =AVG(A1:A5)

You may also enter the numbers themselves instead of the cell addresses.

For some functions, such as the financial functions, it is important to enter the arguments in the order shown in the dialog box and in Appendix A of this manual. Inserting placeholders will help you remember the order.

Entering built-in functions

To include a built-in function in a formula, either insert the function using Insert Function from the Formula menu or type the function and all of its arguments. When you use Insert Function, you have the additional option of inserting placeholder arguments.

► To insert a function using the Formula menu:

1. Select the cell where you want the result of the calculation to appear.
2. Select Insert Function from the Formula menu. *A dialog box appears.*

3. Select the function from the Functions list on the right. You can select a function type from the list on the left so that the Functions list shows only functions of the type you select.
4. Select Paste Arguments (the default) if you want to insert placeholder arguments with the function.
5. Click on Paste. *The function appears in the Edit Area with placeholders.*
6. Click on Close.
7. In the Edit Area, double-click on the first argument to select it.
8. Type the text, value, formula or cell reference you want to use for the argument. Make sure you type it correctly. *Your entry replaces the placeholder argument.*
9. Continue replacing arguments as needed.
10. Press **ENTER**.
11. When the calculation is complete, the result appears in the spreadsheet. If the calculated result is not what you expect, be sure that you typed the formula correctly.
12. Click on Close.

Spreadsheet's built-in function types are listed on page 91. More information about each function and argument is in the Appendix, beginning on page 215.

► **To insert a function by typing:**

1. Select the cell where you want the result of the calculation to appear.
2. Type = to begin the formula. *The equal sign appears in the Edit Area.*
3. Type the function name (for example, =SUM).
4. Type the arguments, enclosed in parentheses. Be sure to include commas between arguments (for example, =SUM(A1,A2)).
5. Press **ENTER**. *When the calculation is complete, the result appears in the spreadsheet.*

You can embed one function within another. For example, to sum a range of values and get its integer value, you could type =INT(SUM(A3:A9)).

► **To use a function within a function:**

1. Insert the first function.
2. In the Edit Area, select the argument you want to replace with a function.
3. Insert the second function.
4. Continue in this manner until the formula is complete.
5. Press **ENTER**.

Spreadsheet's Built-in Functions

Spreadsheet provides the following built-in function types:

- Financial
- Information
- Logical
- Math
- Print
- Statistical
- String
- Time and Date
- Trigonometric

When you select Insert Function from the Formula menu, a dialog box appears with a list of these function types on the left and the built-in functions on the right. For example, when you select MATH from the left, the corresponding math functions appear on the right. If you select ALL from the left, all of Spreadsheet's functions appear on the right in alphabetical order.

This section gives general descriptions of the function types. More detailed information is in the Appendix, beginning on page 215.

Financial functions

Financial functions provide formulas for common financial calculations. For example, the FV (Future Value) function calculates the future value of a stream of regularly invested payments.

The arguments for financial functions are either values or addresses of cells that contain values. When the argument is the interest rate, express it as its actual value (.07 rather than 7 to indicate 7%). Be sure to specify the same units for the term and the interest. If the interest is monthly, the term is also monthly.

Information functions

The information functions return information about a cell or range of cells. For example, the COUNT function counts the number of items in a list.

Logical functions

The logical functions evaluate relationships and return true or false results. For example, the IF function looks at a condition, such as whether the contents of B13 = 500, and returns a true or false answer (true=1, false=0).

Mathematical functions

Mathematical functions provide common mathematical formulas. For example, INT (Integer) truncates a value to the nearest whole number. The arguments for mathematical functions are either values or addresses of cells that contain values.

Print functions

The print functions return the name of the current file, the current page, and the number of pages. For example, PAGE returns the current page number and can be inserted in headers and footers for numbering pages.

Statistical functions

Statistical functions provide formulas for common statistical calculations. For example, MAX returns the largest value in a list. The arguments for statistical functions consist of either values or addresses of cells that contain values.

String functions

A string is a series of characters. String functions extract text (including numbers) or return values based on the text. At least one argument in each string function is a text string.

Time and date functions

The time and date functions allow you to enter times and dates in serial form, which is a form that Spreadsheet can understand. For example, you can use the DATEVALUE function to create the appropriate serialized date such as 33988 for January 20, 1993. These functions are most useful in formulas where the time and date are calculated rather than entered as a constant.

Trigonometric functions

Trigonometric functions provide formulas for common trigonometric calculations. The arguments for trigonometric functions are either values or addresses of cells that contain values.

Editing the Spreadsheet

After you have created a spreadsheet, you may want to make some changes. This section describes how to do the following:

- Edit the contents of a cell
- Copy and move information in a spreadsheet
- Insert and remove rows and columns
- Fill a range with a series of incremental values

Editing the Contents of a Cell

Change entries to correct an error or to update the spreadsheet to reflect new information. If it is a simple change, select the cell to make it active and then type the new entry. If you want to make a change in a complex entry, you may want to work in the Edit Bar.

► **To edit the contents of a cell:**

*To begin editing the selected cell, press **CTRL + SPACEBAR**.*

1. Select the cell you want to change.
2. In the Edit Area, select the information you want to change, or click where you want to insert new information.
3. Make the corrections you want.
4. To confirm your changes, press **ENTER**.

OR

To cancel the changes, click on the Restore button (see page 66) or press **ESC**.

You may want to delete information using Cut from the Edit menu; that way, if you accidentally cut the wrong information, you can paste it back in place.

► **To delete the contents of cells:**

1. Select the cell or range of cells whose contents you want to delete.
2. Press **DELETE**. *The contents of the cell or range are permanently deleted.*

OR

Press **CUT**. *The contents of the cell or range are transferred to the clipboard; you can use the Paste choice on the Edit menu to copy the cell or range to another location.*

Copying and Moving Information

Cut, Copy, and Paste also appear in the Edit menu.

As you work with Spreadsheet, you may find it convenient to copy and move information. There are two ways to do so:

- Use the Fill choices on the Cell menu to copy the contents of the active cell across a row or down a column.
- Use the **CUT**, **COPY**, and **PASTE** keys to copy or move information to any other location in a spreadsheet.

When you copy or move values and labels from one location to another, they appear the same in both locations. When you copy or move formulas, however, Spreadsheet automatically adjusts relative references for the new position of the formula. You can override this automatic adjustment by using absolute references. For more information, see Using References in Formulas on page 86.

Copying to adjacent cells

Fill Right and Fill Down provide a handy shortcut when you want to copy the contents of the active cell across a row or down a column. This is useful when you want to copy formulas.

When copying formulas, Spreadsheet automatically adjusts the relative references.

► To copy a formula to adjacent cells:

1. Select a range of cells starting with the cell containing the formula to copy.
2. Select Fill Down from the Cell menu to copy the formula to the selected cells beneath it.

OR

Select Fill Right from the Cell menu to copy the formula to the selected cells right of the original.

The formula appears in the new locations:

10					
11			=SUM(B4:B9)	=SUM(C4:C9)	=SUM(D4:D9)

Copied formulas

Using Cut, Copy, and Paste

You can copy or move a single cell or a range of cells to any other location in a spreadsheet. Cut, Copy, and Paste work the same way in Spreadsheet as they do in other programs. Cut and Copy places the selected cells on the clipboard; Paste retrieves any previously cut or copied information from the clipboard.

► To copy or move information:

1. Select the cell, range, row(s), or column(s) you want to copy or move.
2. To copy the selection, press **COPY**; to move it, press **CUT**.
3. Select the first cell where you want to copy or move the information.
4. Press **PASTE**. *The values and formulas appear in the new location with the first cell of the copied selection appearing in the destination cell.*

You can also click on the Cut, Copy, and Paste buttons from the Advanced Functions tool bar (see page 68).

Using Drag and Drop

You can override the default drag and drop by holding down **CTRL** if you want to copy within a document or the **MENU** key if you want to move text from one document to another.

Use drag and drop to move or copy cells in your spreadsheet. Drag and drop works the same way in Spreadsheet as it does in other programs. If you drag and drop within the same document, the default behavior is to move the information. If you drag and drop from one document to another, the default behavior is to copy.

► To drag and drop information from one location to another:

1. Select the cell, range, row(s), or column(s) to move or copy.
2. Move the pointer over the selected range; then press and hold down the Drag button. *The drag and drop pointer appears.*
3. Drag the pointer so that it is over the first cell where you want to move or copy the information.
4. Release the Drag button. *The information is moved or copied, depending on whether you dragged within the same document or from one document to another.*

Inserting and Deleting Rows and Columns

After you have created a spreadsheet, you may need to add a row or column to make room for additional information. When information becomes obsolete, you will want to delete a row or column.



Insert Row tool

You cannot insert and delete rows, columns, and cells within a locked area (see page 118).

► To quickly insert a row or column:

1. Select a cell where you want to insert a row or column.
2. Click on the Insert Row tool on the Basic Functions tool bar.

OR

Click on the Insert Column tool on the Basic Functions tool bar.

► To quickly delete a row or column:

1. Select a cell in the row or column you want to delete.
2. Click on the Delete Row tool on the Basic Functions tool bar.

OR

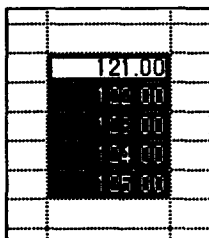
Click on the Delete Column tool on the Basic Functions tool bar.



Delete Row tool

Insert Row/Column or Delete Row/Column also appear in the Edit menu.

Filling a Range of Cells with Incremental Values



121.00
122.00
123.00
124.00
125.00

Using Fill Series from the Cell menu, you can automatically fill a range of cells with a series of incremental values. Select the range of cells and specify the starting value and the increment. Spreadsheet does the rest.

If the first cell in a series contains a 1, the next cell will be 2, the following 3, and so on. If the first cell contains a date, Fill Series increments the date; Monday increments to Tuesday, Wednesday, Thursday, and so on. Time increments from 1:00 to 2:00, 3:00, and so on.

► To fill a range with incremental values:

1. Enter the value or date you want to increment.
2. Select the range of cells you want to fill, starting with the cell you filled in containing the value or date you want to increment.
3. Select Fill Series from the Cell menu. *A dialog box appears.*
4. Fill in the dialog box, specifying the fill options you want:

Fill By. Select whether to fill rows or columns.

Units. Select the type of units for the fill: number, day, weekday, month, or year.

Progression. Select the progression you want Spreadsheet to use: Linear or Geometric. A linear series progresses one step at a time, for example, 1, 2, 3, 4, 5. A geometric series progresses by a specific multiplier at each step, for example, 1, 3, 9, 27, 81, 243.

Step. For a linear progression of numbers, enter the increment you want between each value. For a geometric progression of numbers, enter the multiplier you want to use between each value. For a progression of dates, enter the number of units (days, weekdays, months, or years) you want between each value.

5. Click on Fill. *The range is filled as you specified.*
6. Click on Close.

If you select Day, Weekday, Month, or Year in the Fill Series dialog box, and entered the date as a label, Spreadsheet creates additional dates as labels.

If you entered the date as a serial number, Spreadsheet creates additional dates as serial numbers; however, the cell must have a date format. To fill date information as text (such as Sunday or January), fill in the first value as text but do not abbreviate the month. For numbers such as a year value, to fill in a progressive series of years, enter the year as a label ("1990"), not a number. For more information, see Entering and Changing Dates on page 75.

Options for Spreadsheet Formulas

This section describes how to do the following:

- Show and hide formulas
- Assign names to cells for formulas
- Turn automatic recalculation on and off
- Use circular references and iteration in calculations

Showing and Hiding Formulas

To see a formula for a single cell, select the cell and look at the formula in the Edit Bar. If you want, you can display all of the formulas in the spreadsheet cells. This can be helpful if you have entered several formulas and want to see them all at once.

When you show all formulas, they appear in cells as if they were labels. That is, if a formula is too long for a cell, it may spill over into the next cell if that cell is empty. If the adjacent cell is not empty, the formula appears cut off.

► To show or hide all formulas:

1. Select Other Settings from the Options menu. *A submenu appears.*
2. Select Show Formulas to show all formulas.

OR

Deselect Show Formulas to hide all formulas.

Naming Cells and Ranges

When you create a formula, you must include references to the cell or cells that contain the numbers to calculate. You can refer to cells by their addresses, or you can name them and then use the name in formulas. Naming cells can make your formulas easier to read. The second formula in the following example is much easier to understand than the first.

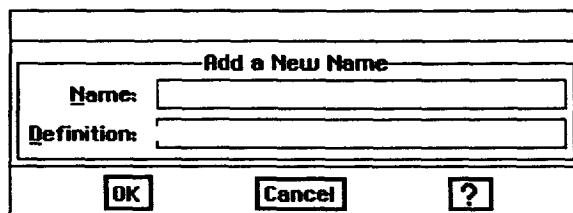
B4=B2+B3 or INCOME=SALARY+TIPS

Cell names can be up to 40 characters long and can include alphanumeric characters and the underscore (`_`) symbol. Cell names cannot contain numbers, spaces, or other characters. If you type a space, Spreadsheet inserts an underscore. Cell names are not case sensitive; for example, to Spreadsheet, the name Expenses is the same as EXPENSES and expenses.

Define a name that refers to a specific cell or range. For example, you might define RATE as A3; then, when entering formulas, you can type **RATE** instead of typing **A3**.

► **To define a name:**

1. Select Define Name from the Formula menu. A dialog box appears with a list of any names you have previously defined.
2. Click on New. Another dialog box appears:

A screenshot of a dialog box titled "Add a New Name". It contains two text input fields: "Name:" and "Definition:". Below the fields are three buttons: "OK", "Cancel", and a question mark icon.

3. Fill in the dialog box, specifying the name and reference you want to use:
 - **Name.** Enter the name (example, Cost).
 - **Definition.** Enter the cell address or the addresses for the range of cells. Use absolute references (example, \$B\$1) unless you want the named cells to be relative (see page 86 for information on absolute and relative references).
4. Click on OK. The name appears in the list in the Define Name dialog box.
5. Click on Close.

You can use absolute and relative references when defining a name for cells. An **absolute reference** tells Spreadsheet the specific address of a cell. A **relative reference** tells Spreadsheet how to find a particular cell starting from the cell containing the formula. For more information, see page 86.

Once you have defined a name, you can use it in any formulas you create. To do so, type the name in the formula. If you prefer, you can also select the name from a list in a dialog box.

► **To insert a name in a formula:**

1. Select a cell and begin entering a formula.
2. When the insertion point in the Edit Bar is in the position for the name you want to use, select Insert Name from the Formula menu. *The Insert Name dialog box appears, with the names you have created.*
3. Select the name you want to insert.
4. Click on Paste. *The name appears in the Edit Bar.*
5. Click on Close.

► **To change the name of a cell or range:**

1. Select Define Name from the Formula menu. *A dialog box appears.*
2. Select the name you want to change.
3. Click on Change. *A dialog box appears.*
4. Type the new name in the Name box.
5. Click on OK. *All formulas referring to the old name are updated to the new name.*
6. Click on Close.

If you change the definition of a name, the reference changes in existing formulas that contain that name. For example, if you have a range called Expenses that includes B5:B17 and you extend the range to B5:B24, all formulas using the name Expenses will be recalculated automatically to include the seven additional cells in the range. But if you delete the name, all formulas using that name will be wrong.

► **To change the definition of a name:**

1. Select Define Name from the Formula menu. *A dialog box lists existing names.*
2. Select the name for which you want to change the definition.
3. Click on Change.
4. Change the cell or range specification to suit your needs. Use absolute cell addresses unless you want the named range to reflect a relative position.
5. Click on OK. *Spreadsheet updates all formulas to reflect the change.*
6. Click on Close.

► **To delete a name:**

1. Select Define Name from the Formula menu. *A dialog box appears.*
2. Select the name you want to delete.
3. Click on Delete. *You are asked if you want to delete the name.*
4. Click on Yes to delete the name. *Spreadsheet deletes the name.*

Controlling Automatic Recalculation

Spreadsheet normally recalculates every formula in your spreadsheet when you make a change. If your spreadsheet is large or contains many complex formulas, this recalculation can be time consuming. In that case, you may want to turn automatic recalculation off and recalculate the spreadsheet manually whenever you want to.

► **To turn automatic recalculation on or off:**

1. Select Calculation from the Options menu. *A dialog box appears.*
2. Select Automatic or Manual to specify the type of calculation you want.
3. Click on OK.
4. Click on Close.

You can also recalculate by clicking on the calculate button from the Basic Functions tool bar.



► **To recalculate manually:**

Select Calculate Now from the Options menu.

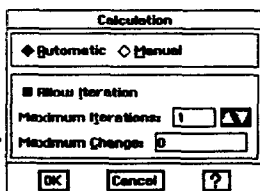
Using Iteration and Circular References

Occasionally, you may want to create a formula in which the calculation uses the result of the calculation. This is called a **circular reference**. For example, to calculate gross profit, subtract expenses from income. If one of the expenses is based on a percentage of the profit, for example, commission payments, the formula has to rely on the outcome of the calculation.

If you calculate this formula more than once, each successive calculation results in a smaller value. This is called **iteration**. Iteration is the process of recalculating a circular reference repeatedly, until the values converge, which means that the difference in the result of each successive calculation is no longer significant.

Before using circular references, turn on iteration using Calculation from the Options menu. If you enter a formula with a circular reference but do not specify iteration, **#CIRC#** appears in the cell.

► **To use iteration:**



1. Select Calculation from the Options menu. *The dialog box at the left appears.*
2. Fill in the dialog box, specifying the options you want.
 - **Allow Iterations.** Select the Allow Iteration option if you are going to use iteration in your spreadsheet.
 - **Maximum Iterations.** Enter the maximum number of iterations you want.
 - **Maximum Change.** Enter the maximum change you want to allow. If you enter zero, iteration will not stop until it converges or reaches the maximum number of iterations.

3. Click on OK.
4. Click on Close.
5. Create the formula with a circular reference. *Spreadsheet recalculates the formula the specified number of times or stops when the stated value for maximum change is calculated.*

Charting in Spreadsheet

Spreadsheet lets you create a variety of charts that represent numeric trends or results. You can include a chart as a part of your spreadsheet. Or, after creating a chart, you can copy it to the clipboard and use it in other programs like Drawing or Word Processing.

This section begins by describing the types of charts you can create. Information on creating and modifying charts begins on page 108. Information on printing charts begins on page 121.

What Is a Chart?

A **chart** is a graphic representation of numeric data. For example, you can create a chart to show the value of the consumer price index over a period of years, the total revenue for a company broken down by region, or the average student test grade through the school year.

Do not plot more than 12 items per chart.

Charts show the relationships between a *series* of *values* broken down into *categories*. For example, in a chart of monthly expenses, the series would include January, February, March, and so forth; the categories would include items like Rent, Food, and Utilities; and the values would be the actual expenditure incurred.

To create a chart, first select the data you want to create a chart from. You can select a portion of an existing spreadsheet, or create a new spreadsheet and enter the data to chart.

The following illustration shows the general format for data on which you base a chart:

	A	B	C	D	E
1	Chart Title	Series Name	Series Name	Series Name	Series Name
2	Category Name	value	value	value	value
3	Category Name	value	value	value	value
4	Category Name	value	value	value	value
5	Category Name	value	value	value	value
6					
7					

If you must use a number for the chart title, series name, or category name, place a quote mark (") before the number so Spreadsheet interprets it as text.

Chart Title. The title of the chart. This label is optional. If you do not place any text in this cell, the chart will not be titled. You can title it later using the Titles and Legends choice on the Chart menu.

Series Name. The series names are the labels of the spreadsheet columns.

Category Name. The category names are the labels of the spreadsheet rows. Spreadsheet uses these labels to create legends (see Adding Titles and a Legend on page 111).

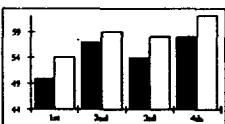
Value. The numeric data values that Spreadsheet charts. Each category you want to chart should have at least one value for each series. Empty cells in your spreadsheet will be interpreted as zeros in your chart.

Types of Charts

Spreadsheet lets you create the following types of charts:

- Column
- Bar
- Line
- Area
- X-Y Plot
- Pie
- High/Low

Column chart



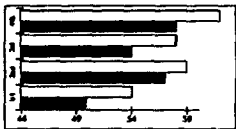
A **column chart** (or a vertical bar chart) plots each category in a series as a vertical bar. The height of the bar corresponds to the value of that category. The illustration at the left shows a typical column chart.

Variations on the standard column chart include the following:

- **Overlapped.** The columns within each category overlap each other slightly.
- **Stacked.** The columns within each category are stacked vertically on top of each other. The height of the stacked column is the sum of the values in the category.

- **Stacked Percentage.** The columns in each category are stacked so that the total height represents 100%. The height of each value is shown as that value's percentage of the whole category. This is like a vertical pie chart.
- **One Tone With Values.** Columns all have the same tone and are labeled with their numeric values.
- **One Tone With No Space Between Categories.** Columns all have the same tone, and the last column in category 1 touches the first column in category 2 with no space between them.

Bar chart

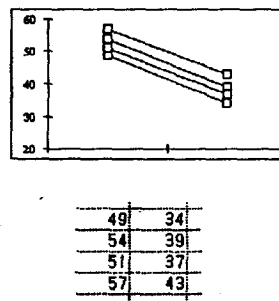
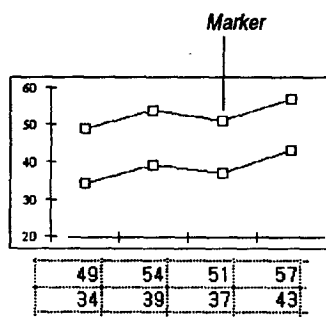


A **bar chart** is like a column chart with the bars plotted horizontally rather than vertically.

The same variations are available for bar charts and column charts.

Line chart

A **line chart** plots a point indicator for each value on one axis in relation to the text label on the other axis, and connects the points in each series with straight lines. This type of chart is useful for showing how a value changes over time. The illustrations below show a typical line chart. The chart on the left shows the result when the data is entered horizontally (in rows). The one on the right shows the result when the data is entered vertically (in columns).



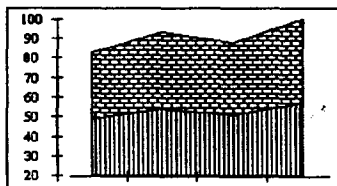
Variations on the standard line chart include the following:

- **Lines Only.** Draws only the lines connecting the points in each series; does not draw the markers for each point.

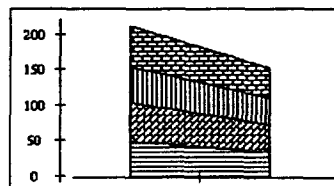
- **Markers Only.** Draws only the markers for each point; does not connect the markers with lines.
- **Drop Lines.** Draws the markers for each point, and then connects the points in each category with a vertical line; does not draw lines connecting the values.

Area chart

An **area chart** is a line chart in which the area below the line is filled with a pattern or solid tone. The illustrations below show a typical line chart. The chart on the left shows the result when the data is entered horizontally. The one on the right shows the result when the data is entered vertically.



49	54	51	57
34	39	37	43

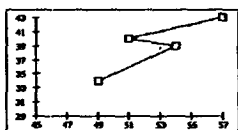


49	34
54	39
51	37
57	43

Variations on the standard area chart include the following:

- **Stacked Percentage.** Like the column chart's stacked percentage chart, this area chart shows the areas for each category stacked to a constant height representing 100%, and the values are shown as percentages.
- **Drop Lines.** Draws a vertical line to connect the points in each category.
- **Series Name.** Draws the name of each series in the center of its filled area.

X-Y Plot chart



An **X-Y plot chart**, sometimes called a *scatter plot*, looks similar to a line chart, but there is a significant difference between the two. Line charts plot a value against a label (see the line chart on page 104), whereas X-Y plot charts plot one value against another. X-Y plot charts are unique in that they take categories two rows at a time and plot them against each other.

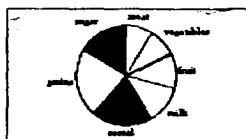
Another difference between X-Y plot charts and line charts is that on an X-Y plot chart, the tick marks along each axis (X is the horizontal axis, Y the vertical) are spaced according to their value, which may not always be at regular intervals because of the potentially random nature of the data. On a line chart, one axis always contains text labels which are usually evenly spaced for visual clarity.

49	54	51	57
34	39	40	43

Variations on the standard X-Y plot chart include the following:

- **Lines Only.** Draws only the lines connecting the points in each series; does not draw the markers for each point.
- **Markers Only.** Draws only the markers for each point; does not connect the markers with lines. This choice makes an X-Y plot that looks like a traditional scatter plot. Scatter plots are primarily used to see how different data is grouped.

Pie chart

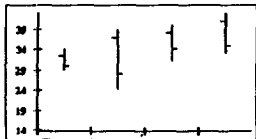


A **pie chart** is a round chart in which the size of each slice is proportional to the whole. Pie charts are unique in that they only draw one category of data. The illustration on the left shows a typical pie chart.

Variations on the standard pie chart are:

- **Category Titles.** Inserts the category titles into the chart.
- **One Tone with Category Titles.** Shows all the wedges of the pie in one tone, with category titles.
- **First Wedge Exploded.** Pulls the wedge that starts near the 12-o'clock position out slightly from the rest of the pie.
- **All Exploded.** Pulls all the wedges apart slightly.
- **With Percentages.** Shows the percentage of the whole pie that each wedge represents.

High/Low chart



A *high/low chart* is useful for tracking pairs of data that mark a high and low or a start and end value, such as the price of stocks or the day's temperature range. Each pair of data points is plotted as a single vertical line. You can also show a third or fourth relative value along with each pair, such as the stock's daily closing price or the average temperature.

29	24	31	33
34	39	40	43
33	37	38	41
30	28	34	35

High/low charts require two categories of data and may show up to four categories. The third category places tick marks to the left; the fourth category places tick marks to the right.

There are no variations available for high/low charts.

Creating Charts

Once your labels and data are in place on the spreadsheet, you can create charts using either the Charts menu or the charting buttons on the Advanced Functions tool bar (see page 68):

► To create a chart:

1. From a spreadsheet, select the cells that contain the data you want to chart.
2. Open the Chart menu and select a chart type from the Create submenu. *The chart appears as a graphic object in the lower right corner of the Spreadsheet window. (For more information about charts as graphic objects, see the section Manipulating Charts on page 109.)*

To open the Advanced Functions tool bar, select Show Tools from the Options menu; then click on Advanced Functions.

Changing the Type of Chart

By selecting Change Type from the Chart menu, not only can you change a chart from one type to another, but you can also choose a variation on the existing chart, such as Stacked Percentage.

To select a different type of chart for a different view of your information, click on the appropriate chart button from the Advanced Functions tool bar. (See page 68.)

For example, once you have created a pie chart, change it to a column chart by clicking on the Column tool button from the Advanced Functions tool bar or by selecting Change Type from the Chart menu.

► To change the type of chart:

1. Select Change Type from the Chart menu. *A dialog box appears.*
2. Select the type of chart or variation you want.
3. Click on Apply; then click on Close. *Spreadsheet changes the chart.*



Column tool

Manipulating Charts

The procedures in this section explain how to perform basic operations with graphic objects. For more information about working with graphic objects, see the *Drawing* chapter.

When you create a chart, it appears with small black boxes around the perimeter and a diamond-shaped spot in the center. These *handles* indicate the chart is the currently selected object.

Use the handles to manipulate your chart. The diamond-shaped handle in the center allows you to move the chart, and the other handles allow you to resize it.

Resizing and Moving a Chart

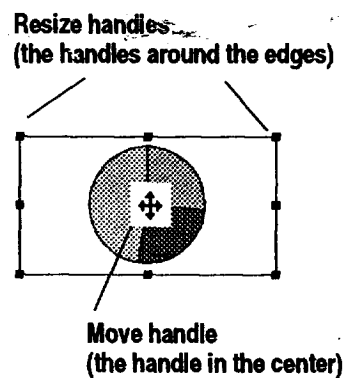
► To resize a chart:

Hold down **SHIFT** while dragging to maintain the chart's proportions.

Place the on-screen pointer over one of the handles that surrounds the chart, click and hold the Select button, and drag. Dragging toward the center of the chart reduces it, while dragging away from the center enlarges it.

► To move a chart:

1. If the chart is not selected, click on the edge of the chart to select it. *Handles appear around the chart frame and the move handle appears in the center.*



If you move a chart or graphic image into a locked area, the chart or image will become locked if the move handle is within the locked area. To move the chart or image, unlock the area, move the chart or image, and then lock the area again.

You can move the chart to any location in your spreadsheet.

2. Place the pointer over the move handle in the center of the chart. When the pointer changes to a pair of crossed arrows, hold down the Select button to grab the chart.
3. Holding the Select button, drag to move the chart to the position you want.
4. Release the Select button. *The chart appears in the new position.*

Changing Chart Properties and Attributes

Attributes are visual elements such as tone, line thickness, and fill pattern. If you select a chart and then click one part of it, such as a wedge of a pie chart, you can change the attributes of that part of the chart.

To select multiple text items, press **CTRL** as you click. You cannot move any labels that the chart has generated.

► To change text properties in a chart:

1. Select the chart by clicking on it. *Handles appear around the chart.*
2. Select the text item within the chart that you want to change by clicking on it. *Handles appear on that item to indicate it is selected.*
3. Select the text property to change, such as font, style, size, or tone, from the Properties menu or the Basic Functions tool bar. *Spreadsheet applies the change to the selected text.*

While you can change the text properties of a legend, you cannot change the label itself from the chart. Legend labels must be changed in the spreadsheet's cells. For more information on legends, see page 112.

► To change an attribute of an element in a chart:

1. Select the chart by clicking on it. *Handles appear around the chart.*
2. Select the object within the chart that you want to change by clicking on it. *Handles appear on that object to indicate it is selected.* You cannot move the component parts of the chart or any labels that the chart has generated, but you can edit text labels using the Text tool.
3. Choose the attribute you want to change from the Graphics menu.
4. Click on Apply.
5. Click on Close.

Deleting a Chart

Delete also appears in the Edit menu.

► To delete a chart:

1. If the chart is not selected, click the edge of the chart. *Handles appear around the chart frame, and the move handle appears in the center.*
2. Press **DELETE**.

Using a Chart in Another Program

You can place Spreadsheet charts in other programs. For example, you can use a chart in a report you have created in Word Processing, or in an illustration you have created in Drawing.

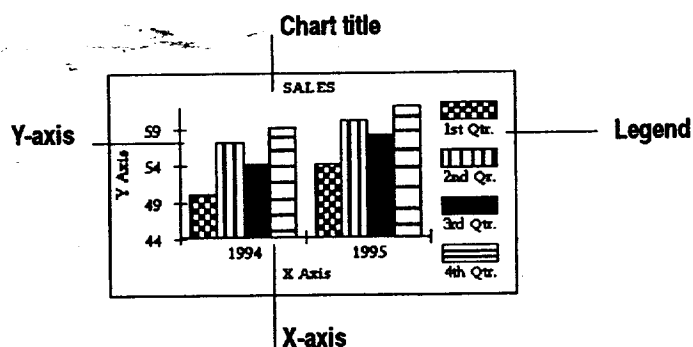
► To copy a chart to another program:

1. Select the chart you want to copy by clicking on it. *Handles appear around the chart.*
2. Press **COPY**.
3. Close Spreadsheet. *The chart is pasted onto the clipboard.*
4. Open the other program and press **PASTE**. *The chart appears.*

Adding Titles and a Legend

► To add titles and legend to a chart:

1. Select the chart.
2. Select Titles & Legend from the Chart menu. *A dialog box appears.*
3. Fill in the dialog box, selecting the options you want:
 - **Chart Title.** Select this option to add a title to the chart. Spreadsheet looks for title text in the upper left of the selected chart range. If Spreadsheet cannot find any text, a text object with the words "Chart Title" appears at the top of your chart. You can change the title later.
 - **X-Axis Title.** Select this option to add a title to the chart along the X-Axis.
 - **Y-Axis Title.** Select this option to add a title to the chart along the Y-Axis.
 - **Legend.** Select this option if your chart shows more than one category and you want to define the tones or patterns to differentiate between categories. You can also select its position on the chart: Horizontal (below chart) and Vertical (at right of chart).
4. Click on Apply. *Spreadsheet adds the items you selected to your chart, as shown in the following example:*



5. Click on Close.

► To change text in the chart title or axis titles:

Text tool

To open the Drawing tool bar, select Show Tools from the Options menu; then click on Drawing Tools.

1. Select the Text tool from the Drawing tool bar. *The pointer becomes a crossed I-beam when you move it over the chart.*
2. Click on the text object you want to change. *The text object is outlined, the pointer becomes a single I-beam, and a vertical bar indicates the insert point for text.*
3. Press **BACKSPACE** and **DELETE** to remove text you do not want, or highlight the unwanted text and press **DELETE**.

Pointer tool



Open the Drawing tool bar from the Show Tools submenu of the Options menu.

4. Enter the new text.
5. When you are finished with the Text tool, select the Pointer tool from the Drawing tool bar and click on an empty area of the chart to remove the outline around the text (so that other changes are not accidentally made to the text).

About legends

Spreadsheet generates legend labels from the category names in the column left of the data (usually column A). If you do not have legend labels in these cells, and you select Legend from Titles & Legend in the Chart menu, Spreadsheet will generate generic labels for the legends.

► To add legend labels:

1. Enter your legend labels in the left column (category names).
2. Select the cells that contain the data you want to chart, including the left column with the category names.
3. Select the chart type from the Chart menu or from the Advanced Functions tool bar. *After a few seconds the chart appears.*
4. If the legends are not present, select the chart; then select Titles & Legends from the Chart menu and click on Legend.
5. Click on Apply; then click on Close. *The Legends appear on the chart.*

► To edit legend labels:

1. Select the cell in the left column that contains the legend label.
2. Press **CTRL + SPACEBAR**. *The cursor appears inside the Edit Area.*
3. Press **BACKSPACE** to remove text you do not want, and enter the new label.
4. Press **ENTER**. *After a few seconds, the legend changes to show the new text.*

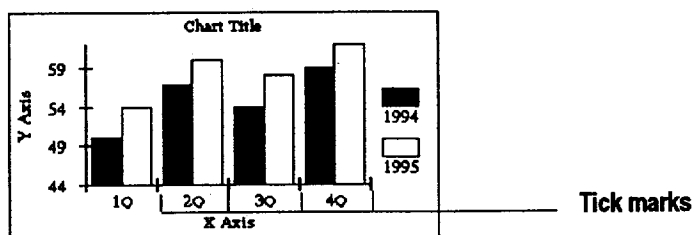
Changing Markings

There are three different types of chart markings you can change: axis markings, grid markings, and the marker shapes that indicate values on a chart.

Axis markings and **grid markings** are visual aids that can help people understand your chart. Axis markings are the tick marks that divide the axis lines. Grid markings are vertical and horizontal lines that can cover the chart area between the axes.

► **To add axis markings to a chart:**

1. With the chart selected, choose Axis from the Chart menu. *The Axis dialog box appears.*
2. Select the type of axis markings you want and click on Apply. *The markings appear in your chart.* The following illustration shows a chart with tick marks along the X Axis:



3. Click on Close.

► **To add grid lines to a chart:**

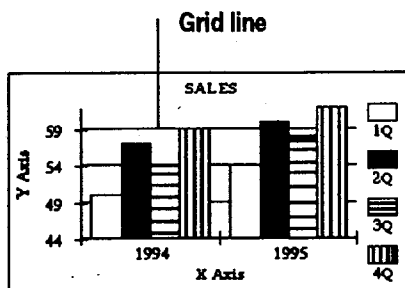
1. With the chart selected, choose Grid Lines from the Chart menu. *The Grid Lines dialog box appears:*

The 'Grid Lines' dialog box contains the following options:

- X Axis:**
 - ☐ Draw Grid Lines at Major Ticks
 - ☐ Draw Grid Lines at Minor Ticks
- Y Axis:**
 - ☐ Draw Grid Lines at Major Ticks
 - ☐ Draw Grid Lines at Minor Ticks

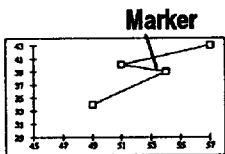
Buttons: Apply, Close

2. Select the axis from which you want the grid lines to originate, and click on Apply. *The grid lines appear in your chart.*



3. Click on Close.

Changing Marker Shapes



Markers show the data points on a chart. They are found only on X-Y plot and line charts. Changing the shape of the markers can help make the chart easier to read.

► To change the marker shape:

1. Select the markers you want to change by clicking on one of them in your chart. *The markers in that category are surrounded by outlines to indicate they are selected.*
2. Select Marker Shape from the Charts menu. *A dialog box containing marker shapes appears.*
3. Click on the marker shape you want and click on Apply. *The selected markers change shape.*
4. Click on Close.

Using Additional Spreadsheet Features

Spreadsheet has many additional features to help you create accurate and attractive spreadsheets. This section describes how to do the following:

- Sort rows or columns of information
- Create custom number and date formats
- Add graphics to a spreadsheet

Sorting

Save your work before sorting. Then, if the results are not what you expected, select Other from the File menu and click on Discard Changes.

You can sort information in a row, column, or range of cells in either alphabetical (A–Z) or numeric (1–9) order. In addition, you can sort in either ascending (A–Z and 1–9) or descending (Z–A and 9–1) order. A range is sorted by the row or column containing the active cell.

► To sort information in a spreadsheet:

1. Select the cells containing the information you want to sort. Be sure to select all the cells you want to sort.
2. If the active cell is not in the row or column you want to sort, move it with one of the following keystrokes:
 - **ENTER.** Moves the active cell down one row.

Only data in the unlocked areas is sorted when using the Sort feature. Data in the locked titles is not sorted.

Spreadsheet sorts all selected cells by the row or column containing the active cell.

- **SHIFT + ENTER.** Moves the active cell up one row.
 - **TAB.** Moves the active cell right one column.
 - **SHIFT + TAB.** Moves the active cell left one column.
3. Select Sort from the Edit menu. *A dialog box appears.*
 4. Fill in the dialog box:
 - **Sort By.** You can sort either rows or columns.
 - **Sort Order.** You can sort in either ascending or descending order: for example, A, B, C, D or Z, Y, X, W.
 - **Sort Options.** Select from the following:
 - Ignore Case/Accents.** You can have the sort ignore any differences in uppercase and lowercase and ignore accents on letters in alphabetical sorts.
 - Ignore Spaces/Punctuation.** You can have the sort ignore spaces between words and punctuation marks in alphabetical sorts.
 5. Click on Sort. *Spreadsheet sorts the selected cells.*

► **To perform a simple sort more quickly:**

1. Select the range of cells you want to sort.
2. Click on the Sort Forward tool on the Basic Functions tool bar to sort the rows in ascending order.

OR

Click on the Sort Backward tool on the Basic Functions tool bar to sort the rows in descending order.

Spreadsheet sorts the range in the order you selected.



Creating Number and Date Formats

While Spreadsheet offers a wide variety of standard number and date formats, you can create additional number and date formats to suit your needs. For example, if you want to show values with six decimal places, you can create a special format.

► To create a number or date format:

1. Select Number Format from the Properties menu. *A dialog box appears.*
2. Select a format on which you can base the new format. For example, if you want to create a format for displaying numbers with six decimal places, you might pick Fixed and specify six decimal places.
3. Click on Create. *The Define Format dialog box appears.*
4. Fill in the dialog box, selecting the options you want. Refer to the examples in the dialog box as you make your selections.
 - **Name of Format.** Enter a name for the new format.
 - **Places.** Enter the number of decimal places.
 - **Offset.** Enter the number of offset places. Negative numbers move the decimal point to the left, and positive numbers move it to the right.
 - **Options.** Select format options from the drop-down list: commas, percent sign, leading and trailing zeros, and the position of the sign (+ or -) relative to the leader or trailer. For example, if the sign follows the header, then a negative dollar amount would be formatted like this: \$-100 rather than -\$100.
 - **Fixed/Scientific.** Select either fixed notation or scientific notation.
 - **Leading.** Enter the numbers or characters you want to appear in front of each value you enter, like a prefix. You can specify a prefix for Positive, Negative, or All Numbers. For example, if you enter DM in the All box, every value using this format will begin with DM; then if you enter 345, it will appear as DM345 in the active cell.
 - **Trailing.** Enter the numbers or characters you want to appear at the end of each value you enter, like a suffix. For example, if you enter DM in the All box, DM will appear at the end of every value using this format; then if you enter 345, it will appear as 345DM in the active cell.
5. Click on OK. *The new format is saved with the spreadsheet.*

New formats appear at the end of the list in the dialog box.

► **To delete a number or date format that you created:**

1. Select Number Format from the Properties menu. *A dialog box appears.*
2. Select the format to delete and click on Delete. *You are asked if you really want to delete the format. Select Yes, and the format is deleted.*

Using Rulers

The spreadsheet rulers are normally the row numbers and column letters. You can turn off the row and column headers or select alternate rulers.

In Spreadsheet, you can choose the same types of rulers that are available in other programs: Inches, Centimeters, Points, and Picas. After you choose one of these rulers, you will see it instead of the spreadsheet column and row headers. This is especially useful if you want to see where a page breaks or when you are working with graphics.

► **To specify a different ruler:**

1. Select Rulers from the Options menu.
2. Select the type of ruler you want from the submenu. *The new ruler appears in place of the column and row headers.*

Adding Graphics

For more information on fill patterns, see the chapter on Drawing, which begins on page 125.

In addition to charts, you can include drawings in the spreadsheets you create. Use the Drawing tool bar and the Graphic tool bar to create drawings in your spreadsheet. If you prefer, you can create drawings in Drawing and then paste them into a Spreadsheet document.

When you add graphics to a Spreadsheet document, they appear on a transparent drawing layer on top of the spreadsheet. If you fill objects with transparent fill patterns, you can see the spreadsheet information through the objects.

Locking Titles

Lock Titles in the View menu locks specific rows or columns of a page on-screen as titles. When you scroll the page, the titles remain fixed on-screen while the rows below (or to the right) scroll as usual.

► To lock titles on-screen:

When moving either a chart or a graphic image into a locked area, the locked rows will not be automatically redrawn. The unlocked areas automatically refresh as you move the chart or graphic. For the locked areas, click on the Redraw button to see what it looks like after the move.

1. Scroll the spreadsheet so the column(s) or row(s) wanted as titles are visible in the upper left corner of the window. You cannot adjust the position of the titles after they are locked.
2. Select the appropriate cell location.
 - To lock rows, select the row (or a single row of horizontal cells) below the last row to be locked.
 - To lock columns, select the column (or a single column of vertical cells) to the right of the last column to be locked.
 - To lock rows and columns at the same time, select the top left cell of the area you want to remain scrollable.
3. Select Lock Titles from the View menu.
 - If only rows are to be locked, a black horizontal line is drawn below the last locked row.
 - If only columns are to be locked, a black vertical line is drawn to the right of the last locked column.
 - If both rows and columns are locked, two black lines are drawn, one in each of the positions described above. Locked titles appear above and to the left of black lines drawn on the cell borders.

Once titles are locked, select Unlock Titles to release any locked rows and/or columns.

► To unlock titles on-screen:

Follow the same steps for locking titles, but select Unlock Titles from the View menu.

Using Spreadsheet with Other Programs

You can use information from your spreadsheet in other programs. For example, you can copy a range of cells to a Word Processing document. Once you have pasted your information, you can add borders and other visual enhancements with the tools.

Information you paste into other programs is not automatically updated. Therefore, if you change the spreadsheet, you must recopy it into the Word Processing document if you want to keep the information in both documents the same.

► **To use spreadsheet data in another program:**

1. Create the spreadsheet data you want to use.
2. Select the range that you want to paste into another program.
3. Press **COPY**.
4. Save your document and close Spreadsheet.
5. Open the program and document into which you want to paste the information.
6. Move the insertion point to the location where you want to paste the spreadsheet information.
7. Press **PASTE**. *The information appears in your document with tabs inserted between the columns and with each row starting a new line.*

Printing and Faxing

Printing and faxing a Spreadsheet document is much like printing and faxing any other document. First, set up your page; then print or fax the Spreadsheet document. You can also print or fax a chart from your Spreadsheet document.

Setting Page Setup Options

Before you print, use Page Setup from the File menu to select your page layout options.

► **To set Page Setup options for printing:**

1. Select Page Setup from the File menu. *A dialog box appears.*
2. Fill in the dialog box:
 - **Starting Page Number.** The default starting number is 1, but you can specify a different starting number for your spreadsheet. Either click on the up and down arrows or type a new number. The page number appears when you insert the built-in function called PAGE() in a cell and designate that cell as a header or footer. This option does not affect the number of pages printed.
 - **Print Sideways.** Normally, the spreadsheet is printed as a standard upright page. Select this option if you want to print it sideways (landscape).

Refer to page 92 for using built-in functions.

- **Scale to Fit on One Page.** Select this option if you want to reduce your spreadsheet to fit on a single page. If your spreadsheet is too large, it may be reduced so much that you cannot read it.
- **Continuous Printing.** Use this option if you want your spreadsheet printed as one long continuous page. If you print on single sheets, you can tape the sheets together.
- **Center Horizontally.** Use this option to center the printed spreadsheet on the page.
- **Center Vertically.** Use this option to center the printed spreadsheet on the page.
- **Print Grid Lines.** Select this option if you want grid lines to appear on your printed spreadsheet. (To get an idea of how the spreadsheet looks, select Other Settings from the Options menu; then click on Draw Grid Lines. Grid lines are on by default.)
- **Print Row & Column Titles.** Use this option if you want the row and column references to print on each page of your spreadsheet.
- **Print Header.** Use this option if you want to have headers printed on the pages of your spreadsheet. You can specify headers using Header/Footer from the Cell menu.
- **Print Footer.** Use this option if you want to have footers printed on the pages of your spreadsheet. You can specify footers using Header/Footer from the Cell menu.

If you specify a header or footer and do not check these print options, your printed spreadsheet will not have headers and footers.

- Click on Apply.
- Click on Close.

Printing and Faxing Spreadsheets and Charts

If you have specified manual calculation (see page 101), select Calculate Now from the Options menu to recalculate your spreadsheet before printing it.

Also, be sure to save your document before printing or faxing it.

Before printing for the first time, you must select basic printer settings. See Setting Printer Options in Getting Started (Book 1).

If you have not sent a fax before, review the Fax and Data Modem chapter in Book 1.

► To print:

1. Press **PRINT**. A submenu appears.
2. Select Print. A dialog box appears.
3. Fill in the box and click on Print. *Your spreadsheet prints. If you have created a chart and selected Print Graphics, the chart prints as part of the spreadsheet, just as you see it on the screen.*

► **To fax:**

1. Press **PRINT**. A submenu appears.
2. Select Fax. *The Fax Document dialog box appears.*
3. Select your fax options and click on Fax.

► **To print a chart:**

1. Make a note of the cells that the chart either completely or partially covers (you will use this note in step 5).
2. Press **PRINT**. A submenu appears.
3. Select Print. *A dialog box appears.*
4. Select your printing options.
5. In the Print Range box, enter the cell numbers you wrote down in step 1 and click on Print Graphics.

If you want both the chart and the Spreadsheet data to print, enter the cells containing the chart and data (instead of the cells containing the chart only) in the Print Range box.

► **To fax a chart:**

1. Make a note of the cells that the chart either completely or partially covers (you will use this note in step 4).
2. Press **PRINT**. A submenu appears.
3. Select Fax. *The Fax Document dialog box appears.*
4. In the Print Range box, enter the cell numbers you wrote down in step 1. Select from the other fax options and click on Print Graphics.

Exporting and Importing Spreadsheets

Exporting allows you to use a document created with Spreadsheet in another Spreadsheet program, such as Lotus 1-2-3. Importing allows you to use documents created in another Spreadsheet program. You can export to or import from Lotus 1-2-3, Comma Separated Values (CSV), or dBase IV. These formats are recognized by many programs.

When exporting to CSV or dBase IV, you can change or map the order of information that will appear in the exported document. For example, when exporting a document that contains names and addresses in which last names are shown first, you can change that order and show last names second in the exported document.

► **To export a spreadsheet:**

1. Create and save the Spreadsheet document.
2. Select Other from the File menu.
3. Select Export Document from the Other submenu. *A dialog box appears.*
4. Select the program for export.

When you export in CSV or dBase IV format, Spreadsheet creates field names (Field1, Field2, Field3, etc.), which correspond to the spreadsheet columns. Mapping allows you to change the order of those fields.

- **To change the order of columns when exporting:**

1. Create and save the spreadsheet.
2. Select Other from the File menu.
3. Select Export Document from the Other submenu. *A dialog box appears.*
4. Select the Comma Separated Value or dBase IV format.
5. Select the folder where you want to save the exported file; then enter a name for the exported file. The correct extension already appears in this box, so you do not need to enter it. Be sure to enter a standard DOS file name no more than eight characters long.
6. Click on Map Export Fields. *A dialog box appears with Column A, Column B, and so on listed in the Source List box; the columns that appear here correspond to the occupied columns in the spreadsheet.* The Destination List consists of field names (Field 1, Field 2, Field 3, etc.) equal to the number of occupied columns in the spreadsheet.

Map Export Fields

Source List:	Destination List:	Map List:
Column A	Field 1	
Column B	Field 2	
Column C	Field 3	

Map Unmap Done Cancel ?

- ## Spreadsheet 122

10. Click on Done. *The dialog box disappears. The Export Document dialog box remains.*
11. Click on Export.
12. Name the document and press **ENTER**. *After a few seconds, the information exports.*

► **To import a Spreadsheet document from Lotus 1-2-3 or Comma Separated Value format:**

1. Select New/Open from the File menu. *The New/Open dialog box appears.*
2. Insert the diskette that contains the file to import and click on Import. A dialog box appears.
3. From the left column, select the file you want to import.
4. From the right column, select the file format of the file you are importing and click on Import. *The file format appears as an extension in the File Mask box.*
5. In the File Mask box, enter a name for the file; then click on Import.

If you are importing a document and do not know the program it was created in, select No Idea, and Spreadsheet will analyze the document to see if it can be imported.

► **To change the order of columns when importing:**

1. Select New/Open from the File menu. *The New/Open dialog box appears.*
2. Insert the diskette that contains the file to import and click on Import. A dialog box appears.
3. From the left column, select the file you want to import.
4. From the right column, select the format (Comma Separated Format or dBase IV).
5. Click on Map Import Fields. *The Map Import fields dialog box appears.*

If the lists in the dialog box are empty, make sure you selected a file in step 4.

In this dialog box, the Source List shows the field names of the incoming file. The Destination List shows the names of the fields (Column1, Column2, Column3, and so forth).

6. Click on Field 1 in the Source List.
7. Click on the column you want for Field 1 in the Destination List.
8. Click on Map. *The field pair appears in the Map List.* (You can select a field pair in the Map List and click on Unmap to break the link between mapped pairs.)
9. Continue designating pairs until you have specified all the fields you want to map. If you leave any source field unpaired, it will not be imported from the database.
10. Click on Import. *The information from the import file appears in a Spreadsheet window.*
11. Click on Done.

Spreadsheet Error Codes

The following describes the error codes in Spreadsheet. These appear inside a cell when an error occurs.

Error Codes	Explanation
#OVRFLW#	Formula has a division by zero or division by an empty cell. Correct formula entries.
###	Cell too narrow to accommodate entry or formula results. Refer to page 82 in this chapter.
#TYPE#	One or more of the cells referenced in a formula contain an alphanumeric entry. Rewrite the formula to include only cell addresses containing numbers.
#VALUE#	Formula is incorrect. Verify format of formula to ensure proper data is given. Example: =DATE(96,08,23)
#COUNT#	Incorrect formula entered. Verify correct format is entered. Example: =IF(B2>20,40,20,10)
#CIRC#	Formula contains a circular reference and iteration is not selected. Refer to page 101 in this chapter.

3 Drawing

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

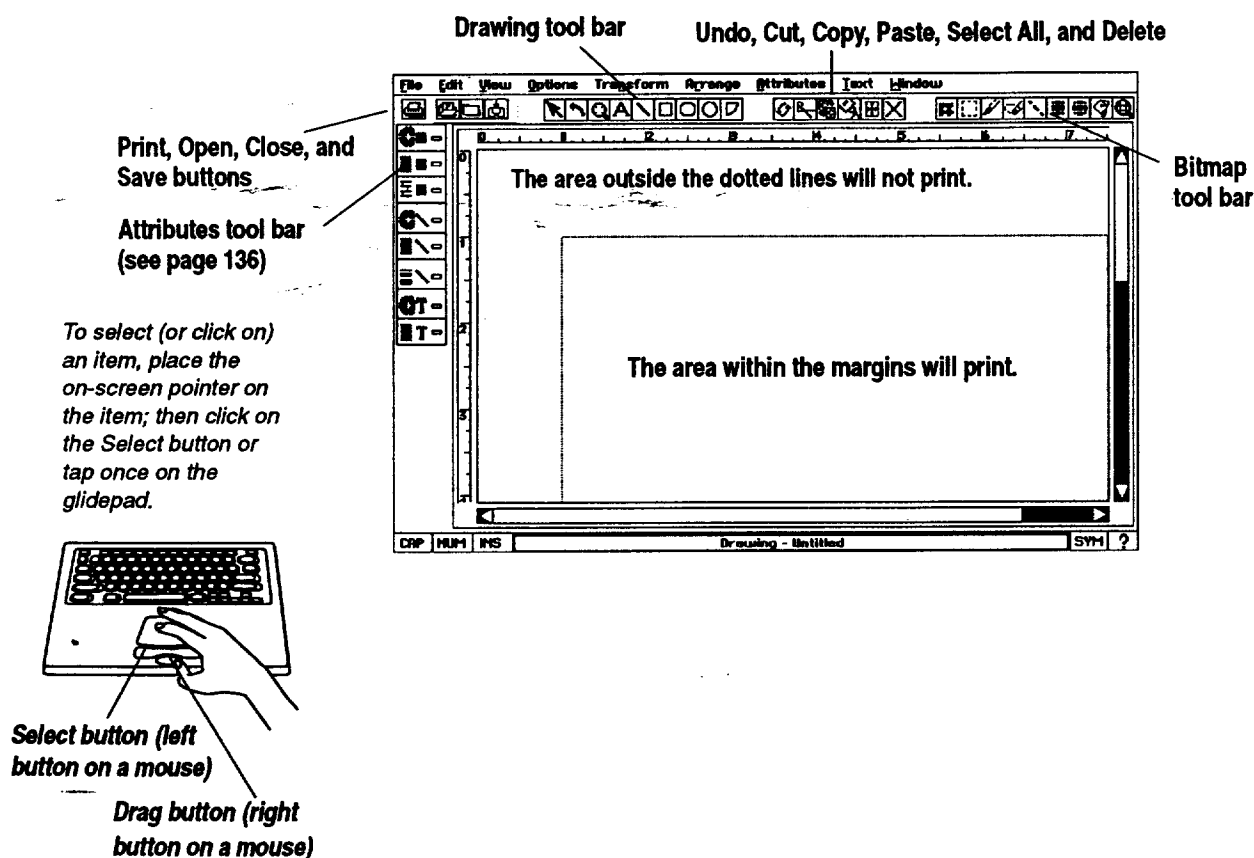
- Working with Documents
- Saving Documents
- Working with Menus
- Working with Dialog Boxes

Drawing allows you to create many types of designs, pictures, and illustrations. After you create a drawing, you can copy it into a Word Processing or Spreadsheet document. You can also import and export Drawing files.

Starting Drawing

► To open Drawing:

Click on the Drawing icon from the Main Menu. *The New/Open dialog box appears.* Select New. *A new document appears:*



Opening a Document

► To open an existing drawing document:

For information on templates, see *Using Templates in Getting Started* (Book 1).

1. Click on Drawing from the Main Menu. *The New/Open dialog box appears.*
2. Click on Open: Open an existing document. *The Open dialog box appears.*
3. Select the document and click on Open. *Drawing opens your file.*

Using the Tools

For information on the Attributes tool bar, see page 136.

Selecting a tool from a tool bar is like picking up a pencil or pen. Select a drawing tool by clicking on it. When you move the on-screen pointer into the drawing area, the pointer changes to indicate the type of tool you are using. The Drawing tool bar is also available in Word Processing and Spreadsheet, where it appears on the left of the document window.

Drawing Tools



Pointer tool. Selects, moves, and resizes objects. The arrow pointer is automatically selected when you start Drawing.



Rotate tool. Allows you to rotate objects.



Zoom tool. Enlarges your work area so that you can see more detail.



Text tool. Adds text to your drawing. You have complete control over the font, style, and size of the text in your drawing. Text objects are discussed later in this chapter.



Line tool. Draws straight lines. You can change the tone and the thickness of the line.



Rectangle tools. Creates rectangles and squares with perpendicular or curved corners.



Ellipse tool. Draws ellipses and circles.



Arc tool. Creates an angle and a curved arc.



Undo tool. Undoes your latest change.



Cut tool. Cuts a selected object from your drawing.



Copy tool. Copies an object to the clipboard.



Paste tool. Pastes the contents of the clipboard at the insertion point.



Select All tool. Selects all graphics and text in a document. Black handles appear around all items.



Delete tool. Removes selected graphics or text.

Bitmap Tools



Frame tool. Creates a frame into which you can place bitmap drawings.



Selection tool. Selects all or part of an object to copy, cut, or paste.



Brush tool. Allows you to draw lines.



Eraser tool. Removes lines and drawings.



Bitmap Line tool. Draws a straight line in a bitmap. A bitmap uses tiny dots to form an object.



Bitmap Rectangle tool. Draws a bitmap rectangle.



Bitmap Ellipse tool. Draws an bitmap ellipse.



Fill tool. Fills an area with a tone.



Pixel View tool. Allows you to view individual pixels. You can use the other bitmap tools above. For example, to change the tone of individual pixels, select a line tone, the brush tool, and click on pixels you want to change.

Pointers

Select a drawing tool by clicking on it in the tool bar. When you move the on-screen pointer into the drawing area, it changes shape. This shape depends on the tool you are using and the location of the pointer.



Pointer. If you are using the pointer tool, it remains active until you select an item in the drawing area. The pointer will change to crossed arrows when you move or size a selected object.



Vertical/horizontal crossed arrows. This pointer appears when you move an object in the drawing area.



Diagonal crossed arrows. This pointer is used to size objects.



Crosshairs. If you select the Line, Rectangle, or Ellipse drawing tool, the pointer changes to crosshairs when you move it over the drawing area. The center of the crosshairs shows where the shape will begin as you draw.



Crossed I-beams. If you select the Text tool, and move the pointer into the drawing area, the pointer changes to crossed I-beams. (If you move the pointer over a text object, the pointer becomes a regular I-beam pointer.) The intersection of the I-beams shows where text will begin if you click in the drawing area and then type.



I-beam. The crossed I-beam changes to a single I-beam inside of a text box when text is selected.



Rotate. This pointer shows that you are rotating an object.



Zoom. With this pointer you can click on the screen and zoom in on your artwork.

Creating and Editing Simple Objects

With Drawing, you can create objects from shapes or lines. Once created, you can select, edit, and manipulate individual objects. You can also change the *fill* (tone or pattern) or the *line* (outline).

Drawing offers two ways to create objects: with the drawing tools or from the Create submenu in the Edit menu (see page 134 on using the Create submenu).

► **To draw a rectangle or ellipse with the drawing tools:**

1. Move the on-screen pointer to the tool bar and click either the rectangle or ellipse. These tools function similarly. *The tool button is selected.*
2. Move the on-screen pointer to the drawing area. *The pointer changes to crosshairs.*
3. Move the crosshairs to where you want your shape to start. (You do not have to move it exactly to the right place now; you can rearrange it later.)
4. Hold down the Select button, and drag diagonally until the shape is the size you want, as indicated by the outlines that appear in the drawing area.
5. Release the Select button. *The object appears as a solid shape.*

After you create an object, resize handles appear around the outside, and a move handle appears in the center. Use these handles to move and resize the object. Handles also indicate that an object is selected.

► **To move or resize a rectangle or ellipse:**

1. Click on the rectangle or ellipse to select it.
2. Place the on-screen pointer over one of the resize handles, hold down the Select button, and drag. *The object changes size.*

OR

Place the on-screen pointer over the move handle, hold down the Drag button, and drag the object to a new location. *The object moves.*

3. Click somewhere else in the drawing area that is not occupied by an object to remove the handles from the object.

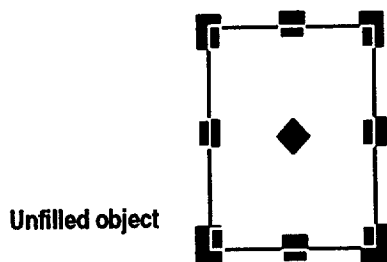
► **To create a perfect square or circle:**

Hold down **SHIFT** while drawing either a rectangle or an ellipse. *The object will maintain a perfect shape no matter what size you draw it.*

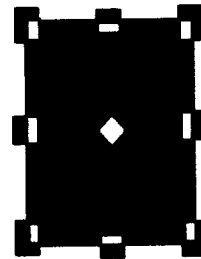
► To create an unfilled object:

Pressing **CTRL** as you draw creates an unfilled object when the default is set to filled, and it creates a filled object when the default is set to unfilled. To change the default, select **Area Attributes** from the **Attributes** menu, click on **Filled** or **Unfilled**, and click on **Apply**.

Press **CTRL** while you hold the **Select** button and drag to create a shape. When you release the **Select** button, the unfilled object appears:



Unfilled object



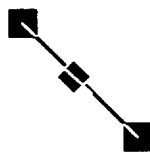
Filled object



► To draw a line:

Hold down **SHIFT** while drawing a line to make it exactly horizontal, vertical, or 45 degrees.

1. Select the **Line** tool from the **Drawing** tool bar. The pointer changes to crosshairs when you move it into the drawing area.
2. Move the crosshairs to where you want to start your line. (You do not have to move it exactly to the right place now; you can change it later.)
3. Press the **Select** button, and while holding it down, drag until the line is as long and in the direction you want.
4. Release the **Select** button. A straight line appears, with a handle at each end and a move handle in the center.



► To change the size of a line:

1. Select the line.
2. Select the **pointer** tool from the **Drawing** tool bar and click on one end of the line.
3. Hold the **Select** button and drag toward the center to make the line smaller, or away from the center to make it longer.

► To move a line:

1. Select the line.
2. Select the **pointer** tool and click on the middle handle of the line. The pointer changes to crossed arrows.

3. Hold the Drag button and drag the line to a new location.

► **To add an arrowhead at the end of a line:**

Press **CTRL** while drawing a line. *An arrowhead appears at the point where you ended the line.*

OR

1. Select Line Attributes from the Attributes menu. *The Line Attributes dialog box appears.*
2. Click on the Arrowhead style.
3. Click on the Arrowhead at End check box and click on Close. *An arrowhead appears at the point where you ended the line.*

Selecting Objects

You can select objects by clicking on them with any of the drawing tools. When you select an object, handles appear around it.

To select an unfilled object, you must click on a line or curve on the object.

► **To select or deselect an object:**

Using one of the drawing tools, click on the object you want to select. *Handles appear around the object.*

OR

To deselect, click in any part of the drawing area where there is no object. *Handles in the drawing disappear.*

► **To select several objects:**

Selecting several objects is useful when you want to move or change the tone of several objects that are next to each other.

1. Click on the pointer tool.
2. Move the pointer above and to one side of the objects you want to select. Hold down the Select button and drag across the area you want to select. *As you move the pointer, a box with a dotted outline appears.*
3. Continue to drag and stretch this box over the objects you want to select; then release the Select button. *As you enclose objects, their handles appear.*

► **To select several objects that are not next to each other:**

To deselect individual objects in the group, hold down CTRL and click on them again.

1. Using any of the drawing tools, place the on-screen pointer on the first object you want to select. Hold down **CTRL** and click the Select button. *Handles appear around the object.*
2. Continue to hold down **CTRL** while clicking on each of the other objects you want to select, one by one. *Handles appear around each object.*

► To select all objects:

To select all but a couple of objects in your drawing, choose **Select All** from the **Edit** menu, then press **CTRL**, and click on only those objects you want to deselect.

Press **CTRL + I**. *Handles appear around all the objects.*

Resizing Objects

You can enlarge and reduce objects by dragging the resize handles.

Dragging toward the center of the object reduces it, while dragging away from the center enlarges it. As you drag, an outline shows the changing size of the object.

► To change the size of an object:

1. Select the object you want to resize. *Resize handles appear around the object.*
2. Hold the **Select** button and drag one of the resize handles (but not the move handle in the center of the object).
 - To resize the object around its center point, hold down the **C** key or the comma [,] key while dragging.
 - To proportionally resize an object, hold down **SHIFT** while you drag one of the corner handles.
 - To proportionally size around the center point, hold down both the **C** key and **SHIFT** while you drag a corner handle.
3. When the object is the size you want, release the **Select** button.

To resize an object to scale (instead of stretching it), see page 141.

Deleting Objects

► To delete objects:

For information on duplicating an object, see page 144.

1. Select the object(s) you want to delete. *Handles appear around the object(s).*
2. Press **DELETE**.

OR

Press **BACKSPACE**. *The object disappears.*

Changing the On-screen View

You may find it easier to draw by adjusting the on-screen view. For example, you can enlarge the view of an object (zoom in) to focus on fine details. You can also hide scroll bars or redraw the screen to clean it up.



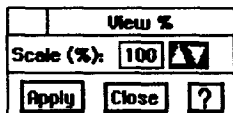
► To zoom in on an object:

1. Select the Zoom tool from the tool bar. The pointer changes to a magnifying glass when you move it onto the drawing area.
2. Place the Zoom pointer on the area you want to examine, and then click. You can click several times to move closer.

► To zoom out:

Hold down **SHIFT** and click with the Zoom tool to zoom out.

► To zoom by percentage:



1. Select View % from the View menu. *A dialog box appears.*
2. Set the Scale % you want. To reduce a drawing, use a percentage from 12 to 99. To enlarge a drawing, use a percentage from 101 to 400.

► To return to normal size:

In the View menu, click on Normal Size. *The drawing is shown at 100% scale.*

► To show the entire drawing in the window:

In the View menu, click on Scale to Fit. *The drawing fits into the window.*

► To show or hide scroll bars:

In the View menu, click on Show Horizontal Scroll Bar or Show Vertical Scroll Bar to bring up the scroll bars in the window. To turn off the scroll bars, click on the check box.

Redraw is especially useful if you have created and deleted a number of objects. Sometimes pieces of deleted objects remain in the drawing area when you have performed several operations.

► To clean up your drawing:

Select Redraw from the View menu. *All objects are redrawn to replace missing fragments and erase leftover bits of deleted objects.*

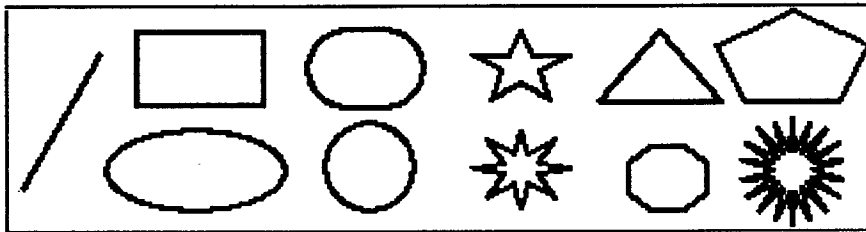
Advanced Work with Objects

In Drawing, you can change the appearance of objects in many ways. You can:

- draw lines, arcs, and complex objects with the Create submenu; and
- set attributes to change the appearance of each object.

Drawing Objects, Arcs, and Straight Lines

To create simple shapes like triangles or more complex shapes like polygons with up to 100 sides, use Create from the Edit menu. The following illustration shows some examples of objects, polygons, and stars:



► To draw simple objects, arcs, and lines with the Create submenu:

1. Select Create from the Edit menu.
2. Click on the name of the object you would like to create. *The object appears on the screen.*
3. With the object still selected, you can select attributes such as tone (see page 136) or scale it with the Transform menu. Scaling allows you to resize the object proportionally, without stretching it in one direction.

► **To create a polygon:**

1. Select Create from the Edit menu.
2. Select Polygons from the Create submenu. A *dialog box* appears:

Polygons			
Number of Polygon Sides:	5	▲▼	
Polygon Radius:	100 pt	▲▼	by 100 pt ▲▼
Create Polygon		Close	?

The radii for a polygon represent the horizontal and vertical radii of an ellipse in which the polygon can be inscribed.

3. Fill in the dialog box:
 - **Number of Polygon Sides.** The default is 5 sides.
 - **Polygon Radius.** Select the polygon's horizontal radius and vertical radius. The default is 100 (about 1.4 inches); the minimum size is 1 point (1/72 of an inch), and the maximum size is 576 points (8 inches).
4. Click on Create Polygon. *Drawing places the polygon in the drawing area.*
5. Click on Close.

► **To create a star:**

1. Select Create from the Edit menu.
2. Select Stars from the Create submenu. A *dialog box* appears:

Stars			
Number of Star Points:	5	▲▼	
Outer Radius:	100 pt	▲▼	by 100 pt ▲▼
Inner Radius:	38 pt	▲▼	by 38 pt ▲▼
Create Star		Close	?

The outer radius is measured from point to point. The inner radius is the center section of the star. Remember that radius is the distance from the center to the edge.

3. Fill in the dialog box.
 - **Number of Star Points.** Select the number of points you want your star to have. The default is 5 points; the maximum number is 100.
 - **Outer Radius.** The outer radii of the star represent the radii of an ellipse that touches each of the star's points. The star's horizontal radius (left box) and vertical radius (right box) are measured in point increments. The default is 100 (about 1.4 inches); the minimum size is 1 point (1/72 of an inch); and the maximum size is 288 points (4 inches).

- **Inner Radius.** The inner radii of the star represent the radii of an ellipse that touches each of the star's inverted angles. The left box specifies the horizontal measure, and the right box specifies the vertical measure, in point increments. The default is 40 points (about 0.56 inches); the minimum size is 1 point (about 1/72 of an inch); and the maximum size is 288 points (4 inches).
4. Click on Create Star. *Drawing places the star in the drawing area.*
 5. Click on Close.

Setting Attributes

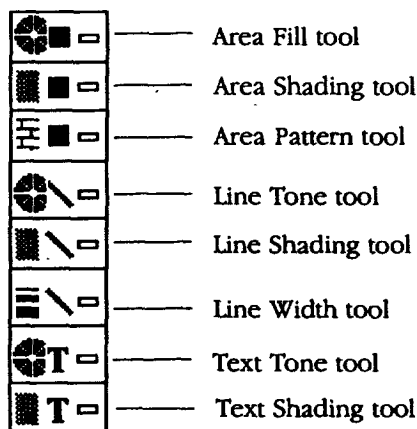
This section describes how to set the attributes for a graphic object, such as a line, rectangle, rounded rectangle, ellipse, arc, or star.

- **Area attributes** are qualities such as the fill tone, shading, fill pattern, and drawing mode.
- **Line attributes** are qualities such as the tone, line pattern, thickness, style, and arrowheads.
- **Text attributes** control items such as the font, size, tone, line spacing, paragraph spacing, indents, tabs, and borders.
- **Background tone** used with area attributes can be used to create custom tones.

Tone and patterns can add emphasis and appeal to a graphic object. You can define tones and patterns for an object's **area attributes** (the fill area inside an object) and its **line attributes** (the border of an object, or a line object).

Using the Attributes tool bar

The Attributes tool bar is along the left-hand side of your window.



Use these tools to change the attributes of selected objects. If no object is selected, use the tools to set the attributes of future objects you draw.

Setting area attributes

Area attributes apply to the area inside ellipses, rectangles, rounded rectangles, and arcs. You can set any of the following area attributes:

- Fill tone
- Tone shading
- Pattern

You can set all of these attributes using Area Attributes from the Attributes menu or using the tools on the Attribute tool bar.

► To set area attributes for a graphic object:

1. Select one or more graphic objects you want to change.
2. Select Area Attributes from the Attributes menu. *A dialog box appears.*
3. Fill in the dialog box:
 - **Filled or Unfilled.** Select Filled to fill the enclosed area of the graphic object and to set other options in this dialog box. By default, area is unfilled.
 - **% Shaded.** Select the percent shading for the fill tone. The lower the number, the more transparent the tone. By default, this setting is 100. If Unfilled is selected, this attribute is set to zero (0).
 - **Tone Tools.** Select the area fill tone from the tone palette.
 - **Pattern.** Select the fill pattern. By default, this setting is solid.
4. Click on Apply. Continue to make changes as desired.
5. Click on Close.

Shading is like a screen. It can be very light (10-20%) and allow the background color to show through, or very dense, (80-90%) and allow very little of the background to show through.

Changing the tone of objects and their background

► To change the tone of an object with the Area Fill tool:



1. Select one or more graphic objects to fill.
2. Click on the Area Fill tool. *A horizontal pop-up menu appears.*
3. Select the tone you want. *Drawing applies the tone.*



► **To shade an object:**

1. Select one or more graphic objects to shade.
2. Click on the Area Shading tool. A *horizontal pop-up menu appears*. The option farthest to the left is 100% shading, while the option farthest to the right is 0%, the same as an unfilled object.
3. Select the shading you want. *Drawing applies the area shading.*



► **To fill an object with a pattern:**

1. Select one or more graphic objects to fill with a pattern.
2. Click on the Area Pattern tool. A *horizontal pop-up menu appears*.
3. Select the pattern you want. *Drawing applies the area pattern.*

► **To change an object's tone or pattern using the Attributes menu:**

1. Select the object(s). *Handles appear around the object(s).*
2. Select Area Attributes from the Attributes menu. A *dialog box appears*.
3. Select the tone or pattern, from the palette in the dialog box.
4. Click on Apply.
5. Click on Close.

Use background tone when you want to use tone under your pattern or shaded tone. It will show through.

► **To use a background tone:**

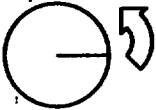
1. Click on the object. *Handles appear around the graphic.*
2. Select Background Tone from the Attributes menu. A *dialog box appears*.
3. Select the tone of the background.
4. Click on Draw Background.
5. Click on Apply. *The background changes tone and will show underneath the area attribute shade or pattern.*

Changing arc attributes

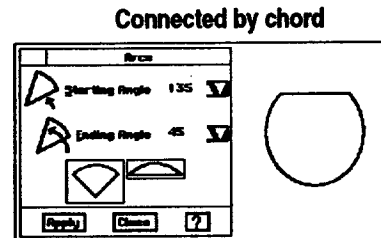
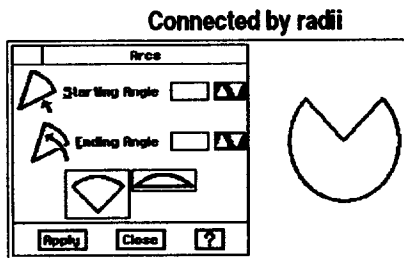
To create an arc, use the arc tool from the Drawing tool bar.

An arc is a portion of a circle (ellipse). Since a full ellipse is 360 degrees around, a 90 degree arc is exactly one quarter of an ellipse; a 180 degree arc is half of an ellipse.

All angles are measured from this position:

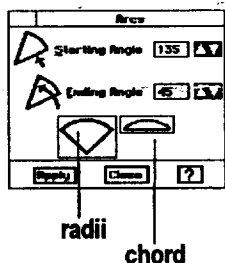


You can set the precise size (in degrees) of the starting angle and ending angle of any arc. You can also specify whether you would like your arc's end points connected by radii or by a chord. The following illustration shows angle conventions used in Drawing and what radii and chord connected arcs look like.



► To change arc attributes:

1. Select one or more arcs to change.
2. Select Arcs from the Attributes menu. *The dialog box on the left appears.*
3. Fill in the dialog box, changing the options you want:
 - **Starting Angle.** Select the starting angle. You can specify from zero (0) to 360 degrees, inclusive.
 - **Ending Angle.** Select the ending angle. You can specify from zero (0) to 360 degrees, inclusive.
 - **End Points Connected.** Select whether you want the end points connected by a chord or two radii.
4. Click on Apply.
5. Click on Close.



Modifying a line

You can use the tools on the Attributes tool bar to set or change the line tone, shading, and thickness of a line or border of a graphic object, or you can use the Line Attributes dialog box.



► To add Tone to a line:

1. Select one or more lines or graphic objects.
2. Click on the Line Tone tool. *A horizontal pop-up menu appears.*
3. Select the tone you want. *Drawing applies the line tone.*



► To shade a line:

1. Select one or more lines or graphic objects.
2. Click on the Line Shading tool. A *horizontal pop-up menu appears*. The option farthest to the left is 100% shading, while the option farthest to the right is 0%.
3. Select the shading you want. *Drawing applies the line shading.*



► To change line width:

1. Select one or more lines or graphic objects.
2. Click on the Line Width tool. A *horizontal pop-up menu appears*.
3. Select the width you want. *Drawing applies the line width.*

► To modify a line using the Line Attributes dialog box:

1. Select one or more lines to change.
2. Select Line Attributes from the Attributes menu. A *dialog box appears*.
3. Fill in the dialog box:
 - **Filled or Unfilled.** Select Filled to fill the line or border of the graphic object (which makes it visible). Select Unfilled if you want the line or border to be invisible. By default, the line is Filled.
 - **% Shaded.** Select the percent shading for the line tone. The lower the number, the more transparent the tone. By default, this setting is 100. A zero (0) setting is the same as an unfilled line or border.
 - **Tone Tools.** Select the line tone from the tone palette.
 - **Width.** Select the thickness of the border line using a set of standard widths. By default, this setting is one point. You can also fine tune the width by selecting a custom thickness; a setting of zero (0) is the same as a hairline width, which makes it the thinnest line that can appear on your display or that your printer can print.
 - **Style.** Select the style of the border line. By default, this setting is a solid line.
 - **Arrowhead.** You can add arrowheads to your lines. By default, no arrowhead style is selected. You can also select an arrowhead location (at the start or the end of the line).
4. Click on Apply.
5. Click on Close.

To quickly set line attributes, use the tools from the Attributes tool bar. But the Line Attributes dialog box offers a few more options, such as selecting a custom thickness.

Transforming Objects

You can **transform** an object to give it special visual effects such as flipping, scaling, rotating, and skewing (slanting). You can also undo any transformation.

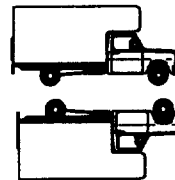
Flipping Objects

Use the Transform menu to flip objects left-to-right or top-to-bottom. This is useful for creating interesting effects with text objects and for building complex designs out of component objects. The following illustration shows an object that has been flipped:

You can also use keyboard shortcuts to flip objects when the Transform menu is pulled down. Press L (as in Left-to-right) to flip the selected object left-to-right. Press T (as in Top-to-bottom) to flip it top-to-bottom.



Flipped left to right



Flipped top to bottom

► To flip an object:

1. Select the object(s) to flip. *Handles appear around the object(s).*
2. From the Transform menu, select Flip. *A submenu appears.*
3. Select Flip Left to Right or Flip Top to Bottom. *The objects flip in the direction you select.*

► To scale objects:

1. Select the object.
2. Select Scale from the Transform menu.
3. To scale objects precisely horizontally and vertically, use the Scale submenu. Click on the up and down arrows until the percentage of increase or decrease shows in the value box, or enter in a value up to 1000 percent.
4. Click on Scale. *Drawing redraws selected objects using the custom scale settings specified.*
5. Click on Close.

Scaling an object changes its size proportionally. Using the Scale submenu, you can make objects larger by entering a value greater than 100%, or make them smaller by entering a lower value than 100%.

You can scale vertical and horizontal dimensions independently or together. You can use scaling to elongate or shorten a text object.

Rotating Objects

To rotate an object, use the Rotate tool or select Rotate from the Transform menu, where you can select the exact degree of rotation.

The selected object rotates around its center point. You can also select multiple objects, and they will rotate around their respective center points. If you want multiple objects to rotate around a common center point, you must first group them (see page 148).



To rotate the selected object in 45° increments, hold the **SHIFT** key down while dragging the object.

You can also use keyboard shortcuts to rotate objects. To rotate the selected object counter-clockwise 15°, press [. To rotate it counter-clockwise 1° press **SHIFT**+ [.

To rotate it clockwise 15°, press]. To rotate it clockwise 1°, press **SHIFT**+].

► To rotate an object with the Rotate tool:

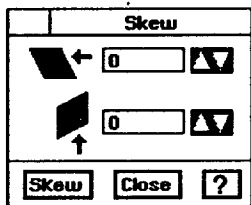
1. Select the object you want to rotate. *Handles appear around the object.*
2. Select the Rotate tool on the Drawing tool bar. *The pointer changes to a curved arrow when you move it over the drawing area.*
3. Place the tip of the arrow on one of the handles surrounding the selected object. *The pointer changes to crossed arrows.*
4. Grab the handle by clicking and holding down the Select button. *The handles disappear.*
5. While holding down the Select button, drag clockwise or counter-clockwise until the object is in the position you want. *A dotted outline shows the position of the object as you rotate it.*
6. Release the Select button. *The object appears in its new position with handles around it.*

► To rotate an object with the menu:

1. Select the object(s) you want to rotate.
2. Select Rotate from the Transform menu.
3. Enter the amount of rotation you want from -359° to +359°.
4. Click on Rotate. *The selected object rotates around its center point. If you selected multiple objects, Drawing rotates each around its center point.*

Skewing Objects

You can skew an object to make it slant horizontally or vertically at a precise angle.



1. Select one or more objects that you want to skew.
2. Select Skew from the Transform menu. *The dialog box at the left appears.*
3. Select the skew angle you want. *Drawing skews selected objects using the skew angle you chose.*

- **Horizontal.** A positive value skews the object to the left, and a negative value skews it to the right. You can set skew angles from -89 to 89 degrees.
- **Vertical.** A positive value skews the object upwards, and a negative value skews it downwards. You can set skew angles from -89 to 89 degrees.

4. Click on Skew. *Drawing redraws the selected objects as specified.* You can continue to click on Skew to apply the skewing repeatedly until you achieve the result you want.
5. Click on Close.

Untransforming Objects

You can remove any skewing, scaling, or rotations you have made to an object, reverting to the original drawing. You might want to do this, for example, if you were experimenting with different transformations and wanted to reverse everything you have done.

Untransforming removes all transformations you have applied to an object. To undo one transformation, select Undo from the Edit menu or transform the object in reverse.

► To untransform an object:

1. Select one or more objects that you want to untransform.
2. Select Untransform from the Transform menu. *Drawing redraws selected objects removing all transformations.*

Duplicating Objects

It is often useful to duplicate an object instead of recreating it. You can also perform custom duplications that will rotate, move, scale, or skew the duplicate.

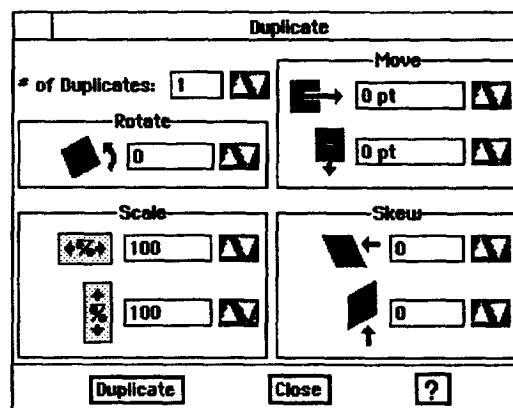
Shortcut: Press D to duplicate the selected object(s); press P to duplicate the selected object(s) in place.

► To duplicate an object:

1. Select the object you want to duplicate. *Handles appear around the object.*
2. Select Duplicate from the Edit menu. *The copied object appears with handles around it. You can use the move handle on the duplicate to move the object.*

► To custom duplicate an object:

1. Select one or more objects that you want to custom duplicate.
2. Select Duplicate from the Edit menu. *A dialog box appears:*

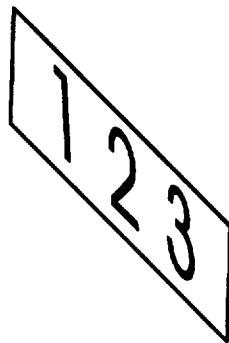


3. Fill in the dialog box:
 - **# of Duplicates.** Select the number of duplicates.
 - **Rotate.** Select the number of degrees to incrementally rotate each duplicate.
 - **Scale.** Select the scale percentage to incrementally resize each duplicate.
 - **Move.** Select the vertical and horizontal distance to incrementally move each duplicate.
 - **Skew.** Select the number of left/right and upward/downward degrees to skew each duplicate.
4. Click on Duplicate. *Drawing duplicates the selected objects using the options you specified.*
5. Click on Close.

Converting to a Graphic

You can also group graphic objects and transform them.

Converting to a Graphic is helpful when you want to manipulate text or a graphic to create special visual effects. For example, you could convert a text object with numbers to a graphic; then resize and skew the text, as shown in the following illustration:



You can also use this feature to save any transformations (skewing, rotating, scaling, and so on) for a single object. That way, you can protect against losing these transformations should you later untransform the object. For more information, see *Untransforming Objects* on page 143.

► **To convert objects to a graphic object:**

1. Select one or more objects to convert.
2. Select Convert from the Transform menu. *A submenu appears.*
3. Select Convert to Graphic. *Drawing converts selected objects to a single object.*

Converting from a graphic breaks a single graphic object down to its component parts so that you can edit them individually.

► **To convert from a graphic:**

1. Select one or more graphic objects to convert from a graphic.
2. Select Convert from the Transform menu. *A submenu appears.*
3. Select Convert From Graphic. *Drawing converts the selected graphic to its component objects.*

Arranging Objects

The Arrange menu provides several ways of controlling placement of objects in your drawing.

Moving Objects to the Front or Back

Whenever two or more objects overlap, you can place one of the objects behind the others or you can place it in front.

► **To move an object to the front or back:**

1. Select the object you want to move to the front or back.
2. Select either Bring to Front or Send to Back from the Arrange menu. *The objects are rearranged accordingly.*

Moving an object one layer is useful when you cannot see objects in the layers of a stack of objects. Select an object that is visible and move it back one layer at a time to see the object that is immediately behind it.

► **To pull an object forward or push it back one layer:**

1. Select the object you want to pull forward or push back.
2. Select either Pull Forward or Push Back from the Arrange menu. *The object is moved accordingly.*

Moving Objects

Objects that you place outside the print border (the dotted line near the perimeter of the drawing area) will not appear when you print.

When you create objects, you can move them around your drawing as you like. This section describes how to move objects in a drawing.

To help you gauge the position of your objects relative to the total drawing area, use the rulers along the top and left side of the drawing.

You can also move objects vertically and horizontally using exact distances.

► **To move an object:**

1. Select the object to move. *Handles appear around the object.*
2. Move the pointer over the diamond shaped move handle in the center of the object. When the pointer changes to a pair of crossed arrows, hold down the Select button to grab the object.
3. Drag the object to the position you want. *As you drag, an outline of the object follows your motion, indicating where the object will be placed when you release the Select button.*
4. Release the Select button. *The object appears in its new position.*







Moving one object moves all the selected objects. As you drag, an outline of the objects follows your motion, indicating where the object will be placed when you release the Drag button.

► To move several objects:

1. Select the Pointer tool from the Drawing tool bar.
2. Place the on-screen arrow near the objects, hold the Select button, and drag across the screen to make a box around the objects. *Handles appear around the objects.*
3. Move the on-screen pointer over the move handle for one of the objects, hold down the Drag button, and drag the on-screen pointer. *All selected objects move.*
4. Move the on-screen pointer where you want the objects to be placed.
5. Release the Select button. *The objects appear in the new location.*

► To custom move objects:

1. Select one or more objects to move.
2. Select Move from the Arrange menu. *A submenu appears.*
3. Select Custom Move from the submenu. *A dialog box appears:*

Custom Move			
	<input type="text" value="0 pt"/>		<input type="checkbox"/> Inches
			<input type="checkbox"/> Centimeters
	<input type="text" value="0 pt"/>		<input type="checkbox"/> Points
			<input type="checkbox"/> Picas
<input type="button" value="Move"/>		<input type="button" value="Close"/>	<input data-bbox="774 1220 821 1254" type="button" value="?"/>

4. Fill in the dialog box:
 - **Horizontal.** Select the horizontal distance you want to move. A negative number moves selected objects to the left, while a positive number moves selected objects to the right.
 - **Vertical.** Select the vertical distance you want to move. A negative number moves selected objects upward, while a positive number moves selected objects downward.
 - **Units.** Select the measurement units you want to use (Inches, Centimeters, Points, or Picas).
5. Click on Move.
6. Click on Close.

*Nudge means to move a small amount. To nudge object(s) using the keyboard, press and hold **SHIFT** while pressing an arrow key that points the direction you want to move.*

► **To nudge objects:**

1. Select the object or objects.
2. Select Move from the Arrange menu. *A submenu appears.*
3. Select Nudge Left, Nudge Right, Nudge Up, or Nudge Down. *The object moves one pixel in the direction you select.*

Grouping and Ungrouping Objects

Grouping objects allows you to work with them as if they were a single object. For example, after grouping three rectangles, you could do any of the following:

- Change the fill tone for all three rectangles all at once.
- Rotate them around a common center.
- Move them as a group without changing their positions relative to one another.
- Resize them as a group while maintaining their relative scale.

A group can contain any object, including another group.

After you have made changes to a group, you can ungroup it to make each component a separate object again.

► **To group objects:**

1. Select the graphic objects to group. *A set of handles appears around each object.*
2. Select Group from the Arrange menu. *A single set of handles appears around the group.*

► **To ungroup objects:**

1. Select the group you want to ungroup.
2. Select Ungroup from the Arrange menu. *Handles appear around the individual objects.*

Pasting Inside

When you paste an object inside another object, Drawing combines them into a single object that you can manipulate as you would any other Drawing object.

The boundaries of the outside object become the boundaries of the inside object. Once you have pasted an object inside another, you can fine tune the position of the inside object by moving it one pixel at a time.

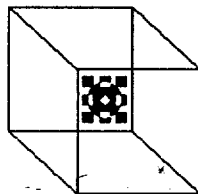
You can also break the object into its component objects using the Break Out Paste Inside command.

The following example shows how to paste one object inside another.

► To paste inside:

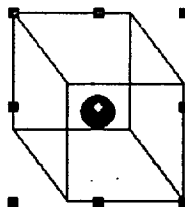
If the two objects do not overlap, you cannot paste inside.

1. Place the inside object over the outside object. Position the inside object where you want it in the outside object, as shown in the following example:



Be sure to position the interior object as close as possible to where you want it. You can fine tune it later, nudging it one pixel at a time.

2. Select the inside object.
3. Press **CUT**. *Drawing places the object on the clipboard.*
4. Select the outside object.
5. Select Paste Inside from the Edit menu. *A submenu appears.*
6. Select Paste Inside. *Drawing pastes the inside object in the outside object:*



► **To nudge inside:**

1. Select the object that contains the object or objects you want to nudge inside.
2. Select Paste Inside from the Edit menu. *A submenu appears.*
3. Select Nudge Inside. *A submenu appears.*
4. Select Nudge Left, Right, Up, or Down. *Drawing nudges the inside object one pixel in the direction you select.*

► **To break out paste inside:**

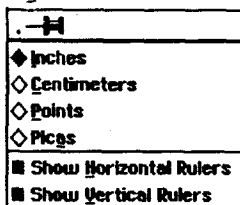
1. Select the object you want to break out.
2. Select Paste Inside from the Edit menu. *A submenu appears.*
3. Select Break Out Paste Inside. *Drawing splits the objects into separate objects.*

Using Rulers

The *rulers* help you measure vertical or horizontal distances. Rulers help you position, align, and resize objects. You can show rulers along the left and top borders of the drawing area.

By default, Drawing shows rulers. You can hide the vertical ruler, the horizontal ruler, or both to increase drawing space.

► **To show or hide rulers or change ruler units:**



1. Select Rulers from the Options menu. *The submenu at the left appears.*
2. Select the ruler you want to show (vertical or horizontal).

OR

Deselect the ruler by clicking on its button.

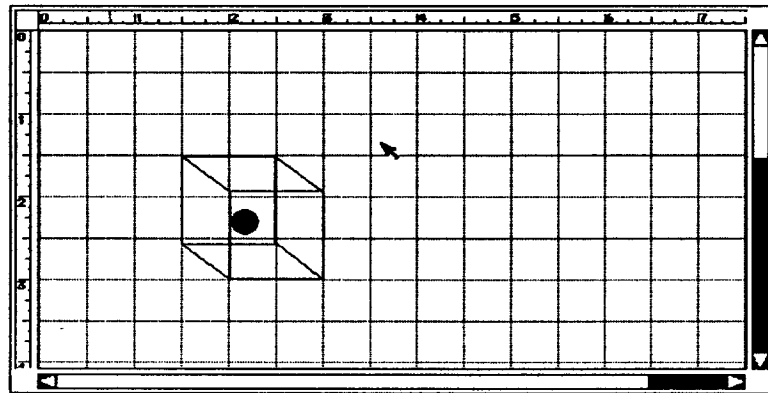
OR

Select the ruler units you want.

Using Grids

Drawing can position objects using the grids, snapping objects into place for you automatically. The **grid** is a pattern of evenly-spaced vertical and horizontal lines that help you align and size objects in a drawing. You can also change the spacing of the grid.

You can also automatically snap (or position) objects along grid lines when you create them. Snapping objects to the grid is often faster and more accurate than positioning them manually with the on-screen pointer.



Drawing can align objects to the grid even if the grid is hidden.

► To show or hide the grid:

1. Select Grids from the Options menu. A *dialog box appears*. If *Snap to Grid* is selected in this dialog box, *Drawing aligns objects to the grid*.
2. Select Show Grid to show the grid.

OR

Deselect Show Grid to hide the grid.

3. Click on Apply.
4. Click on Close.

► To set the grid spacing:

1. Select Grids from the Options menu. A *dialog box appears*.
2. Select the units of measure (Inches, Centimeters, Points, or Picas) if you want. *By default, the units of measure are the same as the ruler setting*.
3. Select the distance between grid lines.
4. Click on Apply.
5. Click on Close.

When you change the units of measure for the grid, you will find it helpful to change the units on the ruler also. See page 150.

Press **X** or period (.) to turn grid snapping on or off only for the next create, move, or resize operation.

► To snap objects to the grid:

1. Select Grids from the Options menu. *A dialog box appears.*
2. Select Snap to Grids.
3. Click on Apply. *While Snap to Grids is selected, Drawing will snap corners to grids when you draw, move, or resize an object.*
4. Click on Close.

Using Text in Drawings

In Drawing, create text objects for entering text. Each text object can contain as little or as much text as you like.

You can move, delete, and resize text objects just as you would any other object (a line, rectangle, or ellipse). You can also change the attributes of text at any time, even after you have rotated or flipped a text object. You can change the following text attributes:

- Font
- Size
- Style
- Tone
- Alignment

► To create a text object:

Text tool



To quickly create a standard-size text object, select the Text tool; then click where you want to begin entering text. Drawing automatically creates a text object 6 inches across and 1 line high. As you type, the text object automatically grows vertically to accommodate new lines of text. You can resize the object later.

1. Select the Text tool from the tool bar. *The pointer changes to crossed I-beams when you move it over the drawing area.*
2. Place the I-beams where you want your text to begin; hold the Select button and drag diagonally to outline the area for the text to appear in. *A dotted line shows the borders of the text object.*
3. Release the Select button. *The border of the text object appears with a blinking vertical line, the insertion point, showing where you can begin typing. The default font is 12 point Roman.*
4. Begin typing. *As you type, text wraps within the text object, and the object automatically grows vertically to accommodate new lines of text. Do not press **ENTER** unless you want to begin a new paragraph. If you later resize your text object, word wrap will automatically adjust the line endings for you, unless you press **ENTER** at the end of each line.*

► **To enter and edit text in a text object:**

Use the basic text editing techniques available in all programs, including **BACKSPACE** and **DELETE** keys, and Undo, Cut, Copy, and Paste from the Edit menu.

► **To create text in different sizes:**

1. Select the Text tool.
2. Place the crossed I-beam pointer where you want to begin typing.
3. Hold down **CTRL**; then hold the Select button and drag the on-screen pointer diagonally to create your text object. *The size of your type will be the size of the object you create.*
4. Release the Select button. *The blinking insertion point shows the size of capital letters.*
5. Begin typing. *If your characters are too large for the words to fit in the object you defined, Drawing extends the object depth, but not its width. To resize a text object, see the procedure below.*

If you cannot see the text you entered, click on the Options menu; then be sure that Draw Outlines Only is not selected (it is selected when the button is darkened).

► **To move, resize, or delete a text object:**

Use the Pointer tool to move, resize, or delete a text object just as you would any rectangular object.

If you create a text object without entering any text, an empty text object will remain. This object becomes invisible when not selected and can obscure portions of other objects.

► **To delete empty text objects:**

1. Select the Pointer tool.
2. Click on the text object. *Handles appear around the object.*

OR

Hold the Select button and drag the on-screen pointer to create a large rectangle. *Handles appear around all the objects inside the rectangle.*

3. Press **DELETE** or **BACKSPACE**. *All selected objects disappear.*

To undo a deletion that you just did, select Undo Delete from the Edit menu. Undo from the Edit menu only affects the last action.

Changing Text Style, Size

Text **style** refers to the way the type in each font appears:

- Plain Text
- **Bold**
- *Italic*
- Underlined
- ~~Strike thru~~
- Subscript (e.g. H₂O)
- Superscript (e.g. a² + b² = c²)
- Box (appears with a box around the text)
- Button (resembles a push-button)

You can combine styles to create Plain Type Underlined, Bold Underlined, Italic Underlined, Bold Italic, and Bold Italic Underlined, and you can apply Strike Thru, Superscript or Subscript to any of those styles. The default style is Plain Text.

Type **size** refers to the height of the type measured in points. There are 72 points to an inch, so 72 point text is one inch high. The default type size is 12 points.

Use the Size submenu from the Text menu to change the size of selected text, or text in selected objects. The point sizes available are: 9, 10, 12, 14, 18, 24, 36, 54, and 72. You can also select Custom Size from this same submenu.

► To change the font, style, or size of text in a drawing:

If you change text so that it is very large or very small, Drawing adjusts the height of the text object, but not the width.

1. To change text within a text object, use the Text tool to select the text you want to change.

OR

To change all the text in a text object, use the pointer to select the text object you want to change.

2. From the Text menu, select the font, style, or size you want to apply to the selected text or text object. *The selected text is changed accordingly.*



► To use the Text Shading tool:

1. To change text within a text object, use the Text tool to select the text.

OR

To change all the text in a text object, use the Pointer tool to select one or more text objects.

2. Click on the Text Shading tool. *A horizontal pop-up menu appears. The option farthest to the left is 100% shading, while the option farthest to the right is 0%.*
3. Select the shading you want. *Drawing applies the shading to the selected text or text objects.*

Aligning Text

Text alignment refers to how the text lines up with the left and right edges of a text object. You can align text at the left, center, or right of a text object. You can also justify text (aligned left and right). When you create a text object, the default setting is left, but you can change it.

► To change text alignment:

1. Use the Pointer tool to select the text object to change.
2. Select Paragraph from the Text menu; then select an alignment. *The text in the selected object changes alignment.*

Adding Tone to Text

You can add tone to some or all of the text in a text object by selecting Text Tone from the Text menu or by using the Text Tone tool from the Attributes tool bar.



To change text tone using the Attributes tool bar, select the text; then click on the Text Tone tool. Select a tone from the list that appears. You cannot select percent shaded using this tool.

► To change text tone:

1. To change text within a text object, use the Text tool to select the text.
OR
To change all the text in a text object, use the Pointer tool to select the text object to change.
2. Select Text Tone from the Text menu. *A dialog box appears.*
3. Select the tone you want to use by clicking on it; then select a Percent Shaded if you want.
4. Click on Apply. *The dialog box remains open so you can change the tone again, or change additional text.*
5. When you have finished changing text tone, click on Close.

Working with Bitmap Objects

In Drawing, you can use three types of objects to compose a drawing: text objects, graphic objects, and bitmap objects.

- A **text object** is an object you create using the Text tool on the Attributes tool bar.
- A **graphic object** is any line, rectangle, ellipse, arc, star, or other object you create using any of the other tools (besides text) on the Attributes tool bar or the Create option on the Edit menu.
- A **bitmap object** is any object you create using any of the tools on the Bitmap tool bar.

Because bitmap drawings use a lot of memory:

- Limit the size of your bitmap drawing to an area smaller than the size of the window, scaled at 100% normal size.
- Save your document frequently.
- Limit the number of bitmap drawings per document.

A **bitmap** is an object made up of pixels, which are individual dots that make up an object, like the dots on a television screen. Bitmaps allow you to create freehand objects. Because bitmaps have special properties, Drawing provides a set of tools for manipulating pixels.

The Bitmap tools appear on the right side of the horizontal tool bar:



Like their counterparts on the Drawing tool bar, the bitmap Line, Rectangle, and Ellipse tools draw geometric shapes. However, the Bitmap tools paint pixels in a bitmap, while the Drawing tools create distinct graphic objects. You can change the pixels of a bitmap object using the Bitmap tools.

Creating a Bitmap Frame

A **bitmap frame** defines the outer bounds of a bitmap. Create a bitmap frame using the Frame tool or by drawing a bitmap shape using other bitmap tools. Use the Bitmap tools to change pixels in the object and manipulate the bitmap by moving, resizing, or transforming it as desired.

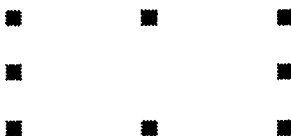
If you know the size of the bitmap you want to create, or if you just want to block out an area of the drawing for the bitmap, use the Frame tool to create a rectangular bitmap frame.

Any bitmap operations you perform in the frame are bounded by the frame and become part of it. The frame acts much like a draw object that you can stretch, move, and rotate. You cannot, however, move or resize individual bitmap items you place in the bitmap frame. Once you place a bitmap item into a frame, it permanently becomes part of that frame, unless you select Undo from the Edit menu.

► To draw a bitmap frame:

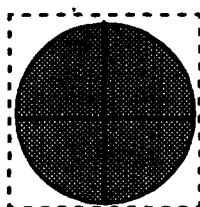


1. Select the Frame tool from the Bitmap tools. *The pointer changes to crosshairs when you move it over the drawing area.*
2. Move the on-screen pointer to where you want to anchor the first point of the frame; then hold the Select button and drag the frame until it becomes the size you want.
3. Release the Select button. *A frame with a white fill appears with selection handles:*



Drawing a bitmap frame creates the bitmap. You can now change pixels inside the bitmap frame. You can also draw other Drawing objects on top of the bitmap; however, they remain separate objects, distinct from the bitmap.

You can also create a bitmap frame by using the Bitmap tools to draw a bitmap shape (straight line, freehand symbol, rectangle, or ellipse) in a blank part of the drawing area. When you do this, Drawing creates a rectangular bitmap frame around the object along its outermost points; the boundaries of the frame become the boundaries of the bitmap.



Drawing Bitmap Shapes

Unlike other Drawing objects, a bitmap is always opaque and never transparent (unfilled). As a result, if you place a bitmap on top of other objects, you cannot see the objects underneath.

Use the Bitmap tools to draw the following bitmap shapes:

- Straight lines
- Rectangles
- Ellipses
- Freehand shapes

Once you draw a bitmap shape, it becomes part of the bitmap frame. You cannot change a bitmap shape as you would a draw object. For example, you cannot move or resize a bitmap ellipse directly; you can only draw another ellipse in the new location or size you want. For this reason, it is helpful to select Undo from the Edit menu to correct any mistakes you make.

Select the attributes of a bitmap shape before you draw it, including the tone, shading, line weight, and so on. You can change these attributes after you have drawn the shape.

The default background tone for a bitmap is white. Change the background tone by drawing a bitmap shape in a different tone using one of the Bitmap tools. The Attribute tools do not apply to bitmaps.



Hold down **SHIFT** while drawing a line to make it exactly horizontal, vertical, or 45 degrees.

► To draw a straight line:

1. Select Line Attributes from the Attributes menu. A *dialog box* appears.
2. Select the line tone, shading, and width you want.
3. Select the Bitmap Line tool from the tool bar. *The pointer changes to crosshairs when you move it over the drawing area.*
4. Move the on-screen pointer to where you want to anchor the first point of the line; then hold the Select button and drag the line to where you want it to end.
5. Release the Select button. A *straight line* appears with the attributes you selected.

Pressing **SHIFT** while drawing a rectangle creates a square.



► To draw a rectangle:

1. Select Area Attributes from the Attributes menu. A *dialog box* appears.
2. Select the area fill tone, shading, and pattern you want.
3. Select the Bitmap Rectangle tool. *The pointer changes to crosshairs when you move it over the drawing area.*
4. Move the on-screen pointer to where you want to anchor one corner of the rectangle; then hold the Select button and drag until the rectangle is the size you want.
5. Release the Select button. A *rectangle* appears with the attributes you selected.

Pressing **SHIFT** while drawing an ellipse creates a circle.



► To draw an ellipse (circle):

1. Select Area Attributes from the Attributes menu.
2. Select the area fill tone, shading, and pattern.
3. Select the Bitmap Ellipse tool from the Bitmap tools. *The pointer changes to crosshairs when you move it over the drawing area.*
4. Move the on-screen pointer to where you want to start the ellipse; then hold the Select button and drag until the ellipse is the shape and size you want.
5. Release the Select button. An *ellipse* appears with the attributes you selected.

► To draw a freehand shape:



1. Select the line tone, shading, and width you want by selecting Line Attributes from the Attributes menu.
2. Select the Brush tool from the Bitmap tools. *The pointer changes to crosshairs when you move it over the drawing area.*
3. Click once to change one pixel.

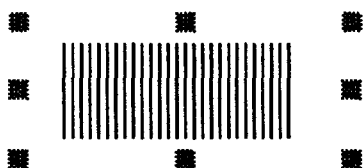
OR

Move the on-screen pointer to where you want to start the freehand shape, hold the Select button and drag the pointer to draw the shape you want; then release the Select button.

Editing Bitmap Objects

Once you create a bitmap, you can use the Bitmap tools to change pixels in the object, erase portions of it, and select all or part of the object to cut, copy, and paste.

Whenever you use a bitmap tool in a bitmap object, the bitmap object becomes the selected object. A *frame appears around it to show you that it is the selected object*:



You can use the Selection tool to select a rectangular region within a bitmap so that you can perform copy, cut, and paste operations using the pixels in the region. You can select all or part of the object.



► To select a region within a bitmap object:

1. Click on the Bitmap Selection tool. *The pointer changes to crosshairs when you move it over the drawing area.*
2. Move the pointer to where you want to anchor one corner of the selection; then hold the Select button and drag until the selected region is the size you want.
3. Release the Select button. *A rectangular selection region appears.*

You can cut or copy the selected region to the clipboard and paste it in a different location in the bitmap.

► To select all the pixels in a bitmap:

1. Select the Bitmap Selection tool from the Bitmap tools. Click inside the bitmap. *A dotted outline appears indicating that the bitmap is selected.*
2. Press **CTRL + I**.

Using Tone or Fill Pattern in a Selected Area

It is a good idea to save your drawings after every fill operation.

You can change the tone of a contiguous group of pixels using the Bitmap Fill tool. Unlike the Fill tool for graphic objects, which fills the entire interior of a graphic object, the Bitmap Fill tool fills an enclosed area with the current area fill tone. The enclosed area is bounded by pixels of a different tone.



► To change the pixels in an enclosed area:

1. Select the Bitmap Fill tool from the Bitmap tools. *The pointer changes to a paint can when you move it over the drawing area.*
2. Select the fill tone and the pattern you want. You can use the Area Fill tone tool or select Area Attributes from the Attributes menu.
3. Click anywhere in the enclosed area. *Drawing changes all pixels in the enclosed area with the current area fill tone.*

Erasing in the Bitmap Frame

To erase a rectangular region, use the Selection tool and Cut or Delete from the Edit menu.

When you use the Eraser tool, Drawing changes the tone of affected pixels to white. It has the same effect of painting pixels white using a different Bitmap tool (such as the Rectangle tool).



► To erase pixels in a bitmap frame:

1. Select the Eraser tool from the Bitmap tools. *The pointer changes to a square when you move it over the drawing area.*
2. Move the pointer to where you want to start erasing, and then click or drag the pointer over the parts of the object you want to erase.

Using the Pixel View Tool



To change individual pixels in the Pixel View, use the Pixel View tool (on the far right). This tool enlarges your drawing and displays a grid of pixels that you can change individually.

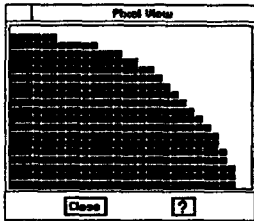
Once an object appears in the Pixel View, you can use any of the bitmap tools to make subtle changes to it, such as smoothing out a rough edge or corner. For example, to change the tone of individual pixels, select a line tone, select the Brush tool, and then click on the pixels you want to change. Similarly, to change a rectangular region of pixels, select a fill tone, select the Rectangle tool, and then draw a rectangle over the region of pixels you want to change.

► **To display the Pixel View:**



1. Select the Pixel View tool from the Bitmap tool bar. *The pointer changes to a magnifying glass when you move it over the drawing area.*
2. Move the on-screen pointer to where you want to change pixels; then click the Select button. *The Pixel View appears.*
3. Select the bitmap tool you want to use to change pixels.
4. In the Pixel View window, use any of the Bitmap tools to change pixels individually or in groups.

► **To change the Pixel View area:**



With the magnifying glass tool, click on a pixel in the Pixel View window. *This pixel becomes centered in the Pixel View window.*

OR

Click in the bitmap object outside the Pixel View window.

Changing the Bitmap Color and Resolution



CAUTION: Increasing the resolution of the bitmap or the number of colors in the bitmap may overload memory. If this happens, you may lose your work and have to restart the system.

You can change the **color format** (monochrome or color) and **resolution** (the number of dots, or pixels, per inch) of a bitmap.

For example, if you want to reduce the storage and memory size of the object, change a 16-color object to a monochrome object. Similarly, to add color, change a monochrome object to a 16-color object.

You can also change the resolution of a bitmap. For example, to reduce the storage and memory size of the object, reduce the resolution from 300 dpi to 72 dpi. Similarly, to edit the pixels at a finer level of detail, increase the resolution from 72 dpi to 300 dpi.

► To change the format of a bitmap:

1. Select the bitmap to format.
2. Select Bitmap Format from the Attributes menu. A *dialog box appears*.
3. Fill in the dialog box:
 - **Monochrome or 16-color.** Select the bitmap format you want.
 - **Resolution.** Select the resolution you want (72 dpi, 300 dpi, or Custom from 1–2400 dpi).
4. Click on Apply.
5. Click on Close.

Printing or Faxing Drawing Documents

Before printing a Drawing document for the first time, review Setting Printer Options in Getting Started (Book 1). Also select page size options to reflect the actual size, layout, and margins that you want to print.

Before faxing for the first time, set up your fax information and create a cover sheet; see the Fax and Data Modem chapter in Book 1.

► To select the page size:

Select Page Size from the File menu and set the page size options the way you want them.

You can print a document larger than the printing area. When you print a large page, you are asked whether you want to scale the document or print it actual size. Select Print Actual Size; then insert as many sheets of paper as required. When finished, tape the pages together.

► **To print a document:**

1. Save your document; then press **PRINT**. *A submenu appears.*
2. Select Print. *The Print dialog box appears.*
3. Select your print options; then click on Print.

► **To fax:**

1. Save your document; then press **PRINT**. *A submenu appears.*
2. Select Fax. *The Fax dialog box appears.*
3. Select your fax options; then click on fax.

Importing and Exporting Graphics

When you import a bitmap graphic, Drawing places it in the center of the window. The object will not respond like a graphic object, but rather like a bitmap object. With bitmap objects, the pixels enlarge and shrink as you resize, and you must edit them with the Bitmap tools (see page 156).

You can import graphics into Drawing that were created with other drawing programs or are stored in other file formats. You can also export drawings you have created in Drawing.

Graphics files are usually stored as **bitmaps**, which consist of a series of dots (pixels) that together make up a graphic object. With Drawing, you can import and export graphics in the following bitmap formats:

- **Bitmap (BMP).** This is the standard bitmap format that many Windows and OS/2 programs can create.
- **CompuServe® Graphics Interchange Format (GIF).** This is a format designed to minimize transfer time over telephone lines.
- **PC Paintbrush (PCX).** This is a popular format for exchanging bitmap graphics between programs.
- **Tag Image File Format (TIFF).** This is a standard format for storing bitmap graphic objects. TIFF files can be used by programs on many different kinds of computers.

► To import a graphics file:

If you are importing a drawing and do not know the format, select No Idea, and Drawing will analyze the drawing to see if it can be imported.

1. Open the Drawing document into which you want to import a graphics file.
2. Insert the diskette containing the drawing to import; then select Import Graphic from the File menu. *The Import Graphic dialog box appears.*
3. Select the file you want to import and the format of the file (clip art is TIFF format).
4. Click on Import.

► To export graphics:

When you export from Drawing, you can either export the entire drawing or only selected objects.

1. Open the Drawing document to export.
2. Select all or part of the drawing. *Handles appear around any selected objects.*
3. Select Export Graphic from the File menu. *A dialog box appears.*
4. From the right, select a file format.
5. Fill in the remainder of the dialog box, changing the options you want:
 - **Formats.** Select 1 bit/pixel for black-and-white objects and 4 bit/pixel or 16 bit/pixel for tone objects.
 - **BMP Format.** These options appear only when you select BMP from the Formats list. Specify the format that you are exporting to so the exported file will be readable. Select from the following options:

Select *OS/2 Device Independent Bitmap* if you plan to use the exported file in an OS/2 program.

Select *Windows 2.x Device Dependent Bitmap* if you plan to use the exported file in a Windows program with a version of Microsoft Windows earlier than 3.0.

Select *Windows 3.x DIB* if you plan to use the exported file in a program running with Microsoft Windows 3.0 or higher.

Select *Windows 3.x DIB RLE Compressed* if you plan to use the exported file with Microsoft Windows 3.0 or higher and you want the file to be Run-Length-Encoded (RLE) compressed.

- **Compression.** These options appear only when you select TIFF from the Formats list. Select Uncompressed to export without compression. Select Auto-Compress to export with compression.
- **Export Entire Document.** Select this option to export the entire file.
- **Export Selected Objects.** Select this option to export only the objects you have selected in the drawing. This is the default selection.

6. From the left, select a folder to save the drawing to; then enter a name for the drawing.
7. Click on Export.

4 Scrapbook

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- Working with Documents
- Saving Documents
- Working with Menus
- Working with Dialog Boxes

Scrapbook is a place to store graphic objects and bits of text so that they are available for pasting into documents. It also allows you to place the clip art that is supplied on diskette in a Scrapbook document to place in other documents.

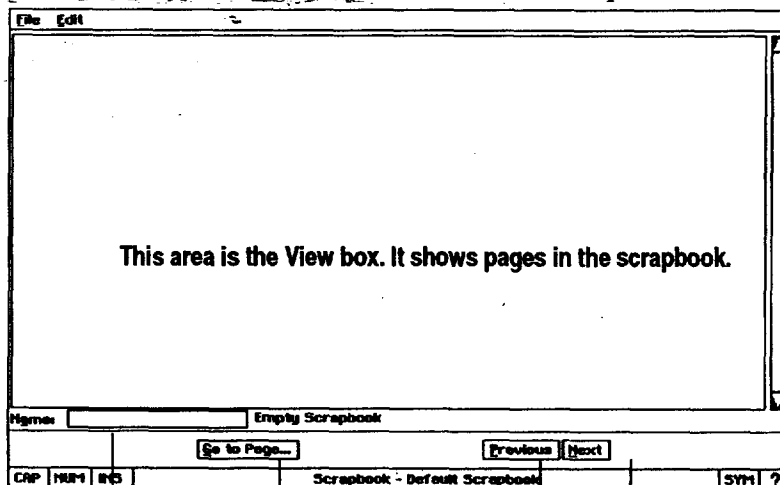
Starting Scrapbook

When you first start Scrapbook, the Default document opens. If you have not copied any scraps into this document, it is empty. If you have already entered scraps, the contents of the first page appear in the View box.

After placing the first scrap in the Default Scrapbook, save it without renaming it if you want the Default Scrapbook to open each time you open Scrapbook. Or you can create and save a new Scrapbook document to open when needed (see page 171).

► To start Scrapbook:

Click on Scrapbook from the Main Menu. *The Scrapbook window appears:*



Click here to go to a specific page in the scrapbook.

The name of the page appears here.

Click here to go to the previous or the next page in the scrapbook.

Using Scrapbook Documents

Scrapbook is a place to store graphic objects and bits of text so that they are available for pasting into documents. You can also delete graphic objects and text from your default scrapbook or any other scrapbook document.

You can also navigate through a scrapbook document and name a page of scraps, so you can find items easily.

Placing and Deleting Clip Art and Other Scraps

You can place clip art, scraps of text, or other graphics into a Scrapbook document. The clip art is provided on diskette.

► To place clip art:

1. Insert the diskette containing the clip art
2. Select Import Scrap from the File menu. *The Import Scrap dialog box appears.*
3. From the left, select the name of the file you want to import, and from the right, select the format, either No Idea or TIF.
4. Click on Import.

Clip art is in TIF format.

Copy and Paste also appear in the Edit menu.

► To copy from another program to Scrapbook:

1. Within a program, select the item and press **COPY**. *It is now temporarily stored on the clipboard.*
2. Close the program.
3. Open Scrapbook.
4. Press **PASTE**. *The scrap appears on a new page in front of the current page. This pushes all subsequent scraps back one page.*

When you paste an item from another program into your scrapbook, you automatically add a new page to the scrapbook.

OR

If you want to insert the scrap on another page, click on Previous or Next.

Select Paste at End from the Edit menu. *The scrap is pasted on the last page of the scrapbook.*

► **To copy from Scrapbook to other programs:**

1. Go to the scrapbook page that has the scrap you want to cut or copy.
2. Press **CUT** or **COPY** from the function keys.
3. Exit Scrapbook by pressing **EXIT**.
4. Open the document in the program to which you are copying the scrap.
5. Place the insertion point where you want to paste the scrap on the page.
6. Press **PASTE**. *The scrap is pasted into the document.*

Navigating Through Scraps

You can flip through the pages of a scrapbook to scan its contents, or you can go directly to a specific page.

► **To move to the next page:**

Previous Next

Click on Next to go to the next page. If you are on the last page, the Next button takes you to the first page.

► **To move to the previous page:**

Click on Previous to go to the previous page. If you are on the first page, the Previous button takes you to the last page.

► **To go to a specific page:**

Go to Page...

1. Click on Go to Page. *A dialog box appears.*
2. Double-click on the page number or page name to show the page in the Scrapbook window.
3. Click on Close. (You can also drag the dialog box to the corner of the screen so you can refer to it later.)

CUT places the scrap on the clipboard and deletes it from the scrapbook. COPY copies the scrap to the clipboard and leaves a copy in the scrapbook.

► **To delete a page from a scrapbook:**

1. Go to the page that you want to delete.
2. Press **DELETE**. *The page is deleted from the scrapbook.*

Retrieving a deleted page restores the document to the way it was when you last saved it. All changes made during the current work session are deleted. For this reason, you should only do this if it is very important to retrieve the deleted page.

► **To retrieve a deleted page:**

1. Select Other from the File menu. *A submenu appears.*
2. Select Discard Changes from the submenu. *A message appears.*
3. Click on Yes. *The scrapbook is restored to the previously saved version.*

Naming a Page of Scraps

Page names describe the type of scrap stored on the page and can be helpful when you want to locate particular items in a large scrapbook. Page names are shown in the Name box at the bottom of the Scrapbook window; the names are also listed in the Go to Page dialog box. Names may be up to 32 characters long.

► **To name a page:**

1. Go to the page that you want to name.
2. Click in the Name box and type a descriptive name for the page.

You can also create new Scrapbook documents for storing graphics and bits of text.

Creating a New Scrapbook Document

Before you create a new scrapbook document, you must first save and close the current one.

► To create a new scrapbook document:

1. If you have a Scrapbook document open, select Close from the File menu. If you have unsaved changes in the current scrapbook document, you are asked if you wish to save or discard them. *The New/Open dialog box appears.*
2. Click on New. *A new scrapbook document appears.*
3. Add a scrap to the new scrapbook document. You must add one or more scraps to the new scrapbook document before you can save it and give it a name.
4. Press **SAVE**. *A dialog box appears.*
5. To select a folder for saving the new document in, click on the icon of the folder.
6. Type a name in the New Name area; then click on Save. *You are returned to Scrapbook with that document open.*

► To save a scrapbook document:

Press **SAVE**.

Importing a Scrap from a DOS Program

When you import from WordPerfect 5.0 into Scrapbook, the font size changes from 12 point to 8 point.

You can import text and graphics from DOS programs, in the following text and graphic formats:

Word Processing Formats	Graphic Formats
ASCII	BMP
Lotus 1-2-3 as text	PCX
Microsoft Word (3.0, 4.0, 5.0, 5.5)	TIFF
Word for Windows (1.0, 2.0)	GIF
WordPerfect (5.0, 5.1)	
WordPerfect for Windows (5.1)	
WordStar (3.45 or below, 4.0, 5.0, 5.5, 6.0, 7.0)	

► **To import graphics or text from another program:**

1. Open the scrapbook in which you want to place the image.
2. Insert the diskette containing the scrap (graphic or text) that you want to import.
3. Go to the page that you want to follow the imported page.
4. Select Import Scrap from the File menu. *The Import Scrap dialog box appears.*
5. Select the name of the file you want to import and select the format.
6. Click on Import.

If you do not know the format of the file you are importing, select No Idea, and Scrapbook will analyze it to see if it can be imported.

5 Addressbook

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- Working with Documents
- Saving Documents
- Working with Menus
- Working with Dialog Boxes

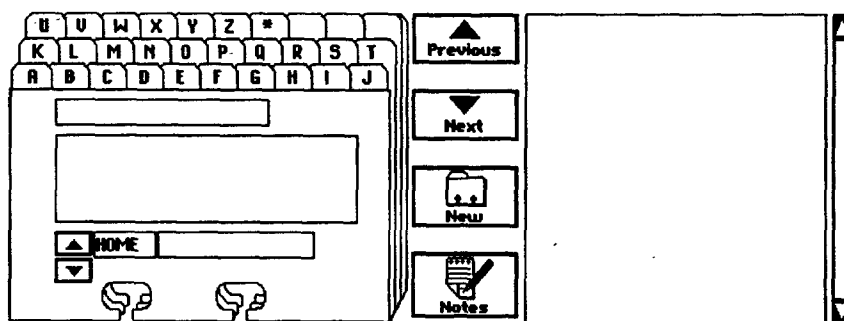
Addressbook is your electronic address and telephone directory. Use it to store addresses and telephone numbers, as well as notes and email addresses. You can also create multiple Addressbook documents, for example, one for business and one for personal.

Starting Addressbook

When you open Addressbook, the default document called First Addressbook appears. After adding names and addresses, save First Addressbook without renaming it if you want the Default document to open each time you open Addressbook. You can also create new Addressbook documents (see page 180).

► To open First Addressbook:

Click on Addressbook from the Main Menu. *Your address cards open:*



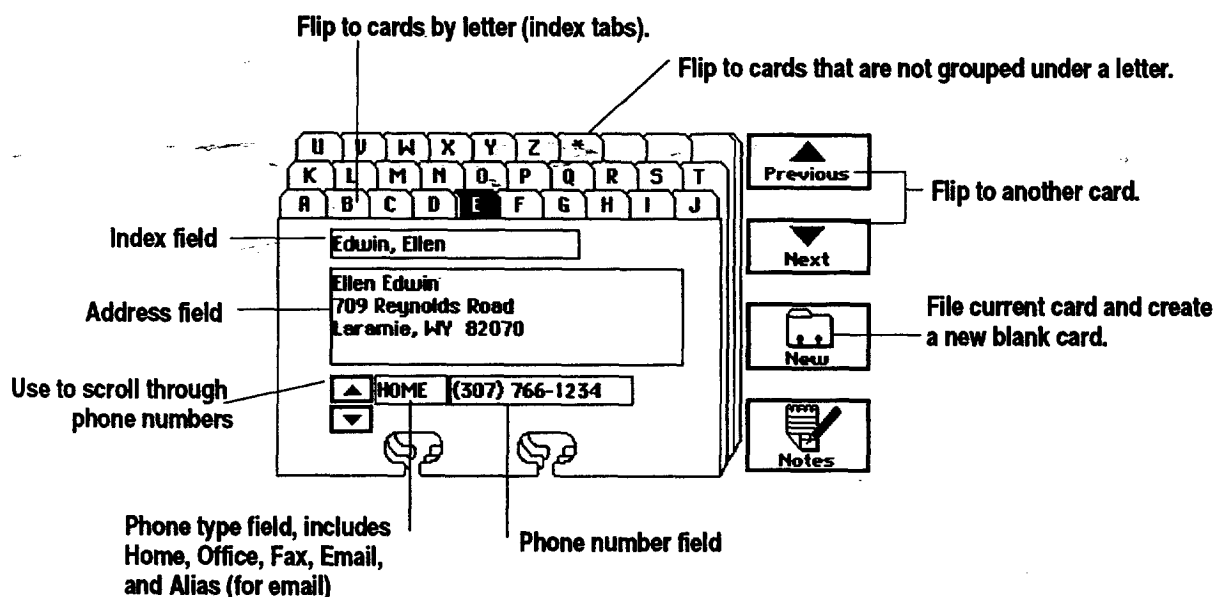
Working with Cards

Addressbook documents are referred to as **Addressbooks**, which contain a series of **cards**, or **records**, much like the cards in a real card file. Each card contains the name, address, phone numbers, and notes you enter for each person. Once you fill in the blanks, the program stores the card as a record in your Addressbook file.

The first time you use Addressbook, it creates a default document called First Addressbook, in which you can start entering names, addresses, and phone numbers into different boxes. Each box is a **field** of information.

Creating and Adding New Cards

To create new cards and add them to your Addressbook, start with a blank card and then type information into three fields: the index field, address field, and phone number field. The following illustration shows these fields.



CTRL + TAB moves the cursor from field to field.

Ignore any highlighted letter tabs while you are entering a new card. The new card will appear under the appropriate letter.

For using the email and alias categories, see the Internet and Email chapter in Book 1.

► To add cards to your Addressbook:

1. Click on New. Addressbook shows a blank card with the insertion point in the index field.
2. If you are adding a card for a person, type the person's name in the index field in last name, first name order. Addressbook uses the index field to sort cards in alphabetical order. Be sure to type a comma after the last name.

OR

If you are adding a card for a company, type the company name as you want it to appear in an alphabetical list. For example, type **The ABC Corporation** or **ABC Corporation**, depending on whether you want to store the card under T or A.
3. Press **ENTER**. The name you typed in the index field copies to the first line of the address field automatically, and the insertion point appears after the last character. If you typed a last name and first name separated by a comma in the index field, then the two names switch places as they are copied.
4. If you want to change the name as it appears in the address field and not in the index field, press **BACKSPACE** to delete the incorrect text; then enter the revised name.
5. Press **ENTER** again and type the address information. Press **ENTER** at the end of each line of the address. The address field scrolls to accommodate long addresses.
6. Click in the phone number field.
7. Enter a home phone number if you want. Addressbook also provides a place for you to record several different phone numbers for each name in your Addressbook.
8. Press **ENTER** or click on the arrows to see other phone number categories: OFFICE, CAR, FAX, EMAIL, and ALIAS. In the EMAIL category, enter an email address, and in the ALIAS category, enter an alias or shorter nickname to use with the email address.
9. To save this card and create a new one, click on New. Addressbook stores the card you just created alphabetically behind the appropriate index tab. Names that do not begin with letters, such as 3 Star Plumbing, are stored behind the index tab labeled with an asterisk (*).

Adding and Changing Phone Types

Each address card can have up to seven phone numbers in six standard categories: HOME, OFFICE, CAR, FAX, EMAIL, and ALIAS. Each card also contains a blank field so you can add one phone type.

► To add a phone type in the empty category:

1. Click on the up and down arrows next to the phone type field until you see an empty field.
2. Click in this empty phone type field. *The insertion point appears.*
3. Type a name for the phone type. For example, you could type 800 to represent an 800 phone number or you could type HOME 2 to identify a second home phone number.
4. Press **TAB** or click in the phone number field. *The insertion point appears in the phone number field.*
5. Type the phone number. *The new phone number and type are now a part of the card.*

► To change a phone type on the current card:

1. Click on the up and down arrows next to the phone field until you see the entry you want to change.
2. Click in the phone type field you want to change. *The insertion point appears.*
3. Edit the existing phone type. You can press **DELETE** or **BACKSPACE** repeatedly and then type the new name for this entry.
4. Press **TAB** or click in the phone number field.
5. Type the phone number. *The phone number and type are now a part of the card.*

Flipping through Cards



Flip through the cards in your Addressbook using the Next and Previous buttons. To move to a particular letter, click on the appropriate index tab. The cards are indexed alphabetically, with other entries stored under the asterisk (*) tab.

Start flipping through cards from any point; or click on an index tab if you want to start with a particular letter. At the end of the cards, click on Next to continue from the beginning, and at the beginning, click on Previous to continue from the end.

Editing Cards

► To make changes in cards:

1. To make changes in cards, locate the card you want to change by clicking on the appropriate index tab; then clicking on Next until the card you want appears.
2. Select the text and replace it with new text, the same way you would change text in any program.
3. Undo a change by choosing Undo on the Edit menu before you do any other task. *Addressbook undoes the last change entered.*

Copying Cards

Copy cards when you want to store several different names at the same address, or when a person has more than one address that you want to keep track of, such as a home and a business address. Save yourself some typing time by selecting Copy Record from the Edit menu to copy the card with the basic information; then edit the copy.

► To copy a card:

1. Flip through your Addressbook until the card you want to copy is shown.
2. Select Copy Record from the Edit menu.
3. Click on New to show a blank card.
4. Select Paste Record from the Edit menu. *The information from the old card is pasted to the new card.* Use the usual text editing techniques to change the duplicate card, if necessary.

► To copy part of a card:

1. Select the text you want to copy.
2. Select Copy (not Copy Record) from the Edit menu.
3. Click on New to create a new card, and then enter any new information you want.
4. When you come to the place where you want to place your duplicate text, select Paste (not Paste Record) from the Edit menu. *The information is pasted where you want on the new card.*

You can also copy a block of text from one card and paste it onto another. This is handy, for example, when you are entering a series of names all in the same city.

Deleting Cards

From time to time, you may want to clean up your Addressbooks by deleting cards you no longer need.

► To delete a card from your Addressbook:

1. Flip through your cards until you find the card you want to delete.
2. Select Delete Record from the Edit menu. *The card is removed from your Addressbook.*
3. Undo a delete by selecting Undo from the Edit menu right after you delete.

Adding Notes to Cards

Notes can be useful for keeping track of birthdays, special interests, and any other information.

► To add notes to a card:



1. Select the card to attach the note to; then click on Notes. *A small window appears in which you can type the note.*
2. Type any information.
3. Click on Close. *The note is attached to the current card.*

► To review the notes for a card:

When you want to view or edit your notes for the current card, click on Notes.

Searching through Cards

Addressbook allows you to search all the cards. For example, you can search the cards to find those containing a specific address.

► To search for information on the cards:

1. Select Find from the Utilities menu. A *dialog box* appears:

Select or deselect these options to specify fields in which the search will occur. Remove all three check marks to search only the index field.

Find	
Find:	edwin
Search Index Field And:	<input type="checkbox"/> Addresses <input type="checkbox"/> Notes <input type="checkbox"/> Phone Numbers
<input type="button" value="Find Next"/>	<input type="button" value="Find Previous"/> <input type="button" value="Close"/> <input type="button" value="?"/>

By turning off some of the check boxes in the Find dialog box, you can disable searching in one or more fields. The index field cannot be disabled.

2. Fill in the dialog box, typing the text you want to search for in the Find field, and choosing the options you want.
3. Click on Find Next. *Addressbook shows the first card containing the specified text. The text is selected in the displayed card. If the text was found in the Notes box, the Notes box opens and the text is highlighted. If there is no match for the specified text, Addressbook informs you that no match was found.*
4. Click on Find Next again if you want to search for more matching entries. Then click on Close.

OR

Click on Find Previous to perform the search backwards.

Making New Addressbooks

You may want to create other Addressbooks. For instance, you may find it easier to keep business contacts in one Addressbook and keep friends and family in another.

*Before you create a new Addressbook, press **SAVE** to save and close the current one.*

► To create a new Addressbook document:

1. If you have an Addressbook document open, select Close from the File menu. *If you make changes in the current Addressbook, you are asked if you want to save or discard them.*
2. When the New/Open dialog box appears, click on New. *A new Addressbook appears.*
3. You must add one or more cards to the new Addressbook before you can save it and give it a name.
4. After adding a card, select Save from the File menu. *A dialog box appears.*
5. Select the folder in which you would like to save the new document.
6. Type a name for the document in the New Name area; then click on Save. *The new document is saved with the name you provided. You are returned to Addressbook with that document open.*

Printing and Faxing an Addressbook

When you print with Addressbook, you print just the information in your Addressbook, not the card design that appears in the window. Addressbook allows you to print the information that is currently shown on screen as a card, a list of either addresses and phone numbers, or just phone numbers. You can also print envelopes or labels.

If you have not printed before, review Setting Printer Options in Getting Started (Book 1). If you have not sent a fax before, review the Fax and Data Modem chapter in Book 1.

► To print:

You can also select Print from the File menu.

1. Open the Addressbook you want to print.
2. Press **PRINT**. *A submenu appears.*
3. Select Print. *A dialog box appears.*
4. Select Printer Options and Document Options in the dialog box.
5. Fill in the Addressbook Options in the dialog box:
 - **Current record.** This option prints the information shown on screen.

- **Current record – Address only.** This option prints the address currently on screen for labels and envelopes.
 - **All records - Addresses and phone numbers.** This option prints a list of the index fields, addresses, and phone numbers from all cards in your Addressbook.
 - **All records - Addresses only.** This option prints the addresses from all cards in your Addressbook for labels and envelopes.
 - **All records - Phone numbers only.** This option prints a list of only the index fields and phone numbers from all cards in your Addressbook.
 - **Print Notes.** When checked, this option prints the notes associated with your cards. The notes are inserted between the addresses and phone numbers in the printed list.
6. Click on Print. *If you are printing either with the All records - Addresses and phone numbers option, or with the All records - Phone numbers only option, a list of the items you specified prints. Notes are inserted in the list if you are printing with the Print Notes option.*

OR

If you are printing with the Current record option, the information from the card currently on screen prints.

► **To print envelopes and labels:**

1. Open the Addressbook you want to print.
2. Select Send from the File menu. *A submenu appears.*
3. Select Print. *The Print dialog box appears.*
4. Select Options. *The Options dialog box appears.*
5. Select envelope or label from Type of Paper; then select the size from Size of Paper.
6. Click on OK. If you click on Save Options, the printer is set to print on this paper type and size until you come back and change the settings. *The Options dialog box closes.*
7. In the Print dialog box, click on Current record, Address only (for labels/envelopes) or All records, Addresses only (for labels/envelopes). *If you select All records to print envelopes, Addressbook prints the first envelope, then prompts you to insert paper (an envelope) between printing each record.*

When you select envelope, the paper size and feed options change to correspond to the type of envelope your printer can print.

► **To fax an Addressbook document:**

1. Open the Addressbook you want to fax.
2. Select Send from the File menu. *A submenu appears.*
3. Select Fax. *A dialog box appears.*

4. Select fax options and click on Fax.

Importing a Document

You can import documents, such as mailing lists, from some database and Spreadsheet programs and turn them into Addressbooks. You can import the following:

- CSV (Comma Separated Values)
- Lotus 1-2-3
- dBase IV

If you are importing a document and do not know the format, select No Idea, and Addressbook will analyze it to see if it can be imported.

► **To import an address file:**

1. Insert the diskette containing the file to import.
2. Save and close the current Addressbook. *The New/Open dialog box appears.*
3. Select Import. *A dialog box appears.*
4. Select the file format from the right. *The file extension appears in the File Mask box, and only documents with that extension are displayed in the file selector.*
5. Select the drive and document to import from the left.
6. Click on Import.

When you import or export in CSV or dBase IV format, Addressbook creates field names (Field1, Field2, Field3, etc.), which correspond to the Addressbook fields. Mapping allows you to change the order of those fields.

► **To change the order of information when importing:**

1. Insert the diskette containing the file to import.
2. Save and close the current Addressbook. *The New/Open dialog box appears.*
3. Select Import. *A dialog box appears.*
4. Select Comma Separated Values or dBase IV from the formats list and select the document to import; then click on Map Import Fields. *The Map Import Fields dialog box appears:*

In the Source List, click on a field name to map from a file.

In the Destination List, click on the Addressbook field name to which you want to map.

This list shows the pairs of fields you have mapped.

The dialog box is titled "Map Import Fields". It has three main sections: "Source List", "Destination List", and "Map List". The "Source List" is currently empty. The "Destination List" contains the following items: Index_Field, Addr_Field, Note_Field, Home, Office, Car, Fax, Phone_5, Phone_6, and Phone_7. The "Map List" is also empty. At the bottom of the dialog, there are five buttons: "Map", "Unmap", "Done", "Cancel", and a question mark icon.

Click here if you make a mistake.

Click here for each fields you have selected to map.

5. Select one field in the Source List and one corresponding field in the Destination List and click on Map. *The correlation is added to the Map List.* For example, you can map Field 3 in the Source List to the Addressbook Addr_Field (address field) in the Destination List.
6. Repeat step 4 until you have mapped all the fields you want. Select from the Map List and click on Unmap to change any map pairs you have designated incorrectly.
7. When you have mapped all the fields you want, click on Done. *The Import dialog box reappears.*
8. Click on Import. *A message appears telling you that the import is in progress. If the file is very large, it could take several minutes to import. You cannot interrupt this process.*

Exporting an Addressbook Document

You can export Addressbook information to other programs. Some word processors that support mail merge can use address information exported in the CSV (comma separated value) format. You can export to the following formats:

- CSV (Comma Separated Values)
- Lotus 1-2-3
- dBase IV

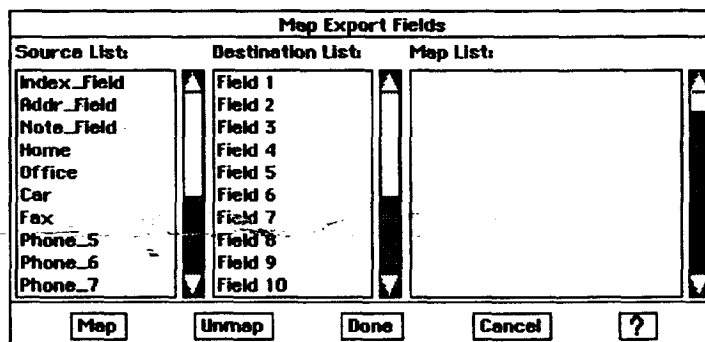
► **To export an Addressbook:**

1. With the Addressbook document open, select Other from the File menu. A submenu appears.
2. Select Export Document from the submenu. A dialog box appears.
3. Select the format for export. The file extension appears in the File Mask box, and only documents with that extension are displayed in the file selector.
4. Select a folder to save the document to; then name the document.
5. Click on Export.

► **To change the order of information when exporting:**

1. Select Other from the File menu. A submenu appears.
2. Select Export Document. A dialog box appears.
3. Select Comma Separated Values or dBase IV from the formats list.
4. Select the document to export; then click on Map Export Fields. The Map Export Fields dialog box appears:

Mapping allows you to change the order of information as you export. For example, if you want the Address field to be the first field in the exported document, select Addr_Field from the Source List and Field 1 from the Destination List.



5. Select one field in the Source List and one corresponding field in the Destination List to correlate the field information from the Addressbook to the new file format. For example, you can map the Addressbook address field to Field 3.
6. Click on Map.
7. Repeat steps 4 and 5 until you have mapped all the fields you want. Select from the Map List and click on Unmap to change any map pairs you have designated incorrectly.
8. When you have mapped all the fields you want, click on Done. The Export dialog box reappears.
9. Click on Export. A message appears telling you that the export is in progress. If the file is very large, it could take several minutes to export. You cannot interrupt this process.

6 Planner

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- Working with Documents
- Saving Documents
- Working with Menus
- Working with Dialog Boxes

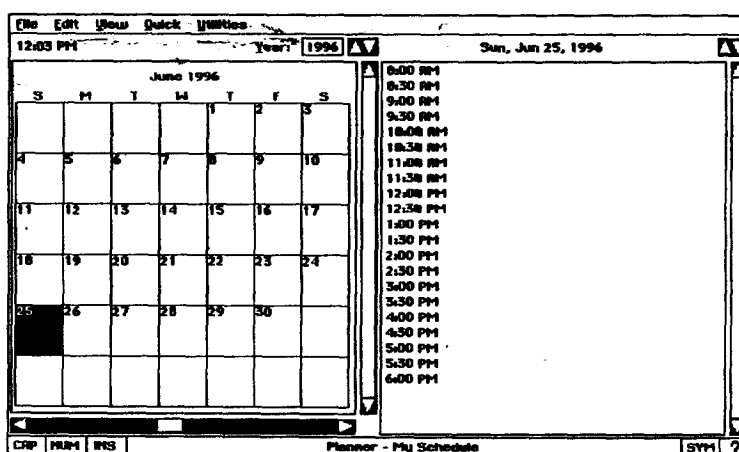
Planner is an automated appointment book that combines a yearly calendar and scheduler in one program. You can create multiple Planner documents, for example, one to keep track of business appointments and another to keep track of personal appointments.

Starting Planner

When you open Planner, the default document called My Schedule appears. After entering appointments, save My Schedule without renaming it if you want the Default document to open each time you open Planner. You can also create new Planner documents (see page 200).

► To start Planner:

Click on Planner from the Main Menu. *The Planner window appears:*



Viewing the Calendar

The Calendar window always contains a whole year, January through December. Normally you see only one month at a time, which is the single month view. You can scroll the window to see the other months in the year, and you can change the year over which you are scrolling, but you never see more than one month at a time. The current day of the month is highlighted.

► **To switch to the full year view:**

1. Select Full Year from the View menu. *The calendar shrinks so that more than one month can appear in the window.*
2. Use the scroll bars to view any additional months that do not fit in your window.

► **To switch back to the single month view:**

Select Single Month from the View menu. *The calendar for a single month appears.*

Selecting and Viewing Events

Like an appointment book, Planner keeps track of weekly meetings, important appointments, and special dates. All of these are called events. Use events in Planner to track important dates in your daily schedule and to schedule dates far in advance, like birthdays and vacations. You can also schedule repeating events.

To see different years, click on the up and down arrows. Or double-click the year and edit it..

Click on a day in the calendar window to select it and view its events.

Calendar window.

Today's date has a thick black border.

To see different months, click on the scroll bar. Scroll left for previous months and scroll right for future months.

This shows the selected day's date. Its events appear in the window.

Click here to show events for the previous or next day.

The screenshot shows the Planner application window. The title bar includes 'File Edit View Quick Utilities'. The status bar at the bottom shows 'CSP | NUM | BUS', 'Planner - My Schedule', and 'SYM ?'. The main window is divided into two panes. The left pane is a calendar for June 1996, with days of the week (S, M, T, W, T, F, S) and dates (1-30). The date 29 is highlighted with a thick black border. The right pane is an events window for Thursday, June 29, 1996, showing a time slot from 8:00 AM to 6:00 PM. An event 'Call Dr. Owens' is scheduled for 12:30 PM. A small triangle icon is visible at the bottom of the events list.

Selected day: this day's events appear in the Event window.

The small triangle indicates that there are events scheduled for this day.

Events window.

Switching between the Calendar Window and the Events Window

On the View menu, when both windows are showing, the Both choice is on (darkened). When only one window is showing, Both is off.

You can view the Calendar window and the Events window side-by-side or one at a time. Showing only one window at a time lets you work with either one without taking up space for both.

► To show only one window:

Select Both from the View menu. *The Both button changes to off and one of the windows disappears.* To return to viewing both windows, select Both from the View menu again. *Both windows appear.*

You can view events for any day by using the Calendar window or by selecting from menu items.

► To select a day and view its events:

1. If the Calendar window is not showing, select Calendar from the View menu. *The Calendar window appears.*
2. Click on a day in the Calendar window. *The day is highlighted.*
3. The events for the selected day appear in the Events window.

► To view events on the next or previous day:

In the Events window, click on the up or down arrows at the top right side of the Events window. Click on up for the previous day and down for the next day. *As the selected day changes, events for that day appear in the Events window.*

► To view events for today:

Press **CTRL + T**. *Today becomes the selected day, and its events appear in the Events window.*

► To view events on a specific date:

1. Press **CTRL + G**. *A dialog box appears:*

<input checked="" type="checkbox"/>	Go to Date
Date:	<input type="text"/>
Go to Date	Close ?

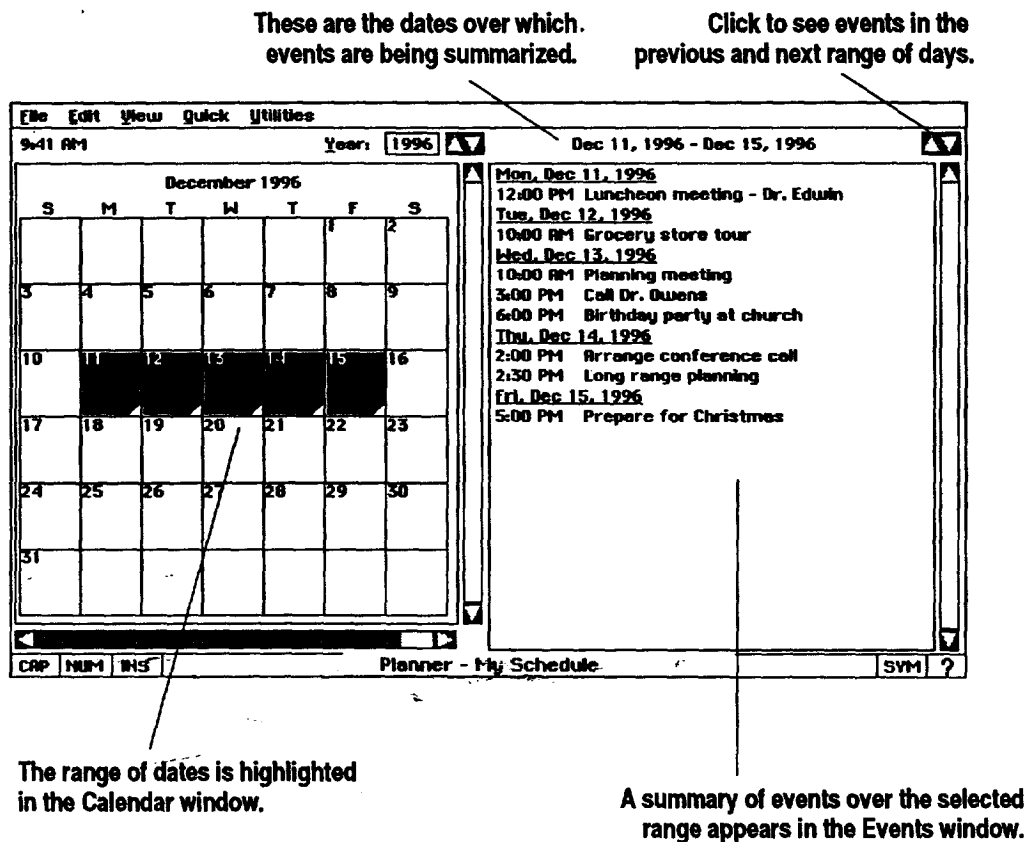
2. In the dialog box, type a date. If there is already a date in the dialog box, you can press **BACKSPACE** to erase it. The date you type must be in the format Month/Day/Year. For example, to view the events for February 23, 1997 you would type 2/23/1997.
3. Click on Go To Date or press **ENTER**. *The date you typed becomes the selected day, and its events appear in the Events window.*
4. If you want to see events for a different day, click in the text box and repeat steps 2 and 3.
5. Click on Close.

You can also view events for today or those for a specific date using the Quick menu.

If the Events window is not showing, select Events from the View menu.

Selecting a Range of Days and Viewing Their Events

You can view a summary of events over a range of days. The following illustration shows an example:



► To view a summary of events over a range of days:

1. Drag to select a range of days in the Calendar window. If you drag outside of the Calendar window, the window scrolls and you can extend the selection to adjacent months.

OR

Select one of the following from the Quick menu:

- **This Week.** Selects all days in this week.
- **This Weekend.** Selects current or upcoming Saturday and Sunday.
- **This Month.** Selects all days in this month.

In the Events window, only those days which have events scheduled are shown in the summary. If there are no events in the range, the Events window shows No Events.

- **This Quarter.** Selects all days in this calendar quarter. The quarters run January through March, April through June, July through September, and October through December.
- **This Year.** Selects all days in this year.

The selected range is highlighted in the Calendar window, and its events appear in the Events window.

Scheduling Events

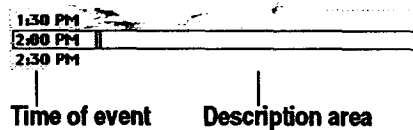
To schedule events, select the day, select a time in the Events window, and then type a description of the event. Once you have scheduled an event, you can change it or remove it. The Events window provides a list of times called the day template. Normally the day template shows times from 8:00 AM to 6:00 PM in 30-minute intervals.

Scheduling an Event

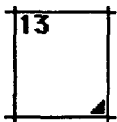
The easiest way to schedule an event is to select a day, and then select a time from the day template.

► To schedule an event by selecting from the day template:

1. Select the day on which you want to schedule an event.
2. In the Events window, select a time from those provided in the day template. A border appears around the event, divided into a time area and a description area.



3. Click inside the description area, and then type a description of the appointment, meeting, or date. *If you type more than one line, words wrap at the edge of the Events window. Press **ENTER** in the description area to start a new paragraph. The appointment description is added to your schedule.*
4. When you next view the Calendar window, a triangle appears in the date box for the date to which you added the event, like in the example on the left.



Changing a Scheduled Event

You can change the scheduled time for an event or the details in its description.

When you change the time of a scheduled event, it does not change its place among the other times in the Event window until you view events for another day. For instance, if you change a 9:00 appointment to 11:00, the event remains in its original slot between 8:00 and 10:00 until you view events for another day. The next time you view these events, the 11:00 event will be properly sorted.

► To change a scheduled event:

1. In the Events window, locate the event you want to change.
2. If you want to change the time, click in the time area. Delete the existing time and type a new time in HH:MM format. Use AM or PM to specify AM or PM, for example, you can type 8:15 AM for a new time.
3. If you want to change the description, select the text in the description area, and then type the new information.
4. If at any point you realize that you made a change you wish you had not, select Undo from the Edit menu before you do any other task.

Removing a Scheduled Event

If you accidentally delete the wrong event, select Undo from the Edit menu before you do any other task.

► To remove a scheduled event:

1. In the Events window, click on the event you want to remove.
2. Select Delete Event from the Edit menu. *The event is removed from the Events window. If there are no more events scheduled for that day, the triangle is removed from the Calendar window.*

Adding Events between Two Scheduled Events

There may be times when you need to squeeze in one more appointment between two existing ones. For example, if you have meetings scheduled for 11:00 and 11:30, you can schedule another meeting for 11:15 even though there is no 11:15 slot currently shown.

► To add an event between two scheduled events:

1. In the Events window, select a time slot after which you want to fit another event.
2. Select New Event from the Edit menu. *The new event appears with its time highlighted. Planner picks a time halfway between the preceding event and the next one.*

3. Edit the time if the one shown is not correct. Be sure the time you type is in the HH:MM format. For example, type 8:15 AM for a new time.
4. Press **TAB** or click in the description area, and then type a description.

Adding an Event at a Particular Time

You may want to schedule an event at a time that does not appear on the day template, such as an early morning or late evening appointment. You can also schedule an event with no specific time.

The new event will not appear in its proper sorted place among other times in the Event window until you first view another day's events. When you view another day's events, and then come back, the events appear chronologically; events which do not have a time appear at the top of the list.

► To add an event at a particular time:

1. Select the day on which you want to schedule an event.
2. Select New Event from the Edit menu. *The new event appears in the Events window and its time highlighted.*
3. Edit the time if the one shown is not correct. The time must be in the HH:MM format. For example, you can type 11:50 PM for a new time.
OR
If you want to schedule an event with no specific time, delete the text in the time area.
4. Press **TAB** or click in the description area; then type a description.

Copying Event Descriptions

You can copy a block of text from one event and paste it onto another. This is handy when you are scheduling the same sort of event on many different days.

► To copy part of an event description:

1. Select the text you want to copy.
2. Press **COPY**.
3. Locate the area where you want to place the copied text. This can be any event on the same or different day. You can even create a new event.
4. When you come to the place where you want to place your duplicate text, click to place the insertion point; then press **PASTE**. *The information is pasted at the insertion point.*

Copy and Paste also appear in the Edit menu.

Scheduling Repeating Events

You might have events that happen regularly, such as a meeting every Thursday at 4:00. In Planner, you can schedule the event once. Planner then remembers to schedule these meetings for you every Thursday at 4:00. You can schedule an event that repeats in one of the following ways:

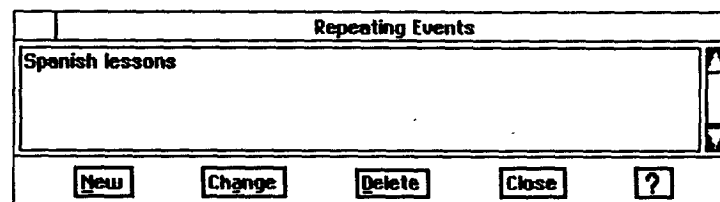
- **Weekly.** A *weekly* event occurs on the same day every week, such as every Wednesday.
- **Monthly by date.** A *monthly by date* event occurs every month on the same numbered day, such as the first or the fifteenth of every month.
- **Yearly by date.** A *yearly by date* event occurs once a year on the same date, such as a birthday or a holiday.
- **Monthly by day.** A *monthly by day* event occurs every month on the same day of a particular week, such as every third Sunday.
- **Yearly by day.** A *yearly by day* event occurs once a year on the same day of a particular week in a particular month, such as the first Sunday in March.

When you schedule a repeating event, it appears in the Events window on the days for which it applies. You can also edit an individual occurrence of a repeating event, changing its text description or time. Once you edit the event, that particular occurrence is no longer considered a repeating event, but is now just one of the regular events for that day. All other occurrences of the repeating event are unaffected.

A weekly event occurs on the same day every week, such as every Wednesday.

► To schedule a weekly repeating event:

1. Select Repeating Events from the Utilities menu. A *dialog box* appears:



- Click on New. *Another dialog box appears:*

Change Repeating Event

Type of Event

Frequency: ☒ Weekly ☐ Monthly ☐ Yearly

Specify by: ☒ Date ☐ Day of Week

Event Will Occur

Select Day(s): ☐ Sun ☒ Mon ☐ Tues ☒ Wed ☐ Thu ☐ Fri ☐ Sat

Day of Month: ☐ Last ☒ Date: Month:

Day of Week: Time:

General Information

Event:

Repeat: ☒ Forever ☐ From: To:

- Select Weekly.
- Select the check boxes for the day or days that your weekly event occurs.
- If you want to give the event a specific time, type the time in the Time box. Use the HH:MM format and type AM or PM.
- Type a brief description of the event in the Event box.
- Select Forever if your event should repeat indefinitely.
OR
Select From if your event is of limited duration and should repeat only over a specific time period. Edit the start and end dates.
- Click on OK. *The original dialog box appears.*
- Click on Close. *The weekly repeating event appears in the Events window at the time and day you selected.*

A monthly by date event occurs every month on the same day, such as the first or the fifteenth of every month. A yearly by date event occurs once a year on the same date, such as a birthday or a holiday.

► To schedule a monthly or a yearly event by date:

- Select Repeating Events from the Utilities menu. *A dialog box appears.*
- Click on New. *Another dialog box appears.*
- Select Monthly if you are scheduling a monthly event by date.
OR
Select Yearly if you are scheduling a yearly event by date.
- Select Date.
- Select Last if your event occurs on the last day of the month.
OR
Select Date, and then type the date of your event. You can also use the up or down arrows to change the date.

6. If you are scheduling a yearly event, use the up or down arrows to select the month your event occurs. (Skip this step if you are scheduling a monthly event.)
7. If you know the time of the event, type it in the Time box. Use the HH:MM format and type AM or PM.
8. Type a brief description of the event in the Event box.
9. Select Forever if your event should repeat indefinitely.
OR
Select From if your event is of limited duration and should only repeat over a specific time period. Edit the start and end dates as appropriate.
10. Click on OK. *The original dialog box appears.*
11. Click on Close. *The monthly or yearly event appears in the Events window at the time and day you specified.*

A monthly by day event occurs every month on the same day of a particular week, such as every third Sunday. A yearly by day event occurs once a year on the same day of a particular week in a particular month, such as the first Sunday in March.

► **To schedule a monthly or a yearly event by day of the week:**

1. Select Repeating Events from the Utilities menu. *A dialog box appears.*
2. Click on New. *Another dialog box appears.*
3. Select Monthly if you are scheduling a monthly event by day of the week.
OR
Select Yearly if you are scheduling a yearly event by day of the week.
4. Select Day of Week.
5. If you are scheduling a yearly event, use the up or down arrows to select the month your event occurs. (Skip this step if you are scheduling a monthly event.)
6. Click on the up or down arrow in the Day of Week box to select the day of the week that your event occurs. For example, you can select the second day of the week here.
7. If you know the time of the event, type it in the Time box. Use the HH:MM format and type AM or PM.
8. Type a description of the event in the Event box.
9. Select Forever if your event should repeat indefinitely.
OR
Select From if your event is of limited duration and should only repeat over a specific time period. Edit the start and end dates.
10. Click on OK. *The original dialog box appears.*
11. Click on Close. *The monthly or yearly event appears in the Events window at the time and day you specified.*

Changing a Repeating Event

If your scheduled repeating event changes at any time, you can modify the event to reflect the new changes.

► To change a scheduled repeating event:

1. Select Repeating Events from the Utilities menu. *A dialog box appears.*
2. Select the event you want to change from the list, and then click on Change. *Another dialog box appears.*
3. Make the necessary changes in the dialog box. For details, refer to the previous procedures in this section.
4. Click on OK. *The original dialog box appears.*
5. Click on Close. *The changes are reflected in the Events window.*

Only unaltered occurrences of the repeating event are changed in the schedule. Individual occurrences which you have edited remain intact.

Removing a Repeating Event from the Calendar

If your repeating event is no longer part of your schedule, you can remove the event.

► To remove a repeating event:

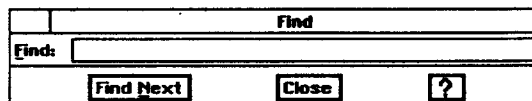
1. Select Repeating Events from the Utilities menu.
2. Select the name of the event you want to remove from the list, and then click on Delete.
3. Click on Close. *The event is removed from your schedule.*

Finding Specific Events

Searching for specific events can be useful if you want to see a list of meetings you have scheduled with a particular person. For example, if you want to see all meetings with Ms. Jones, you can search for Jones.

► To search for specific events:

1. Select Find from the Utilities menu. *A dialog box appears:*



2. Type the text for which you are searching.
3. Click on Find Next. *The search starts on the current day and goes forward. If no matches are found, you are asked if you want to search past events.*
4. Click on OK. *The first event that matches the search text appears highlighted in the Events window. If there is no match for the specified text, then Planner informs you that no match was found.*
5. Click on Find Next if you want to find more events that match the search text.
OR
Click on Close if you are finished searching.

Printing or Faxing Planner Documents

You can print or fax a Planner document containing a monthly calendar, a yearly calendar, or your scheduled events. You can print a full page calendar for any month. You can also include the first few lines of events for each day.

If you have not printed before, review Setting Printer Options in Getting Started (Book 1). If you have not sent a fax before, review the chapter titled Fax and Data Modem in Book 1.

Selecting the page size

Before you print or fax, use the Page Size dialog box to specify the dimensions of your calendar. Normally, Planner prints its documents at 8.5 × 11 inches. You can change the page size, for instance, to print a poster-sized calendar across multiple sheets of paper, which you can tape together. Page Size refers to the size and layout of the final document. It does not have to correspond to the actual paper in your printer.

For example, to print a poster that measures 20 × 40 inches with paper that is 8.5 × 11 inches, specify a page size of 20 × 40 inches in the Page Size dialog box. Then in the Print dialog box, click on Options and specify 8.5 × 11 inches. Planner calculates the number of pages required to print your document and prints it over several pages, which you can assemble into a poster.

If you select a page size that is smaller than the paper in your printer, Planner prints pages at the size you specify centered on the paper, which you can cut down to size.

► **To change Page Size options:**

1. Select Page Size from the File menu. *A dialog box appears.*
2. Fill in the dialog box:
 - **Type.** Select paper, envelope, or label.
 - **Size.** Select the page size from the list.
 - **Page Layout.** Select portrait or landscape.
 - **Width.** Select the width of the paper. You can also enter a custom page width here.
 - **Height.** Select the height. You can also enter a custom page height here.
3. Click on Apply. *The current settings are applied, but the Page Size dialog box remains open.*
4. If these are the settings you want to use, click on Close.

► **To print a Calendar document:**

1. Press **PRINT**. *A submenu appears.*
2. Select Print. *A dialog box appears.*
3. Under Planner Options, click on the button next to the word Content. *A drop-down list appears.*
4. From the drop-down list, select Month; then click on the up or down arrow to select a month.
OR
Select Year; then click on the up or down arrow to select a year. You can also edit the number in the Year box.
OR
Select Events window.
5. When the Content is set to Month, select Include Events if you want to print the first few lines of events for each day.
OR
If you want to print a blank calendar, make sure the Include Events option is off.
6. Click on Print when you are finished.

► **To fax a Calendar document:**

1. Open the calendar you want to fax.
2. Press **PRINT**. *A submenu appears.*
3. Select Fax. *A dialog box appears.*
4. In the Planner Options of the dialog box, click on the button next to the word Content. *A drop-down list appears.*

5. From the drop-down list, select Month; then click on the up or down arrow to select a month.

OR

Select Year; then click on the up or down arrow to select a year. You can also edit the number in the Year box.

OR

Select Events window.

6. When the Content is set to Month, select Include Events if you want to fax the first few lines of events for each day.

OR

If you want to fax a blank calendar, make sure the Include Events option is off.

7. Click on Fax when you are finished.

Creating New Calendars

Planner provides a standard document called My Schedule. Whenever you start Planner, this document opens, making it easy to keep all of your appointments in one place. If you keep just one calendar, you should use this document. You can create other calendars. For example, you may find it easier to keep business contacts in one calendar and friends and family in another.

*Before you create a new calendar, press **SAVE** to save the current one.*

► **To create a new Calendar document:**

1. Select Close from the File menu. *The New/Open dialog box appears. If you have unsaved changes in the current calendar, you are asked if you wish to save or discard them.*
2. Click on New. *A new calendar appears.*
3. You must add one or more events to the new calendar before you can save it and give it a name. An easy way to do this is to select New Event from the Edit menu.
4. After adding an event, select Save As from the File menu. *A dialog box appears.*
5. Select the folder in which you would like to save the new document.
6. Type a name for the document in the New Name area; then click on Save. *The new Calendar document is saved with the name you provided. You are returned to Planner with this document open.*

7 Book Reader

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- Working with Menus
- Working with Dialog Boxes

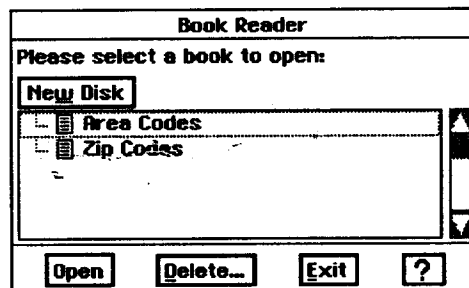
With Book Reader, you can open books supplied on diskette, such as directories of zip codes and area codes.

When you open a book on diskette, you can scroll through it and move from topic to topic using a **hyperlink**, a highlighted word that takes you to a new topic.

Starting Book Reader

► To open a book:

1. Insert Diskette 1 (the diskette containing books).
2. Click on Book Reader from the Main Menu. *The Book Reader dialog box appears:*



Tool availability is based on the book you have open. Tools appear gray when not available.

3. Select a book from the list. *When you open a book, you are given a set of tools, as follows:*
 - **Back.** When using a hyperlink to jump to information in different parts of the book, Back takes you back to the previous page. If Book Reader is showing the first page, the Back tool is not usable.
 - **Begin.** This tool opens the Table of Contents, or if there is not one, the first page of the book.
 - **Revisit.** This opens a dialog box containing a list of pages you have read.
 - **Turn Page.** This tool takes you to the previous page or the next page in sequence. If you are reading the last page of a book, this tool is not active.

- **Send.** This tool opens a dialog box allowing you to send selected text to the clipboard or to the printer.
- **Find.** This tool opens a dialog box with options about the information you want to find and how you want to find it.

► **To close a book:**

Select Exit from the Book menu. *Book Reader closes.*

Using Information and Text

You can also choose book-reading options from the Navigate menu.

You can copy information from your book on diskette to paste into a document. For example, you could copy a page of zip codes for your city and include it as a part of a document you are creating in Word Processing.

If a book has a Table of Contents page, Book Reader shows it to you when you start. If it does not, the first page of the book appears.

► **To read a book:**

To:	Do this:
Start	Click on the Begin icon at the bottom of the screen.
Move the page up and down	Click on the scroll bars on the right of the page.
Turn the page	Click on the Turn Page icon at the bottom of the screen.
Jump to a hyperlink	Click on underlined words or hotspots.
Return to a previous page	Select Back from the tools.
Return to the first page	Press CTRL + B .

► **To find information in a book:**

1. Click on the Find icon at the bottom of the screen. *The Find dialog box appears:*

Find:			
Find Next	Find Previous	Close	?

2. Enter the search term.
3. Click on Find Next, Find Previous, Close, or Help.

► **To find information with hyperlinks or hot spots:**

1. Move the cursor until a text hyperlink (hotspot) is located. *These can exist anywhere in a book. When the on-screen pointer moves over one, it changes to a cursor question mark.*
2. Click on the spot. *The area flashes; then Book Reader moves to the information on that topic.*

► **To copy text or other content from the book:**

You can paste the text in Word Processing or Drawing.

1. Place the insertion point in the text; then hold the Select button and move your finger across the glidepad surface until the text is highlighted.
2. Click on the Send icon at the bottom of the screen. *The Send dialog box appears:*

Send		
Send a copy of the current page to:		
◆	Clipboard	
◇	Printer	
Send	Cancel	?

3. Click on Clipboard; then click on Send.

Printing from Book Reader

The Print option is in the Send dialog box. You can send selected text to the clipboard or printer. Selecting the print option prints the selected text or the current page if no text is selected. Be sure you have set up your printer (see Setting Printer Options in the Getting Started chapter of Book 1).

► **To print selected text from a book:**

1. Select the content to print.
2. Click on the Send icon at the bottom of the screen. *The Send dialog box opens.*
3. Click on Printer; then click on Send.

► **To print the current page:**

With the page you want to print displayed in the Book Reader window, click on the Send icon.

8 Text File Editor

DOS is Disk Operating System.

Text File Editor is a simple editing program that allows you to create, read, write, and edit DOS text files, also called ASCII text files. Text File Editor is supplied on diskette.

Starting Text File Editor

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- *Working with Documents*
- *Saving Documents*
- *Working with Menus*
- *Working with Dialog Boxes*

Text File Editor is not a full-featured word processing program, but a program you can use to write notes and save them as ASCII text files, which can be read by almost any word processing program. **ASCII text files** contain plain text without special formatting like boldfacing, adjustable tabs, and page breaks. You can also import ASCII text files into Word Processing or export from Word Processing to ASCII (see page 64).

► **To start Text File Editor:**

1. Insert the diskette labelled Text File Editor..
2. Click on File Manager from the Main Menu.
3. Click on the drive A icon at the bottom of the screen. *The contents of the diskette appear.*
4. Click on the Text File Editor icon.
5. To open a new document, select New. *A new document appears.*

OR

To open an existing document, select Open from the File menu. *A dialog box appears, allowing you to select an existing file.*

What Text File Editor Can and Cannot Do

Word Processing can perform all of the tasks listed in this table, even those that Text File Editor cannot do. For more information, see the chapter on Word Processing.

The following table lists the tasks that Text File Editor can and cannot perform. Text File Editor shares basic capabilities with Word Processing, such as spell check.

Text File Editor Can Do This:	It Cannot Do this:
Edit using CUT, COPY, PASTE, DELETE	Adjust left and right margins
Create and save a document	Adjust tabs
Copy, rename, or backup a file	Change text styles and fonts
Undo your latest change	Vary alignment
Check spelling	Modify line spacing
Search and Replace	Create page breaks
Use Wild Cards and Special Characters	Adjust rulers
Print	Create graphics

Word Wrap and Line Endings

When your text reaches the right edge of the window, it wraps automatically to the next line. This feature is called word wrap. Word wrap means that you do not have to press **ENTER** (the Return key on a typewriter) to start a new line of text. When you are ready to begin a new paragraph, press **ENTER**. If you want to set line endings, press **ENTER** at the end of each line. If there is more text than can fit in the window, use the scroll bar to see different parts of the document.

Changing the Text Size

You can change the text size displayed in any Text File Editor document. Select from three sizes of text: 9, 12, and 14 point. Text File Editor displays all the text in a document at the same size. If you select a different size, all the text in the document changes to the size you select. The size setting stays in effect even if you close one document and open another.

► To change the text size:

Select a new size from the Sizes menu. *All text in the document changes to the new size.*

Printing or Faxing a DOS Text File

Before printing a Drawing document for the first time, review Setting Printer Options in Getting Started (Book 1). Also select page size options to reflect the actual size, layout, and margins that you want to print.

Before faxing for the first time, set up your fax information and create a cover sheet; see the Fax and Data Modem chapter in Book 1.

To print or fax in Text File Editor, select Print or Fax from the Send menu. Note the following two differences when printing Text File Editor documents:

- **Line Length.** The length of a line in the printed document is not always the same as the length of the same line shown in the Text File Editor window. In the Text File Editor window, text wraps at the right edge of the window. When you print, however, text wraps at the right edge of the page. (However, if you end a line by pressing **ENTER**, this line ending is preserved when you print the document.)
- **Text Size.** The printed text size may be different from the text size shown in the Text File Editor window. Regardless of the text size you select from the Sizes menu, Text File Editor always prints in a uniform size.

Naming a DOS Text File

DOS File Names. All documents created in Text File Editor are DOS text files. Give them names that follow the DOS rules for naming files: up to eight characters long, no spaces, followed by a period and three more characters. Use TXT following the period to indicate your file is a text file. For more information, see Naming a DOS File in Getting Started (Book 1).

9 Games

Before starting, review these basic procedures from the Getting Started chapter in Book 1:

- *Working with Menus*
- *Working with Dialog Boxes*

Two games are available: Turnabout, a game of strategy, and Solitaire, a popular international card game for one player. Games are supplied on diskette.

Turnabout

Turnabout is a strategy game where you try to gain control of the board by capturing pieces from your opponent. The game ends when no one can make any more moves. The person with the most pieces on the board wins.

Capturing Pieces

To capture, place your pieces on both sides of a single piece or at both ends of a row of your opponent's pieces. Capture in any direction: vertically, horizontally, or diagonally. You may have to capture the same piece more than once in the course of the game.

Sequence of Play

You can play Turnabout against another person or against the system. Either way, the game play sequence is the same:

► To play Turnabout:

1. Insert the diskette labelled Turnabout in the disk drive.
2. Click on File Manager from the Main Menu. *File manager appears.*
3. Click on the drive A icon. *The contents of the diskette appear.*
4. Locate the Turnabout icon and double-click on it. *A game board appears with four pieces.*
5. Move the on-screen pointer to the square where you want to put your next piece and click with the Select button. Remember, this move must result in the capture of an enemy piece. *The system places your piece in the square and then changes the color of all the pieces that were captured to your color.* You can only put your piece in a square where it will capture one or more of your opponent's pieces. If you try to put your piece anywhere else, the computer beeps and waits for you to select a different square.

If you are not sure where to make your next move, select Hint from the Game menu.

6. The system then places its next piece. Watch the board carefully because the action moves very quickly.
7. It is your turn again to place your next piece.

Play continues until no more of the pieces can be captured. The system keeps a running score of how many pieces each player has during the game. The player that has the most pieces on the board at the end of the game wins.

Setting User Options

The commands from the Options menu help you tailor Turnabout to your personal tastes.

OPTION	RESULT
Two Players	Allows you to play against another person. To begin play, select Start New Game.
Play First	Allows you to play against the system and make the first move. To begin play, select Start New Game.
Play Second	Allows you to play against the system without making the first move. To begin play, select Start New Game.
Machine vs. Machine	Allows you to watch the system play itself. To stop the game, select any of the other player options. Selecting Machine vs. Machine automatically starts a new game.
Obstacles	Allows you to put barriers in some of the squares on the playing board. Selecting Obstacles starts a new game.
Board Size	Allows you to change the size of the playing board. Sizes range from a 6 × 6 square grid to an 18 × 18 square grid. Selecting Board Size starts a new game.

Solitaire

This version of Solitaire looks and plays the same as the game with real cards. With this version of the game, however, the system shuffles and deals the cards for you. All you have to do is play the game.



Solitaire

Solitaire has three playing levels. For more information about the playing levels in this game, see page 212. For the rules of Solitaire, see any standard book on card games, or try playing Solitaire at the beginner level.

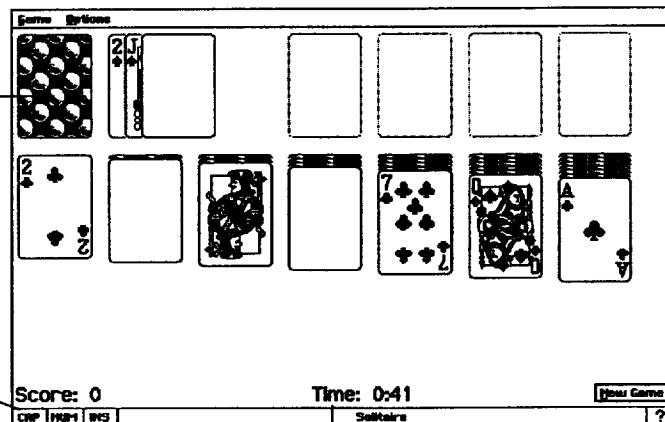
Starting Solitaire

1. Insert the diskette labelled Solitaire in the disk drive.
2. Click on File Manager from the Main Menu. *File Manager* appears.
3. Click on the drive A icon at the bottom of the screen. *The contents of the diskette appear.*
4. Locate the Solitaire icon and double-click on it. *The Solitaire window appears:*

Click here to see the next card
(This also starts the game.)

You can also start the game by dragging any card to a new location.

Your score shows here if you are playing a scoring game.



Your elapsed time shows here if you are playing a timed game.

Playing the Game

Drag cards to move them from stack to stack, and click on face-down cards to flip them over.

► To start a new game:

Select Re-Deal from the Game menu or click on the New Game button in the lower right-hand corner.

Double-click a card in one of the seven lower stacks to send it to one of the four upper stacks, if it is a legal move.

► To move a card to a new location:

Drag the card to a new location. *If you have made a legal move, the card appears in its new location; otherwise, it returns to its original location.*

► To flip a card:

Click once on the card. *If it is in one of the seven lower stacks, a single card flips. If you click the deck, either one, two, or three cards flip, depending on how you set your options.*

► **To undo a mistake:**

Select Undo from the Game menu. *The card returns to its original location.*

Finishing a Game

You win Solitaire when you have flipped over all of the face-down cards, and played all of the cards in the deck. When this happens, the Auto Finish button changes from gray to black. At this point, manually move all the cards into the upper four piles or click on the Auto Finish button.

Setting the Playing Level

Setting a *playing level* determines how much assistance you get as you play the game. You receive progressively less assistance as you move from the beginning level to the most advanced level. Solitaire has the following three playing levels:

- **Beginner Level.** This level guides you when you drag cards to a new location. If you click a card, possible locations for that card appear highlighted. You can move cards back from the four upper stacks to the seven lower stacks (something you cannot do at higher levels). You can also move parts of a face-up stack to another stack. For example, if you have a sequence of six cards on a particular pile, you can move the last three face-up cards to a new location.
- **Intermediate Level.** At this level you do not get help with possible moves. Also you cannot move cards back from the four upper stacks to the seven lower stacks, though you can still move parts of a face-up stack to another stack.
- **Advanced Level.** Standard Solitaire with no help.

► **To change the playing level:**

Select Level of Play from the Options menu; then select a level from the submenu. *When you change the playing level during a game, you are asked if you want to start a new game.*

Changing the Scoring

Solitaire has the following scoring options:

- **Standard (Timed) and Standard (Untimed).** In Standard (Timed), you lose points for the time you spend deciding where to move a card. In Standard (Untimed), you are not penalized for taking time to make decisions. Standard (Timed) and Standard (Untimed) games are scored as shown in the following table:

IF YOU ...	YOU GET ...
Let 10 seconds pass.	-1 point
Move a card to one of the four upper stacks.	+10 points
Flip a card in the lower stacks.	+5 points
Move a card from the discard deck to one of the lower stacks.	+5 points
Start through the discard deck again (one-card draw).	-30 the first two times; -60, -90, and so on, each time thereafter
Start through the discard deck again (two-card draw).	-20 the first three times; -40, -60, and so on, each time thereafter
Start through the discard deck again (three-card draw).	-10 the first four times; -20, -30, and so on, each time thereafter

- **Vegas.** Your game starts when you choose Re-Deal from the Game menu. You start each Vegas game already 52 points in the hole, and for each re-deal you lose another 52 points. For each card you successfully move to an upper stack, you receive five points. Points are cumulative from game to game. You are also limited to how many times you can go through the discard deck: only once with one-card draw; twice with two-card draw; and three times with three-card draw.
- **Countdown.** You play against the clock. Your goal is to score as many points as possible in 7 minutes. You can change the allotted time using the Set Countdown Time option in the Options menu. For more information about changing your Solitaire options, see page 214, Changing Other Options.
- **No Scoring.** You play the game until you win or are ready to stop. You do not receive any points, nor are you penalized any points. In addition, elapsed time is not shown when you choose No Scoring.

► **To change the scoring:**

1. Select Scoring from the Options menu. *A submenu appears.*
2. Select an option from the Scoring submenu.

Changing the Number of Cards Drawn

You can draw either one, two, or three cards at a time from the deck. The choice you make affects your scoring if you are using Standard scoring, and affects how many times you can go through the deck if you are using Vegas scoring. For more information, see Changing the Scoring on page 213.

► **To change the number of cards drawn:**

1. Select Draw How Many Cards? from the Options menu. *A submenu appears.*
2. Select an option from the submenu.

Changing Other Options

In addition to choosing a playing level and a scoring method, you can also set other playing options. These options appear in the Options menu and are summarized in the following table:

IF YOU...	YOU SEE...
Change Card Backs	A dialog box where you can select different artwork for the backs of the playing cards.
Set Countdown Time	A dialog box that lets you specify the number of minutes and seconds allowed for Countdown scoring.
Outline Dragging	The outline of the card as you drag it.
Full Card Dragging	The full card as you drag it.
Fade Cards	Cards that fade as they are dealt. When you turn off Fade Cards, the cards appear. If you are playing a timed game, you may want to leave this option off since it slows down the game.

Appendix:

Spreadsheet Built-in Functions

Spreadsheet uses floating point math, which has benefits such as speed. But floating point math produces errors in the 17th or 18th significant digit. While this is often not detectable, the errors become apparent in some calculations, especially when you use financial functions like IRR and NPV. Spreadsheet adheres to the IEEE 754 standards for floating point calculations.

Built-in functions are prewritten formulas that take a value, perform a mathematical operation, and return a result. For example, you can use a built-in function to total a group of numbers.

You can also use built-in functions to insert information in Spreadsheet; for example, use the Time & Date functions to insert the current date and time.

Functions are represented by a **keyword** followed by **arguments** enclosed in parentheses. The function *returns* a value based on the arguments you enter. For example, in the expression `SQRT(144)`, `SQRT` is the keyword for the square root function, and 144 is the argument. This function returns 12, the square root of 144.

Argument Rules

The following rules apply to using arguments in functions:

- You can use numbers, cell addresses, or cell ranges in Spreadsheet as values.
- You must enclose text string arguments in quotation marks.
- You must specify interest rates as decimal values, and they must correspond to the same time unit as the term. For example, payments that are monthly require a monthly interest rate.
- You must express trigonometric angle arguments in radians. If you want to convert degrees to radians, use the `RADIANS()` function.
- Some trigonometric functions return radians. If you need the returned value expressed in degrees, use the `DEGREES()` function.

Financial Functions

The arguments for financial functions are either numbers or addresses of cells that contain numbers. When the argument is the interest rate, enter its actual value (for example, enter .07 or 7% rather than 7). Be sure to specify the same units for the term and the interest. If the interest is monthly, the term is also monthly. Enter all values without spaces.

Function	Description
CTERM (<i>interest, future value, present value</i>)	Number of compounding terms or periods required for an investment to grow to a future value. <i>Interest</i> is the interest rate for the calculation. <i>Future value</i> is the proposed value of the asset. <i>Present value</i> is the current value of the asset. For example, CTERM(.05,1000,500) returns 14.2 periods.
DDB (<i>cost, salvage, life, period</i>)	Double-declining balance depreciation of an asset using the double-declining balance method. <i>Cost</i> is the original cost of the asset. <i>Salvage</i> is the ending value of the asset. <i>Life</i> is the duration of the depreciation, using the same units as <i>Period</i> . <i>Period</i> is the time period for which the depreciation calculation occurs. Not a cumulative calculation.
FV (<i>payments, interest, term</i>)	Returns the future value of a stream of regularly invested payments. <i>Payments</i> is the payment made each period. <i>Interest</i> is the interest rate for the same time period as <i>payments</i> . <i>Term</i> is the total number of payments that are made. <i>Be careful to enter the interest rate for the same time period as the payments.</i>
IRR (<i>guess, range</i>)	Internal rate of return of series of irregular payments at regular intervals. It returns the interest rate when you know the initial investment and know you will get regular payments of varying amounts. <i>Guess</i> is the number you guess is approximately the interest rate. <i>Range</i> is the address defining the range for the cash flow table.
NPV (<i>interest, range</i>)	Net present value is the amount of money (in today's dollars) to be spent in the future. <i>Interest</i> is the interest rate for the calculation. <i>Range</i> is the cells containing the cash flow information.
PMT (<i>principal, interest, term</i>)	Calculates the constant payment required to repay a loan at a specified interest rate over a given period of time. <i>Principal</i> is the amount of the loan. <i>Interest</i> is the interest rate for the same time period as the term. <i>Term</i> is the interval at which the payments are made. <i>Be careful to enter the interest rate for the same time period as the terms.</i> For example, to determine the monthly payment for a 20 year loan of \$75,000, at 5% annual interest. =PMT(75000,.05/12,240) returns \$494.97.
PV (<i>payments, interest, term</i>)	Returns the present value of an investment. <i>Payments</i> is the payment made each period. <i>Interest</i> is the interest rate for the same time period as <i>payments</i> . <i>Term</i> is the total number of payments that are made. <i>Be careful to enter the interest rate for the same time period as the payments.</i>
RATE (<i>future value, present value, term</i>)	Required interest rate to reach a future value. <i>Future value</i> is the value of the annuity at the end of the investment period. <i>Present value</i> is the value of the annuity today. <i>Term</i> is the time periods for the investment.

Function	Description
SLN (<i>cost, salvage, life</i>)	Straight-line depreciation. <i>Cost</i> is the initial cost of the asset. <i>Salvage</i> is the value of the asset at the end of the time period. <i>Life</i> is the useful life of the asset, the number of time periods the asset is being depreciated.
SYD (<i>cost, salvage, life, period</i>)	Accelerated depreciation of an asset, using the sum of year's digits method. <i>Cost</i> is the initial cost of the asset. <i>Salvage</i> is the value of the asset at the end of the time period. <i>Life</i> is the useful life of the asset, the number of time periods the asset is being depreciated. <i>Period</i> is the period to analyze.
TERM (<i>payments, interest, future value</i>)	Required number of terms or payment periods to reach a future value. Payments are made at the end of each term and earn a constant interest rate. <i>Payments</i> is the amount of the periodic payments. <i>Interest</i> is the interest rate for the investment per time period. <i>Future value</i> is the value of the annuity at the end of the investment period. <i>Be careful to enter the interest rate for the same time period as the term.</i>

Information Functions

The information functions return information about a cell or a range of cells.

Function	Description
CHOOSE (<i>index, value1, value2,...</i>)	Returns the <i>nth</i> value in the list of arguments, where the first value is 0 and <i>index</i> indicates the <i>nth</i> value. <i>Value</i> can be from 0 to n-1. You can use as many <i>values</i> as you want. <i>Index</i> and <i>values</i> can be numbers, cell references, defined names, formulas, functions, or text. For example, if the <i>values</i> are the months of the year and the <i>index</i> is 5, then CHOOSE returns May. This function returns an error if your index is less than zero or greater than the number of values.
COLS (<i>range</i>)	Returns the number of columns in a range.
COUNT (<i>value1, value2,...</i>)	The number of arguments, that is, the number of nonblank cells in a range . <i>Values</i> can be numbers, null, logical values, and dates. The arguments can only be a comma-separated list.
ERR()	Causes the formula to return the #ERROR# message . Particularly useful with IF functions to say: if the condition is false, then return #ERROR#. You must include the empty parentheses.

Function	Description
HLOOKUP (<i>value, range, offset</i>)	Returns a value from a horizontal lookup table , allowing you to use a spreadsheet table like a database. HLOOKUP extracts from the horizontal rows, and VLOOKUP extracts information from vertical columns. HLOOKUP assumes the entries in the first row are sorted in ascending order. This function returns the entry corresponding to the nearest ascending value that is not greater than <i>value</i> . Useful when you have several alternatives to look up, such as tax rates, commissions, or discounts. <i>Value</i> is the value to be found in the first row of the table. <i>Value</i> can be a number, address, or text string. <i>Range</i> is the address of the range that defines the table. <i>Offset</i> defines which row contains the information. The offset of the top row is zero. See the example on page 219.
INDEX (<i>range, column offset, row offset</i>)	Returns the value of the cell at the intersection of a row and column . The top row is 0,0. <i>Range</i> is the address defining the range. <i>Column offset</i> defines the column offset in the specified range. <i>Row offset</i> defines the row offset in the specified range.
ISERR (<i>value</i>)	Returns 1 if an expression is an error or 0 if it is not. This function is particularly useful in IF statements.
ISNUMBER (<i>value</i>)	Returns 1 if an expression is a number or 0 if it is not. Useful in IF statements.
ISSTRING (<i>value</i>)	Returns 1 if an expression is a string or 0 if it is not. Useful in IF statements.
N (<i>range</i>)	Returns the value from the first cell in a range if that cell contains a number, time, or date. If the cell contains text, the function returns 0 (zero).
NA ()	Stops the evaluation of a formula and generates #N/A# in the formula cell. NA is the abbreviation for Not Available . This function is useful if you are creating a spreadsheet and do not have all the required values. If a formula refers to a cell containing #N/A#, it returns #N/A# so that you do not inadvertently forget to complete the spreadsheet. You can type #N/A# directly into the cell. You must include the empty parentheses.
ROWS (<i>range</i>)	Returns the number of rows in a range .
VLOOKUP (<i>value, range, offset</i>)	Returns a value from a vertical lookup table , allowing you to use a spreadsheet like a database. VLOOKUP extracts information from vertical columns in the same way as HLOOKUP extracts from the horizontal rows. VLOOKUP assumes the entries in the first column are sorted in ascending order. This function returns the entry corresponding to the nearest ascending value that is not greater than <i>value</i> . <i>Value</i> is the value to be found in the first column of the table, and it can be a number, address, or text string. <i>Range</i> is the address of the range that defines the table. <i>Offset</i> defines which column contains the information. The offset of the first column is zero.

Information Function example: HLOOKUP

HLOOKUP and VLOOKUP allow you to search for a value that is within a range of values.

The table below is an example of a simple lookup table. This table tracks a discount rate, which is based on the number of units sold. If you want to look up a discount rate for 1257 units sold, use HLOOKUP to extract values horizontally.

	A	B	C	D	E	F	G
1	Number of Units Sold	1,257					
2							
3	Units	0	100	500	1,000	10,000	
4	Discount	0%	2%	5%	10%	15%	
5							
6	Discount Allowed	10%					
7							

HLOOKUP(B1, B3:F4, 1) = 10%.

When using HLOOKUP or VLOOKUP, the table entries must be sorted in ascending order.

In this example, HLOOKUP(B1,B3:F4,1) returns 10%. B1 contains the value, 1257 units. B1:F4 is the table range. The offset is 1, which defines the row containing information to search. In this case the offset is the row with the discount rates. The offset of the first row of data is 0.

HLOOKUP returns 10% because it is the discount rate for 1,000 to 9,999 units sold.

Logical Functions

The logical functions evaluate relationships and return true or false results. True = 1 (or nonzero values) and false = 0.

A logical function uses a conditional statement; for example, if this is true then do that. An example of a logical function would be this conditional statement: if the value in B12 is larger than 10,000, then display 50 in this cell.

Function	Description True = 1 (or nonzero), False = 0
AND (logical1, logical2,...)	Logical AND. Returns 1 if all arguments are true or 0 if any is false. Useful with IF statements. <i>Logical</i> can be either logical values, arrays or references to cells that contain logical values. Text is ignored. If the argument does not contain a logical value, AND returns the #TYPE# error. See also OR. You can have as many <i>logical</i> arguments as you want.
FALSE ()	Returns 0. You can use FALSE in a calculation or enter it directly into a cell where it is interpreted as a logical value. You must include the empty parentheses. See also TRUE.
IF (logical, true value, false value)	Evaluates a condition, returning one specified value if true and another if it is false . <i>Logical</i> is any expression or value that can be evaluated as true or false. <i>True value</i> is the value returned if the logical expression is true. <i>False value</i> is the value returned if the logical expression is false.
OR (logical1, logical2,...)	Returns 1 if at least one of the arguments is true or 0 if all of the arguments are false. The arguments can be values or cells. You can have as many <i>logical</i> arguments as you want. OR ignores text. If an argument does not contain a logical value, OR returns the #TYPE# error. OR is particularly useful with IF expressions. See also AND.
TRUE ()	Returns 1. You can use TRUE in a calculation or enter it directly into a cell where it is interpreted as a logical value. You must include the empty parentheses. See also FALSE.

Logical Function example: IF statements

IF statements consist of the following:

- The condition you want to test
- The result you want if the condition is true
- The result you want if the condition is false

For example, you might calculate escalating bonuses for a sales team based on a percentage of the sales, located in cell C4. For sales under \$10,000, the bonus is 2%.

BONUS = IF(SALES<10000,.02*SALES,.04*SALES)

For sales over \$10,000, the bonus is 4%. The formula for such an IF statement shown in the box above is =IF(C4<10,000, 0.2 * C4, .04*C4) where the sales figure is located in cell C4.

**BONUS = .04*SALES
BONUS = \$600.00**

In this example, SALES<10000 is the condition you want to test, .02*SALES is the result you want if the condition is true, and .04*SALES is the result you want if the condition is false. Therefore, if the SALES figure is \$15,000 then the IF statement returns false, and Spreadsheet computes the formula as in the box at the left.

**BONUS = .02*SALES
BONUS = \$150.00**

If, on the other hand, the SALES figure is \$7,500, then the IF statement returns true, and Spreadsheet computes the formula as in the box at the left.

Logical Function example: combining functions

By combining IF with the AND and OR functions, you can create even more complex conditional statements. Consider the following examples:

=IF(AND(A1>100,B1>100,C1>100),5,0)

The result of this formula is 5 only if the values in A1, B1, and C1 are all greater than 100. Otherwise the result is 0. You can apply the same principle using the OR function, as shown in the following example:

=IF(OR(A1>100,B1>100),50,0)

The result of this formula is 50 if either A1 or B1 is greater than 100; otherwise, the result is 0.

Using Logical operators in Logical Functions

You can also use conditional operators that result in a value of 0 if false or 1 if true. These operators are used with IF functions.

SYMBOL	OPERATION	EXAMPLE
>	Greater than	A14>B12
<	Less than	A14<B12
(CTRL+ MENU + >)	Greater than or equal to	A14≥B12
(CTRL + MENU + <)	Less than or equal to	A14≤B12
(CTRL + MENU + =)	Not equal	A14≠B12

Mathematical Functions

The arguments for mathematical functions are either numbers or addresses of cells that contain numbers. The results of these calculations are always numbers.

Function	Description
ABS (<i>value</i>)	Absolute value of a number. <i>Value</i> can be a cell. For example, ABS(-12) returns 12.
EXP (<i>value</i>)	Value of e (the mathematical constant) raised to the power of <i>value</i>. <i>Value</i> is a positive integer. If <i>value</i> has a fractional portion, FACT calculates the factorial for the integer portion of <i>value</i> . For example, EXP(2) returns 7.389506 or e^2 .
FACT (<i>value</i>)	Factorial of a number (<i>value</i>). For example, FACT(4) returns 24.
INT (<i>value</i>)	Value rounded to the next lowest integer. <i>Value</i> can be a positive or negative number, or a reference to a cell that contains a number.
LN (<i>value</i>)	Natural logarithm of <i>value</i> , using the constant e as a base. LN is the inverse of EXP. <i>Value</i> must be a positive number. For example, LN(2) returns 0.693147.
LOG (<i>value</i>)	Base 10 logarithm of <i>value</i> . <i>Value</i> must be a positive number. For example, LOG(100) returns 2.
MOD (<i>value</i> , <i>divisor</i>)	Modulus , the remainder of the division of <i>value</i> by <i>divisor</i> . If you attempt to divide by zero, MOD returns an error.
PRODUCT (<i>value1</i> , <i>value2</i> ,...)	Product of multiplication of a list of numbers (<i>values</i>). You can have as many arguments as you want. <i>Value</i> can be numbers or references.
ROUND (<i>value</i> , <i>places</i>)	Value rounded to the specified number of decimal places. For example, ROUND(12.2376) returns 12.24.
SQRT (<i>value</i>)	Square root of a <i>value</i> . <i>Value</i> must be a positive number.
SUM (<i>value1</i> , <i>value2</i> ,...)	Total of a list of <i>values</i> . You can use as many arguments as you want.
TRUNC (<i>value</i>)	The integer portion (without rounding) of a <i>value</i> . For example, TRUNC(23.66) returns 23.

Print Functions

The print functions return the name of the file, the current page, and the number of pages with headers and footers when printing documents.

Function	Description
FILENAME ()	Returns the filename of the current file for inclusion in a Spreadsheet header or footer. You must include the empty parentheses.
PAGE ()	Returns the current page number for use in a header or footer . Must include the empty parentheses. If you use PAGE outside of a Spreadsheet header or footer, PAGE is calculated when you print.
PAGES ()	Returns the total number of pages in a document for use in a header or footer . You must include the empty parentheses. If you use PAGES outside of a header or footer, PAGES is calculated when you print.

Statistical Functions

The arguments for statistical functions consist of either numbers or addresses of cells that contain numbers. The results of these calculations are always numbers.

Function	Description
AVG (value1, value2,...)	Average of the values in a list. You can use as many arguments as you want. AVG treats empty cells as zero values. You cannot average cells containing text.
MAX (value1, value2,...)	Largest number in a list. List can include values or addresses, separated by commas. MAX ignores empty cells and treats text as a zero.
MIN (value1, value2,...)	Smallest number value in a list. List can include values or addresses, separated by commas. MIN ignores empty cells and treats text as a zero.
RANDOM ()	Random number between 0 and 1. RANDOM returns a new random number with every recalculation. RANDOM() returns a decimal value.
RANDOMN (value)	Random number between 0 and value-1 , a number you specify. RANDOMN returns a new random number with every recalculation. For example, RANDOMN(100) returns a number between 0 and 99.
STD (value1, value2,...)	Standard deviation of the values in a list. You can use as many <i>values</i> as you want.

Function	Description
STDP (<i>value1</i> , <i>value2</i> ,...)	Standard deviation of a population. You can use as many <i>values</i> as you want.
VAR (<i>value1</i> , <i>value2</i> ,...)	Simple variance of a sample population. You can use as many arguments as you want.
VARP (<i>value1</i> , <i>value2</i> ,...)	Population variance of the values in a list. You can use as many arguments as you want.

String Functions

A string is a series of characters. The string functions extract text (including numbers) or return numbers based on text.

To enter a string as an argument, enclose it in double quotation marks. If the text string itself contains quotation marks, use single quotation marks inside the string; for example, "Enter the word 'vanilla' in the second blank." Strings can be up to 255 characters long (including quotation marks). If you want to specify a string with no characters, enter "" to specify empty text.

Function	Description
CHAR (<i>value</i>)	Converts a code number to a character. Each text character is represented by a code number. The CHAR string function converts code numbers to characters. You can use values between 1 and 255. The function of CHAR () is the opposite of CODE(). If the value is out of the 32-255 range, CHAR returns a #VALUE# error. For example, CHAR(65) returns A.
CLEAN (<i>string</i>)	Strips unprintable characters from a string. Useful for removing nonprintable characters from imported text. For example, CLEAN(CHAR(13)&"text") returns text.
CODE (<i>string</i>)	Converts a character to its code number. Each text character is represented by a code number. The CODE string function converts characters to code numbers. For example, CODE("A") returns 65.
EXACT (<i>string1</i> , <i>string2</i>)	Compares two strings for an exact match . EXACT is case sensitive, meaning that April and april are not considered an exact match. If <i>string1</i> and <i>string2</i> match, EXACT returns 1; if they do not match, EXACT returns 0. Its action is similar to the equal sign except the equal sign is not case-sensitive. This is particularly useful with IF statements.
FIND (<i>substring</i> , <i>string</i> , <i>start</i>)	Searches within a string for a specific string. Returns the numeric position of the first character of the <i>substring</i> . You can specify the numeric position of the starting character for the search with the <i>start</i> argument. The first character in the string is in position 0.

Function	Description
LEFT (<i>string, num</i>)	Returns the characters in the leftmost position in a string. <i>Num</i> is the number of characters to return. The first character in the string is in position 0. A reference to cells containing values produces an error. The RIGHT function extracts characters beginning with the rightmost character, while LEFT extracts beginning with the leftmost character, and MID extracts from an internal position. See the descriptions of the RIGHT and MID functions.
LENGTH (<i>string</i>)	Returns the number of characters in a string including characters, punctuation marks, and spaces enclosed in quotation marks.
LOWER (<i>string</i>)	Converts uppercase characters to lowercase.
MID (<i>string, start, num</i>)	Returns the number of characters (<i>num</i>) in the middle of a string, beginning at the position you indicate (<i>start</i>). The first character in the string is in position 0. A reference to cells containing values produces an error. The RIGHT function extracts characters beginning with the rightmost character, LEFT extracts beginning with the leftmost character, and MID extracts from an internal position. For more information, see the descriptions of the LEFT and RIGHT functions.
PROPER (<i>string</i>)	Capitalizes the first letter of every word and the first letter following any nonletter character. PROPER converts all other characters to lowercase.
REPEAT (<i>string, num</i>)	Repeats a string a specified number of times. If <i>num</i> is zero, REPEAT returns an empty string. For example, REPEAT("HA",6) returns HaHaHaHaHaHa.
REPLACE (<i>original, start, num, replace</i>)	Replaces matching characters in a string with a specified string. <i>Original</i> is the text string in which you want to replace characters. <i>Start</i> is the first character in the original string that you want to replace. The first character in the string is 0. <i>Num</i> is the number of characters in the original string that you want to replace. <i>Replace</i> is the replacement string. You can use more or fewer replacement characters than are replaced, in the original string.
RIGHT (<i>string, num</i>)	Returns the characters in the rightmost position in a string. RIGHT returns to the right that number of leftmost characters. The first character in the string is in position 0. A reference to cells containing values produces an error. While RIGHT extracts characters beginning with the rightmost character, LEFT extracts beginning with the leftmost character, and MID extracts from an internal position. For more information, see the descriptions of the LEFT and MID functions.
STRING (<i>value, N</i>)	Converts values to a string using <i>N</i> decimal places. <i>N</i> can be a number from 0 through 15. For example, STRING(245.356,1) returns 245.4.
TRIM (<i>string</i>)	Removes extra spaces before and after words and between lines of text in a string.
UPPER (<i>string</i>)	Converts a string to uppercase.
VALUE (<i>string</i>)	Converts a number in string form to a value

Time and Date Functions

Spreadsheet uses serial numbers to represent times and dates. The serial numbers begin with 1 = January 1, 1900. The DATE and DATEVALUE functions return the serial number for a given date.

Function	Description
DATE (<i>year, month, day</i>)	Converts a numeric date (day, month, year) to the serial number format. <i>Year</i> can be from 1900 to 2078. For the years 1900 to 1999, you can enter just the last two digits, for example 96 rather than 1996. <i>Month</i> can be 1-12. <i>Day</i> can be a value from 1-31, depending on the number of days in <i>month</i> . If you use <i>year, month, or day</i> values that are out of range, DATE returns #VALUE#.
DATEVALUE (<i>string</i>)	Converts a date (in text form) to the serial number format
DAY (<i>date value</i>)	Extracts the day from the serial number format. <i>Date value</i> must be a serial number. Use DATEVALUE to convert dates entered as labels.
HOUR (<i>time value</i>)	Returns the hour of the day from time value serial number. You can use TIMEVALUE to convert text time. The hour is an integer from 0 to 23. Time serial numbers are decimal fractions and can be part of a date/time combination. If there is no fractional part, the time is midnight.
MINUTE (<i>time value</i>)	Extracts the minute from the time value serial number. The minute is an integer from 0 to 59. Time serial numbers are decimal fractions and can be part of a date/time combination. If there is no fractional part, the time is midnight. You can use TIMEVALUE to convert text time.
MONTH (<i>date value</i>)	Extracts the month from the date value serial number. <i>Month</i> is an integer from 1 to 12. Time serial numbers are decimal fractions and can be part of a date/time combination. If there is no fractional part, the time is midnight. Use DATEVALUE to convert dates entered as labels.
NOW ()	Returns the current date (month, day, and year) and time (hour, minute, and second). You must enter the empty parentheses. The whole number represents the date as a serial number starting January 1, 1900. The decimal fraction portion of the number represents the time, beginning at midnight = 0. You must include the empty parentheses.
SECOND (<i>time value</i>)	Extracts the second from the time value serial number. The second is an integer from 0 to 59. Time serial numbers are decimal fractions and can be part of a date/time combination. If there is no fractional part, the time is midnight. You can use TIMEVALUE to convert text time.
TIME (<i>hour, minute, second</i>)	Converts a numerical time (hour, minute, and second) to the serial number format
TIMEVALUE (<i>string</i>)	Converts a time (in text format) to the serial number format

Function	Description
TODAY()	Returns the current date (month, day, and year) in the serial number format
WEEKDAY (date value)	Returns the number for the day from the serial number format for <i>date value</i> . The WEEKDAY returns a number representing the day of the week: 1 for Sunday, 2 for Monday, etc. <i>Date value</i> must be a serial number. Use DATEVALUE to convert dates entered as labels.
YEAR (date value)	Returns the current year from the serial number format for the <i>date value</i> . <i>Date value</i> must be a serial number. Use DATEVALUE to convert dates entered as labels.

Trigonometric Functions

The arguments for trigonometric functions are either numbers or addresses of cells that contain numbers. The results of these calculations are always numbers.

Function	Description
ACOS (value)	Returns the angle that is the arc cosine of a value from -1 to 1. Value can be a cell or range of cells.
ACOSH (value)	Returns the angle that is the hyperbolic arc cosine of a value. The inverse hyperbolic cosine is the number for which the hyperbolic cosine is <i>value</i> . <i>Value</i> must be equal to or greater than 1.
ASIN (value)	Returns the angle that is the arc sine of a value. The arcsine is the angle which is the sine of <i>value</i> . The angle is between $\pi/2$ and $-\pi/2$ radians. <i>Value</i> must be from -1 to 1.
ASINH (value)	Returns the angle that is the hyperbolic arc sine of a value. The inverse hyperbolic sine is the number which is the hyperbolic cosine of <i>value</i> .
ATAN (value)	Returns the angle that is the arc tangent of a number. The arctangent is the angle (in radians) for which the tangent equals <i>value</i> . <i>Value</i> is the tangent of the angle you want.
ATANH (value)	Returns the angle that is the hyperbolic arc tangent of a value. <i>Value</i> must be between (but not including) -1 and 1. The inverse hyperbolic tangent is the number which is the hyperbolic tangent of <i>value</i> .
ATAN2 (value)	Returns the arc tangent of the angle determined by the coordinates (x,y) . The arctangent is the angle formed by the x-axis and a line passing through the origin (0,0) and the specified x,y coordinate. The coordinates x,y can be in any quadrant. The angle is returned in radians from $\pi/2$ to $-\pi/2$. A positive result indicates a counterclockwise angle from the x-axis. You cannot use the origin for the x,y argument. If you use 0,0 for x,y, the #VALUE! error appears in the cell.

Function	Description
COS (<i>angle</i>)	Returns the cosine of an <i>angle</i> , expressed in radians. If you know an angle in degrees, you can use the RADIANS function to convert it to radians.
COSH (<i>value</i>)	Returns the hyperbolic cosine of a <i>value</i> .
DEGREES	Converts radians to degrees .
PI ()	Value of π (3.141592653589793). You must include the empty parentheses.
RADIANS	Converts degrees to radians .
SIN (<i>angle</i>)	Returns the sine of an <i>angle</i> expressed in radians. If you know an angle in degrees, you can use the RADIANS function to convert it to radians.
SINH (<i>angle</i>)	Returns the hyperbolic sine of an <i>angle</i> , expressed in radians.
TAN (<i>angle</i>)	Returns the tangent of an angle. You must express <i>angle</i> in radians. If you know an angle in degrees, you can use the RADIANS function to convert it to radians.
TANH (<i>angle</i>)	Returns the hyperbolic tangent of an angle. You must express <i>angle</i> in radians. If you know an angle in degrees, you can use the RADIANS function to convert it to radians.

Glossary

absolute reference – in Spreadsheet, a reference to a cell address based on its column and row number

argument – in Spreadsheet, a piece of information you enter into a formula

ASCII – American Standard Code for Information Interchange, a common exchange format between computer applications

automatic pagination – a method for creating and numbering pages automatically

bar chart – a horizontal chart in which values are represented by filled rectangles of varying widths (as opposed to a vertical bar chart)

base style – a text style from which other text styles are created

baud rate – the speed at which a modem sends and receives information.

bibliography – an alphabetical list of books given in order of the authors' last names

binary file – a type of file that uses an arithmetic system using a base of 2

bitcount – number of bits (pieces of information)

bitmap (BMP) – a group of pixels that form an image

border – a line or box around text or graphics

byte – a unit of information consisting of 8 bits, used to show memory capacity.

card view – in Addressbook, to be able to view one address card at a time

carriage – the mechanical unit that carries the inkjet cartridge back and forth across the page

case – either upper (E) or lower (e)

cell – the box in a spreadsheet in which you enter data

cell address – the location of a cell, shown by its row and column. For example, A1 is column A, row 1.

character keys – the keyboard keys used for typing text and numbers

chart – a graphic representation of numeric data

check box choice – a type of menu choice that has a box next to it. Clicking on the box or name turns it on and off.

circular reference – a formula in which the calculation uses the result of the same calculation

clipboard – a temporary holding place for one image or block of text. Placing an item in the clipboard erases any previous clipboard content.

column chart – a vertical bar chart

column headers – the letters that label columns

compression – the process of making a file smaller (using less disk space for storage)

configuration – the set of choices that you make about how an application appears or operates

continuous printing – a Spreadsheet printing option that allows you to print a spreadsheet as one continuous page

control keys – the keyboard keys that modify the effect of the other keys. **CODE, MENU & SHIFT** are control keys.

CSV – Comma Separated Values format used in database and spreadsheet programs

data bits – the smallest piece of information that a computer can process

data file – a file created by an application

default setting – a system setting that is automatically applied unless you change it. For example, you may want to change the default setting of 10 point text to 24 point.

directory – a folder

disk drive – the slot on the side of the unit in which diskettes are inserted

diskette – a 3.5" square disk. Diskettes can be used to run programs or store documents and data. Diskettes must be formatted unless you purchase them pre-formatted.

document – also called a file, is a holding place for information, containing text and/or graphics. A document is stored as a file and has its own icon consisting of the application icon over three blank sheets of paper.

DOS – Disk Operating System, computer software that controls the basic functions of a computer

do-not pointer – one of the shapes of the pointer. It indicates that the pointer is not in an area of the screen where you can take any action.

Drag button – the bottom button on a glidepad or right button on a mouse used to move an item on the screen. For example, to move text to a new location, select the text, hold down the Drag button, and move the on-screen pointer to the new location

dragging – moving the on-screen pointer across the screen. With a mouse, drag by moving the mouse; on a glidepad, drag by sliding your finger or top of your fingernail across the glidepad surface

draw mode – a screen display option for the Drawing application

dual documents – working in two documents at the same time

duplex – when using a modem, the ability to send and receive data at the same time

emulate – to act like; to resemble

executable file – a type of file that allows you to execute or start a program

extension – the three letters that follow the name of a file in DOS format, describing the file format

modem – communicates with other fax or data modems and fax machines

field – a place for entering a certain type of information, for example, a blank within a dialog box or a cell within a Spreadsheet document.

file – a saved document

file mask – a way to see only the files of a certain type, filtering out files of other types

file selector – the New Disk button and the scrolling list in dialog boxes for selecting a file, folder, or diskette

fixed notation – a format option for numbers in which you set the number of decimal places that you want to appear, such as two decimal places: 10.99

floating point math – a quick method for calculating numbers with a mantissa, which is the numbers the follow a decimal point. For example, in 3.256789888, the mantissa is 0.256789888. Floating point math closely estimates a mantissa, which makes calculations involving a lengthy mantissa faster. The estimation produces errors in the 17th or 18th number after the decimal; however, this level of error is negligible and adheres to the industry standard.

folder – a container for files, also known as a directory

font – a typeface

footer – a page element that appears at the bottom of each page, containing items such as a page number

footnote – a note at the bottom of a page that gives more information about some item mentioned in the body text on that page

formatting a diskette – preparing an unformatted diskette to receive information (some are formatted when you buy them). Use only MF-2DD (double-sided/double-density/double-track) and MF-2HD (double-sided/ high density/double-track).

formula – performs a calculation, like totaling numbers

function keys – the top row keys that activate functions such as copy, paste, etc.

functions, Basic tool bar – contains buttons for performing tasks such as save, copy, etc.

functions, Advanced tool bar – contains buttons for performing tasks such as zooming in

geometric progression – a series of numbers such as 3, 9, 27 that increases by a specific multiplier (called a step value) such as 3

gildepad – a built-in pointing device used to select options on the screen.

graphic frame – a rectangle that you can place around text or graphics

grid – in Spreadsheet, the layout of rows and columns, forming rectangular cells for entering data. In Drawing and Word Processing, the pattern of evenly spaced horizontal and vertical lines that help you size and align objects.

grid line – the horizontal and vertical lines that make up the Spreadsheet grid. In Drawing, the lines that help you to size and align objects.

handles – the small black squares that appear around a graphic when you select it

hard page break – a type of page break that you set intentionally as opposed to a soft page break, which occurs automatically

hanging indent – a first line extending farther left than the rest of a paragraph, hanging out in the margin

header – a page element that appears at the top of each page. See *footer*.

highlight – to select text or graphics to be able to work with that chosen item. Highlighted text has a black background, and highlighted graphics have square handles around them.

high/low chart – a chart for representing a starting and ending value

home page – The beginning document (Web page) in your Internet Web browser

host – The Internet Service Provider who sends outgoing emails and receives and stores incoming emails

hourglass pointer – pointer (insertion point) indicating that the system is busy and you must wait.

hyperlink – a feature that allows you to skip around in a document (Web page or Bookreader)

I-beam pointer – on-screen pointer indicating that you can type or edit text or select and place text.

icon – a picture symbol on the screen used to represent a program, task, or tool bar button

import/export function – allows you to use documents with other programs

indentation – the space between the margin and the text

Information bar – at the top of the File Manager screen that describes information (such as size) about a diskette or folder

insert mode – a mode for entering text in which new text pushes existing text to the right

insertion point – the blinking vertical line on the screen that shows you where your next text will be placed

internet – Not capitalized, any collection of computers connected to share information

Internet – Capitalized, the world-wide network of computers accessed through an Internet Service Provider

Internet Service Provider – A company connected to the Internet who acts as your gateway to the Internet

inverse mode – a drawing mode that displays the top object as the inverse color of the background color, and, where they overlap, combines the colors of overlapping objects to make a third color

invisible characters – characters that do not appear when you print, such as a section break mark

iteration – process in which the desired result is approached through repeated cycles of successively better approximations.

justified – paragraph alignment in which all right edges of text align exactly on the right margin

keyboard layout – the types of keys and their arrangement on the keyboard

labels – in Spreadsheet, the descriptive titles for rows and columns

landscape layout – a type of page layout in which the page is wider than it is tall

leading – the space between lines of text in a paragraph

legend – the part of a graph that uses text for explanation

line chart – a chart that represents values with points on an x-y axis, connecting the values with straight lines

line status – in Communication, the quality of the phone connection

linear progression – a progression of numbers that is increased by a certain amount, the step value

logical function – a mathematical formula that includes an If statement

logical operator – a mathematical symbol used in logical functions ($>$ $<$ \geq \leq \neq)

lookup functions – in Spreadsheet, functions used to create a table in a spreadsheet that acts like a database

Main Menu – the first screen you see when you turn on the machine, containing icons for the programs

map – to change the order of fields when importing or exporting database or spreadsheet information (Spreadsheet and Addressbook programs)

markers – the points in a line on an x-y plot chart

master page – the prototype page that determines the format of each page in a document

maximize/restore a window – to enlarge a window from icon-size to full-screen size

menu – a list of choices

menu bar – contains all the pull-down menus for the application

merge – to combine data from one application with data from another

minimize a window – to reduce a window to the size of an icon

modem – a device for connecting to a telephone line for the electronic transfer of information

monitor – a CRT (Cathode Ray Tube) screen and its housing

monospacing – each letter takes up the same amount of space. Typewriters use monospacing. See *proportional spacing*.

mouse – a hand-held pointing device used to select items on the screen

New/Open dialog box – a dialog box that asks you to choose a document or template to open

On-line Help – a source of quick information accessed through the **HELP** function key

operators – symbols that show a mathematical operation, such as +

parent folder – a folder that contains the current folder

parity – a modem feature that checks electronic information to make sure it will transmit accurately

pathname – a DOS name that shows how you got into the file or folder you are currently using

PCX – Paintbrush format, a popular bitmap exchange format for using graphics in different programs

pica – 1/6 of an inch or 12 points

pie chart – a round chart that represents values as pieces of a pie

pinning a menu – keeping a pull-down menu on the screen

pixel – the smallest dot on the monitor screen

pixel view tool – a bitmap tool that allows you to see and change individual pixels

place holder text – text that appears in templates showing you what kind of information to put into your document

pointer – the arrow appearing on the screen that is moved with the mouse

point – a measurement used in the printing industry equal to 1/72 of an inch

polygon – a figure with at least 3 sides

portrait layout – a page layout in which the page is taller than it is wide. Also called vertical layout.

proportional spacing – each letter takes up an amount of space proportional to the size of the letter

protocol – a set of rules

radio button – a type of menu button that allows for only one choice to be turned on at a time

radius – half of the diameter of a circle or ellipse; the distance from the center to the edge of a circle

RAM – (random access memory) stores information for the on-screen display and for routine tasks such as opening a submenu

range – a group of cells in a spreadsheet

read-only – a type of file or diskette that can be opened, but not changed

redraw – for recreating or updating the image on the screen so that all of the text and graphics are accurate

reference mark – the character, usually a number, used to match the text reference with its footnote

relative reference – a reference to a cell address based on its location relative to the cell containing a formula

release – an edition of an application designated by a number such as 5.1 or 5.2

resolution – the sharpness of an image measured in dpi (dots per inch) on printed matter or ppi (pixels per inch) on a monitor screen

row header – the numbers that label each row in a spreadsheet

scale to fit – an option that allows you to see the whole page in the application window

script – in Communication, a file you create to perform a task such as dialing a phone number

scientific notation – a way of expressing large numbers by using powers of 10, such as 3×10^3

scroll bar – a bar containing arrows and a sliding marker, allowing you to scroll through your document

scrolling list – a box listing various items used in conjunction with a scroll bar such that you are able to see all the selections from which to choose

select – to highlight an item using the on-screen pointer or keyboard. Selected items will darken

Select button – the top button on a glidepad or left button on a mouse used to select an item on the screen. For example, to draw a box in Drawing, select the Box tool, hold the Select button, and drag the on-screen pointer.

shading – using only a percentage of the full color value

snap objects – to cause objects to be pulled toward the lines in a grid, making the placement of the objects easier and more consistent

soft page break – a type of page break that occurs automatically by the program as text flows from one page to another

Special Characters keyboard – allows you to choose special character keys and symbols

spreadsheet – a document containing cells for entering data, allowing you to make automatic calculations

startup document – opens when you open Addressbook, Planner, or Scrapbook

stop bits – a modem setting that acts as a traffic controller, telling when to send or receive a character

string – a series of characters used in spreadsheet formulas

style – a collection of text and paragraph format options grouped under a common name. See *text style sheet*.

Style tool bar – contains tools for changing text style (size, font, etc.) and for checking spelling

submenu – a secondary menu that is revealed when a menu or another submenu is selected

tab leaders – dots or lines inserted between tabs

tabs – designated points on the page that you can move the insertion point to, handy for making columns

template – a ready-made document with layout work already done for you

text region – the area where text will appear on the page

text style sheets – the set of all named text styles used in a document

thesaurus – a source for finding synonyms (words similar in meaning)

TIFF – Tag Image File Format, a standard format for storing bitmap graphic images

title bar – an area at the bottom of the window showing you the name of the document you are currently working in

title page – the first page in a document usually containing the title, author's name, and date

tool bar – a collection of tools arranged on a horizontal or vertical bar at the top or side of the application window

trailing – a format option that allows you to add a suffix to the values you enter in a spreadsheet

transform – a submenu item that contains the options flip, rotate, skew, and scale

unformatted diskette – a diskette that has not been prepared for saving documents.

uniform resource locator (url) – the address of a document (web page) on the Internet's World Wide Web

user dictionary – a special dictionary that you create with terms not found in a dictionary

values – numbers entered in a spreadsheet

vertical scroll bar – allows you to easily move up and down the display window by using the pointer to drag the box in the scroll bar or click on the arrow controls

view at % – allows you to see your document at a selected percentage of its normal size

web page – a document on the World Wide Web

wildcard – a symbol (* or ?) that substitutes for an unknown character when searching for a word. Wildcards make certain word searches more efficient.

window – a boxed-in area of the screen in which you are creating or editing a document. Windows have a title bar and menu bar across the top.

word wrap – a feature allowing words that cannot fit on one line of text to automatically be placed on the next line

wrapping text – a feature that allows you to place text around graphic objects in several ways

XMODEM – a protocol (set of rules or standards) used in data transmissions that controls data to be sent or received, and resends a file if a problem occurs while sending

x-y plot chart – a type of chart that evaluates one number against another, sometimes called a scatter plot

zooming in/out – to change your perspective so that you can either see your work in greater detail or see more of the page

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