

Table of Contents

THE BASICS

1 Getting Started	1
Setting Up Ensemble	2
Monitor	3
Ensemble Monitors	3
PDP-100J	3
PDP-300CJ, PDP-350CJ	3
Putting Ensemble Together	4
System Care & Maintenance	5
QUICK START	6
Inserting Paper	9
Optional CF-710 Cut Sheet Feeder	10
Automatic Paper Insertion (with Cut Sheet Feeder)	12
Manual Paper Insertion (with Cut Sheet Feeder)	14
Removing the Cut Sheet Feeder	14
Reinstalling the Paper Support	15
Ink-Jet Cartridge	16
Ink-jet Cartridge Precautions	16
Installing or Replacing an Ink-jet Cartridge	16
Cleaning the Print Head	18
Cleaning the Print Cartridge Nozzles, Contacts, and Bracket Contacts ..	18
Diskettes	19
Starting the Tutorial and the Demonstration	20
Using the Mouse	21
Using the Keyboard	22
Character Keys	22
Navigation Keys	22
Function and Control Keys	22
Preferences	25
Getting To Know the Applications	26
All About Documents	28
Creating and Opening Documents	28
What You Will See in a Document Window	30
Changing Your View of a Document Window	31
Scroll Bars	31

Redraw	32
Showing Rulers	32
Changing Ruler Measurement Units	32
Saving Documents	33
Using Copy To	35
Closing Documents	36
Working with Menus	37
Opening a Menu and Making a Choice	37
Choosing from a Menu with Buttons or Check Boxes	38
Choosing from a Submenu	38
“Pinning” a Menu	39
Using Shortcut Keys to Save Time and Work	40
Using Arrow Keys	40
Using Underlined Letters to Make Menu Choices	41
Working with Dialog Boxes	42
Two Types of Dialog Boxes	42
How to Respond to a Dialog Box	43
Printing a Document	46
Printing with Standard Settings	47
Changing Items in Print Dialog Box	47
Changing Other Printer Options	48
Using Online Help	50
Beyond the Basics	51
Using Templates for Easy Publishing	51
Safeguarding a Document	55
Working with Dual Documents	55
Renaming a Document	56
Editing Document Notes	57
Importing and Exporting	58
Naming a DOS File	59
Optional Accessories	60
2 File Manager	61
Working with Folders	63
Moving and Copying a File or Folder	63
Copying a File or Folder to Another Diskette	64
Sorting the Contents of Folders	65
Viewing Information about Files and Folders	66
Formatting and Copying Diskettes	69
Renaming, Duplicating or Deleting a File or Folder	70

3 Word Processing	71
Important Word Processing Tips	71
Creating a Document	72
Opening a Document	73
Working with Text	74
Setting Up Your Page	74
Using the Basic Functions Tool Bar	76
Using the Advanced Functions Tool Bar	76
Using the Graphics Tool Bar	77
Using the Drawing and Bitmap Tool Bars	77
Entering Text	78
Selecting Text	79
Deleting Text	81
Cutting, Copying, Pasting, and Replacing Text	81
Dragging and Dropping Text	82
Using Undo to Reverse Your Last Action	83
Using Special Characters and Symbols	83
Changing Text Style and Format	84
Using Tone in Text	90
Formatting Documents	92
Formatting Paragraphs	92
Finding and Replacing Text	97
Using Headers and Footers	100
Creating a Title Page	102
Using Text Style Sheets	102
Saving Configuration	108
Designing Documents	108
Using Graphics in a Document	111
Using Graphic Frames	111
Using Clip Art	114
Wrapping Text	116
Inserting, Appending, and Deleting Graphic Layouts	117
Proofing Your Document	118
Checking Your Spelling	118
Creating a User Dictionary on Diskette	119
Using the Thesaurus	120
Merging Information from Other Applications	122

Setting up the Merge Fields	123
Merging Addressbook Information	124
Merging Spreadsheet Information	125
Printing the Merge Document	126
Finishing Your Document	127
Using Footnotes	127
Creating a Table of Contents	129
Creating a Bibliography	129
Special Effects	130
Displaying Invisible Characters	130
Displaying Counts	131
Using Abbreviated Phrases	131
Inserting Special Characters	132
Page Breaks	136
Managing Columns	136
4 Spreadsheet	139
Moving Around in a Spreadsheet	141
Selecting Cells and Ranges	141
Working with Values and Labels	144
Entering Values and Labels	144
Notes on Entering Labels	145
Notes on Entering Values	145
Changing the Number Format for Values	146
Entering and Changing Dates	147
Format Formulas	148
Entering Information in a Selected Range	149
Working with Formulas	149
Entering Formulas	150
Using References in Formulas	151
Using Operators in Formulas	152
Using Built-in Functions in Formulas	153
Editing the Spreadsheet	155
Editing the Contents of a Cell	156
Copying and Moving Information	156
Inserting and Deleting Rows and Columns	159
Filling a Range of Cells with Incremental Values	160
Changing the Appearance of a Spreadsheet	161
Adjusting Column Width and Row Height	161
Changing Alignment	162
Using Different Text Styles	163

Formatting Spreadsheets	163
Showing Grid Lines	163
Showing Cell Borders	164
Using Headers and Footers	165
Using Tones	165
Creating Notes	167
Using Advanced Spreadsheet Formulas	169
Showing and Hiding Formulas	169
Naming Cells and Ranges	169
Controlling Automatic Recalculation	172
Using Iteration and Circular References	173
Advanced Functions	174
Using Logical Operators	176
Using the AND and OR Functions	176
Using Lookup Functions	177
Using Information and Print Functions	177
Charting in Spreadsheet	178
What Is a Chart?	178
Types of Charts	179
Creating Charts	183
Changing the Type of Chart	183
Manipulating Charts	184
Resizing and Moving a Chart	184
Changing Chart Properties and Attributes	185
Deleting a Chart	185
Using a Chart in Another Application	185
Adding Titles and a Legend	186
Changing Markings	187
Changing Marker Shapes	188
Using Additional Spreadsheet Features	188
Using the Functions Tool Bars	189
Printing	191
Sorting	193
Creating Number and Date Formats	195
Using Rulers	196
Adding Graphics	196
Locking Titles	197
Using Spreadsheet with Other Applications	198
Importing and Exporting Spreadsheet Information	198
5 Drawing	205
Using the Tools	206

Creating and Editing Simple Objects	208
Selecting Objects	210
Resizing Objects	211
Deleting Objects	212
Advanced Work with Objects	213
Drawing Objects, Arcs, and Straight Lines	213
Setting Attributes	215
Using Drawing Modes	221
Transforming Objects	222
Flipping Objects	222
Rotating Objects	223
Skewing Objects	223
Untransforming Objects	224
Duplicating Objects	224
Converting to a Graphic	225
Arranging Objects	226
Moving Objects to the Front or Back	226
Moving Objects	227
Custom Moving Objects	227
Grouping and Ungrouping Objects	228
Pasting Inside	229
Nudging Inside	230
Breaking Out Paste Inside	230
Using Rulers	231
Using Grids	231
Snapping Objects to the Grid	233
Using Text in Drawings	234
Changing Type Style, Size	235
Aligning Text	236
Adding Tone to Text	236
Importing and Exporting Graphics	238
Working with Bitmap Objects	241
Creating a Bitmap Frame	241
Drawing Bitmap Shapes	242
Editing Bitmap Images	244
Using Tone or Fill Pattern in a Selected Area	245
Erasing in the Bitmap Frame	245
Using the Pixel View Tool	245
Changing the Bitmap Color and Resolution	246

6 Scrapbook	247
Using the Default Scrapbook	248
Paging Through a Scrapbook	248
Working with Scraps	249
Importing a Scrap from a DOS Application	251
Saving and Exiting from Scrapbook	251
Working with Scrapbook Documents	252

PERSONAL PLANNING ---

7 Addressbook	253
Working with Cards	254
Creating and Adding New Cards	254
Adding and Changing Phone Types	256
Flipping through Cards	257
Editing Cards	257
Copying Cards	257
Deleting Cards	258
Adding Notes to Cards	258
Searching through Cards	259
Saving and Exiting	260
Printing an Addressbook	261
Making New Addressbooks	262
Opening, Importing, and Exporting	263
Importing an Addressbook Document	263
Exporting an Addressbook Document	265
8 Planner	267
Viewing the Calendar	268
Selecting and Viewing Events	269
Switching between the Calendar Window and the Events Window ...	270
Selecting a Day and Viewing its Events	270
Selecting a Range of Days and Viewing Their Events	271
Scheduling Events	272
Scheduling an Event	272
Changing a Scheduled Event	272
Removing a Scheduled Event	273

Adding Events between Two Scheduled Events	273
Adding an Event at a Particular Time	273
Copying Event Descriptions	274
Scheduling Repeating Events	274
Changing a Repeating Event	277
Removing a Repeating Event from the Calendar	277
Finding Specific Events	277
Printing Your Events or Calendar	278
Saving and Exiting	281
Creating New Calendars	281
Creating a New Calendar	281
Opening Calendar Documents	282

ELECTRONIC ACCESSORIES ---

9 Calculator	283
Using Basic Calculator Functions	284
Using the Calculator's Buttons and Keys	284
Performing Calculations	285
Order of Operations	286
Handling Error or Overflow Conditions	287
Understanding Memory	288
Converting Measurements	289
Calculator Worksheets	290
Home and Family	291
Retail	291
Financial	292
10 Typewriter	293
Using the Menu Bar and Tool Bar	295
Entering Text	296
Finding your Position	297
Auto Spell	298
Cutting, Copying, Pasting, & Replacing Text	298
Changing Text Style and Format	301
Setting up the Page	302

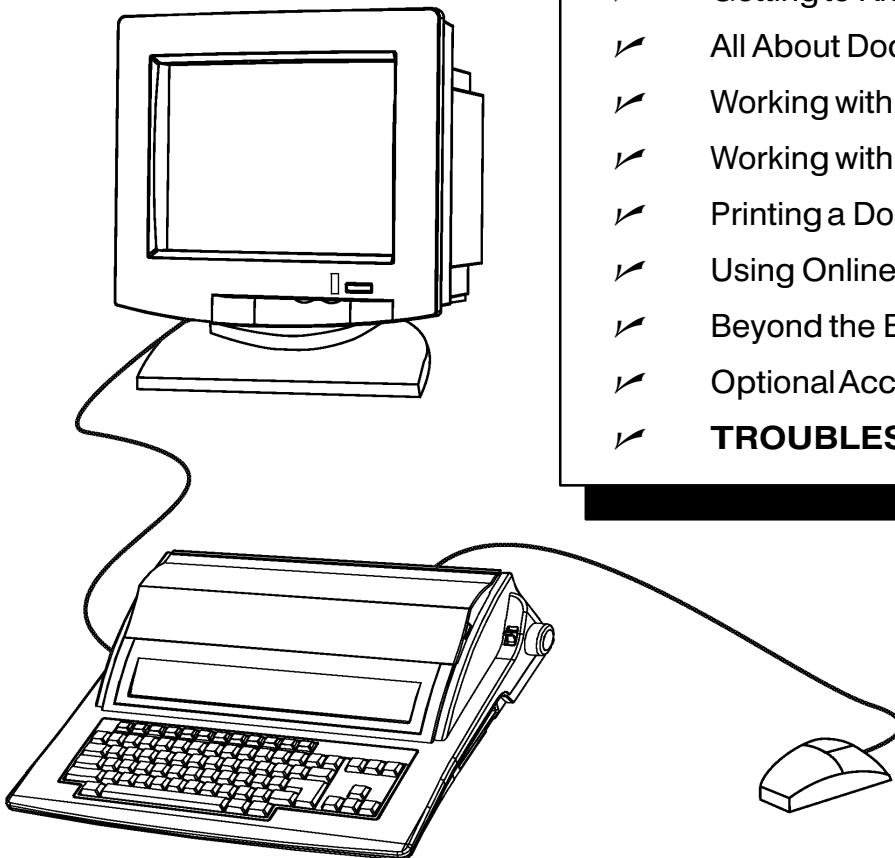
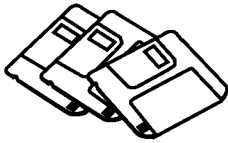
11 Book Reader	305
Using Information and Text	306
Printing from Book Reader	308
16 Using a Modem	309
Connecting a Modem	309
Sending a Fax (FX-700 Fax Modem Only)	311
Fax Dialog Box Selections	312
Using a Cover Page	314
Fax Errors	316
Sending and Receiving Information	317
Starting Communication	318
Getting Ready to Communicate	320
Having a Conversation	323
Sending Brief Messages and Files	324
Using Scripts	327
Script Commands	329
Receiving and Saving Messages and Files	332
Using CompuServe	336
12 Desktop Reference	337
Check Spelling	337
Find Synonyms	337
Editing the User Dictionary	338
APPENDIX	339
Troubleshooting	339
Black & White Clip Art	341
Color Clip Art	345
Math and Database Functions	347
Argument Rules	347
Financial Functions	348
Information Functions	351
Logical Functions	353
Mathematical Functions	354
Print Functions	355
Statistical Functions	356
String Functions	358
Time and Date Functions	360

Trigonometric Functions	362
Fonts	364
Occidental Font	364
Ping Pong Font	365
Shattuck Avenue Font	366
URW Mono Font	367
URW Roman Font	368
URW Sans Font	369
URW SymbolsPS Font	370
Specifications (continued on the next page)	371
Specifications (continued)	372
13 Text File Editor	373
What Text File Editor Can Do	374
What Text File Editor Cannot Do	374
Word Wrap and Line Endings	374
Changing the Text Size	375
Printing a DOS Text File	375
Naming a DOS Text File	375
Glossary	377
14 Games	385
Turnabout	385
Capturing Pieces	385
Sequence of Play	385
Setting User Options	386
Solitaire	386
Starting Solitaire	387
Playing the Game	387
Automatically Finishing a Game	388
Setting the Playing Level	388
Changing the Scoring	389
Changing the Number of Cards Drawn	390
Changing Other Options	390
15 Scanner	391
Parts of the Scanner	391
Using the Scanner	393
What to do if an error occurs.	394
INDEX	395

1 Getting Started

Welcome to Ensemble®, the Brother Personal Desktop Publisher!
This chapter provides the basics for getting you started with your new Ensemble system.

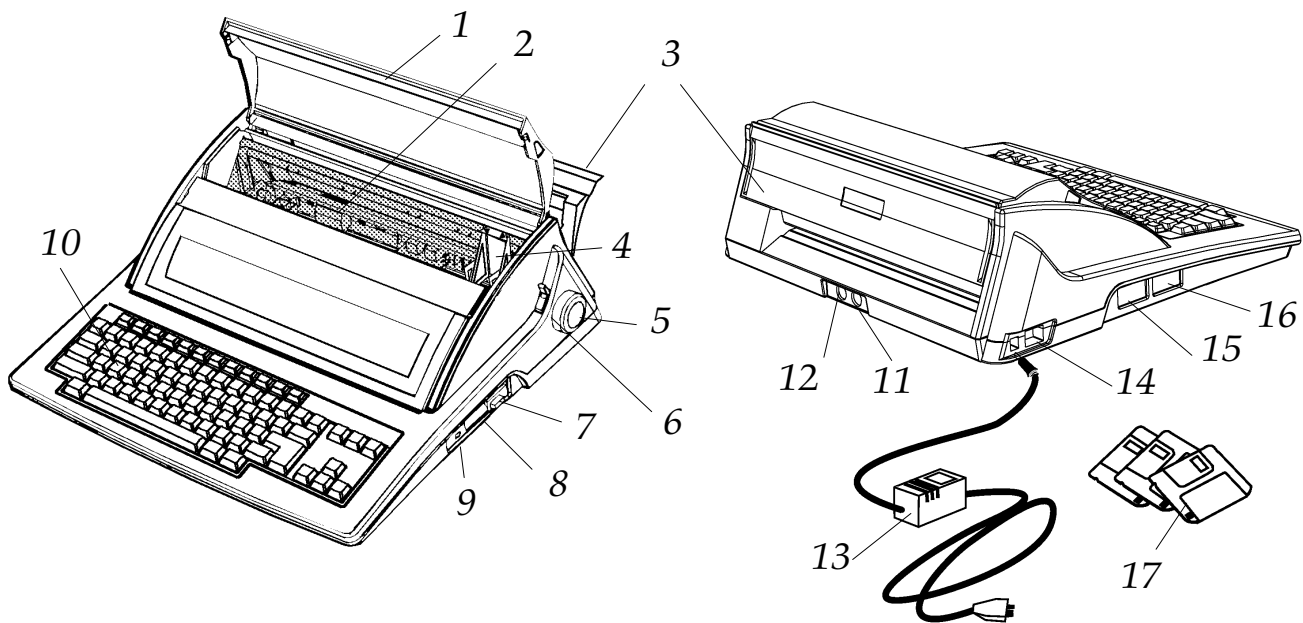
You will want to have empty diskettes on hand for saving your work. Choose 3.5" HD IBM-compatible formatted diskettes available at office supply stores.



Getting Started checklist

- ✓ Setting Up Ensemble **2**
- ✓ Precautions **5**
- ✓ **QUICK START 6**
- ✓ Inserting Paper **9**
- ✓ Installing the Ink-jet Cartridge **16**
- ✓ Starting the Tutorial & the Demo **20**
- ✓ Using the Mouse & Keyboard **21**
- ✓ Personalizing Ensemble with Preferences **25**
- ✓ Getting to Know the Applications **26**
- ✓ All About Documents **28**
- ✓ Working with Menus **38**
- ✓ Working with Dialog Boxes **43**
- ✓ Printing a Document **47**
- ✓ Using Online Help **50**
- ✓ Beyond the Basics **51**
- ✓ Optional Accessories **60**
- ✓ **TROUBLESHOOTING 353**

Setting Up Ensemble

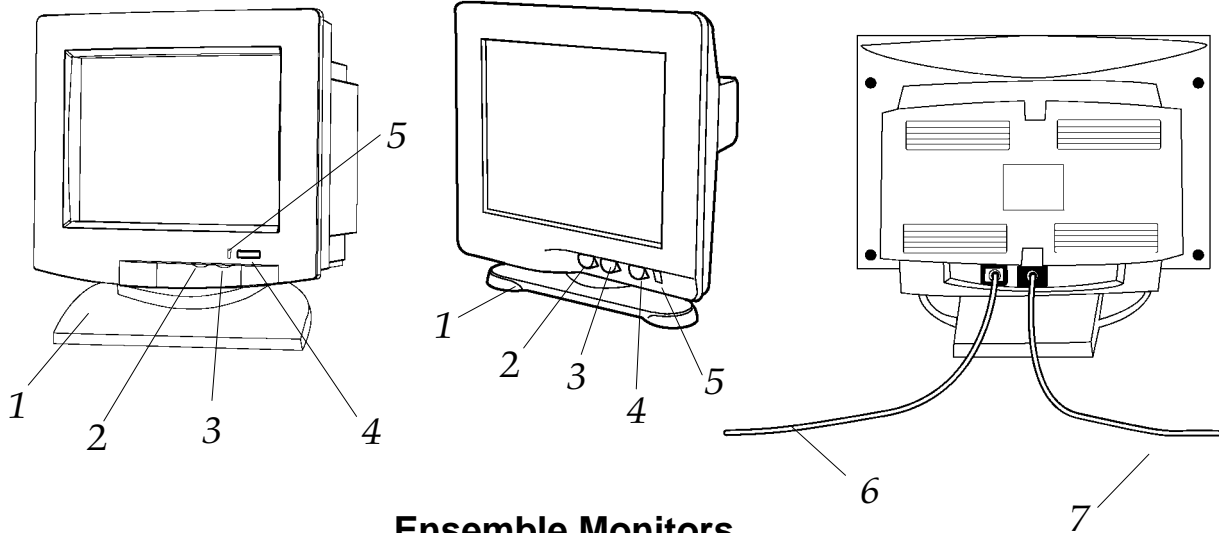


Ensemble Keyboard/Printer Unit

- | | |
|-------------------------------------|--|
| 1. Top Cover | Suppresses printing sounds and protects the printer. |
| 2. Printer | Prints documents. |
| 3. Paper Support | Holds paper as it is fed into the Ensemble printer. |
| 4. Ink-Jet Cartridge Bracket | Holds ink-jet cartridge. |
| 5. Platen Knob | Removes jammed paper. |
| 6. Paper Adjustment Lever | Fine tunes paper positioning. |
| 7. Disk Eject Button | Releases an inserted diskette. |
| 8. Disk Drive | Accepts the diskettes that you insert here. |
| 9. LED Light | Shows that a diskette is in use. |
| 10. Keyboard | Provides the character and function keys. |
| 11. Scanner Port | Connects to optional scanner. |
| 12. Mouse Port | Connects to mouse. |
| 13. AC Adaptor | Plugs into electrical outlet. |
| 14. Power Switch | Turns the unit off and on. |
| 15. Monitor Connection | Connects to the monitor. |
| 16. Modem Connection | Connects to a fax or data modem. |
| 17. Diskettes | Contain clip art, tutorial, templates, and other applications. |

PDP-300CJ, PDP-350CJ

PDP-100J



Ensemble Monitors

- | | | |
|---|---------------------------|---|
| 1 | Stand | Supports the monitor and allows it to be rotated 90° horizontally and 17° vertically. |
| 2 | Contrast Control | Increases and decreases contrast (clockwise to increase). |
| 3 | Brightness Control | Increases and decreases the display brightness (clockwise to increase). |
| 4 | Power Switch | Turns the display ON and OFF. |
| 5 | Power Indicator | Illuminates when the power is on. |
| 6 | Power Cord | Plugs into the electrical outlet. |
| 7 | Signal Cable | Connects to the keyboard/printer. |

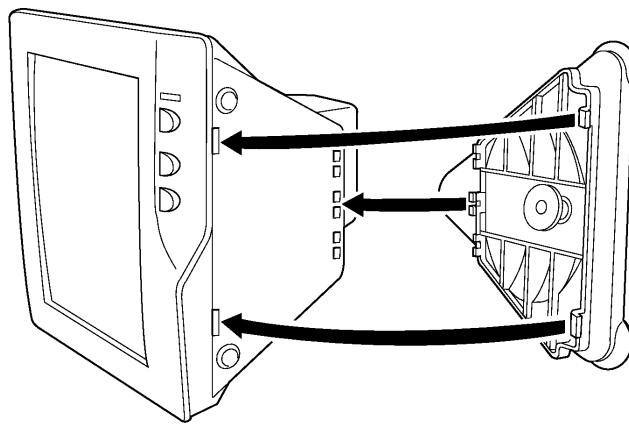
Putting Ensemble Together

► To attach the monitor stand:

1. Carefully set the monitor on its side as shown below.
2. Align the hooks on the monitor stand with the matching slots in the base of the monitor.
3. For the PDP-100J monitor, slide the monitor stand toward the front of the monitor until the stand clicks into the locked position.

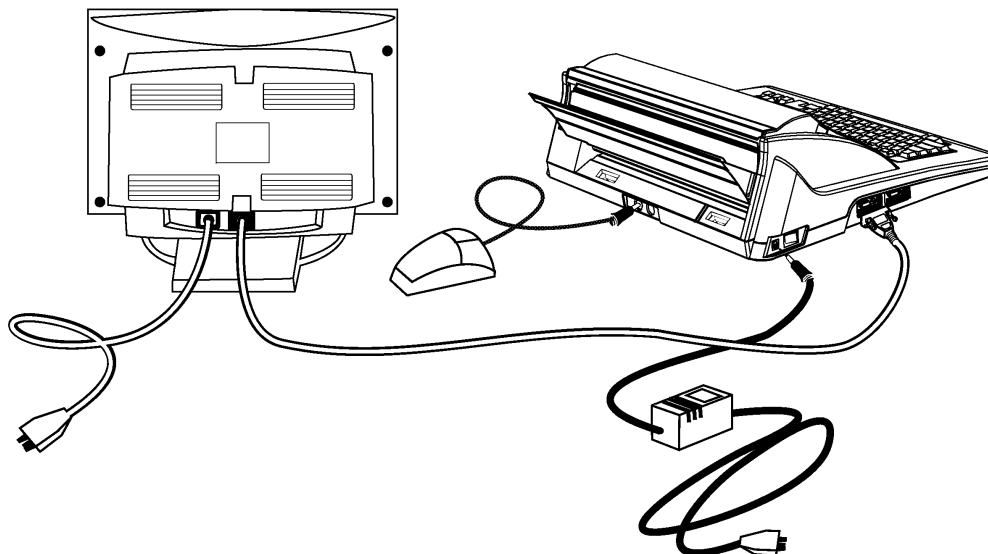
OR

For the PDP-300CJ or PDP-350CJ monitor, push down very firmly on the swivel base while sliding forward until the latch located at the bottom of the monitor clicks shut.



► To put the system together:

Before plugging the monitor or keyboard/printer into an AC electrical outlet, connect the monitor, mouse, and AC adaptor as shown below.



System Care & Maintenance



WARNING:

Do not try to take apart or repair this equipment yourself. Service should be performed by authorized Brother service personnel only. Warranty will be voided if you take the unit apart.



CAUTION:

Be sure to check the power rating of this product on the rating plate as well as the rating of your local power supply. Connect this machine only to a matching power supply and grounded AC outlet. Connecting this product to an incorrect voltage and frequency may interfere with its operation and damage electrical parts, and thereby void your manufacturer's warranty.

- In case of malfunction, immediately unplug the equipment and consult your dealer.
- Do not pull on the power cords. To disconnect, be sure to always grasp the plug itself.
- Avoid exposing the equipment to direct sunlight and other sources of heat, excessive moisture, or dust.
- If you spill liquid onto the equipment, immediately unplug it and consult your Brother Service Center.
- Do not use sprays in the vicinity of the Ensemble system. Aerosols are extremely harmful to the disk drive.
- Unplug the equipment during thunderstorms.
- Do not place heavy objects on the keyboard.
- Keep the back and sides clear of obstructions to prevent overheating.
- Use a soft, dry cloth to clean the equipment (don't use chemicals, solvents or detergents).
- To avoid electrical interference, do not place the Ensemble system close to a radio receiver or television. If the Ensemble system is close to a television set, the disk drive may not work properly and diskettes may be damaged.
- To avoid electrical interference, make sure that the disk drive opening on the Ensemble main unit is at least 8" from AC adaptor and 6" from monitor. Do not place AC adaptor beside or behind monitor.
- After turning the equipment OFF, wait at least 10 seconds before restarting. Failure to wait 10 seconds may disrupt the start-up sequence, resulting in faulty operation and possible hardware damage.
- Keep diskettes away from magnetic fields. Documents on the diskette can be damaged.
- Do not turn the Ensemble unit off while printing.
- Check that the ink-jet cartridge (under the top cover) has moved back to its right-most position before you turn the power off. If you notice that the cartridge has not moved to its right-most position, turn the power on again. The cartridge should now be correctly positioned and you can turn the power off.
- Never try to manually move the ink-jet cartridge from side to side while it is in the Ensemble printer.
- Do not use correction fluid on any paper you insert into the printer.

QUICK START

To become familiar with Word Processing in Ensemble, follow the steps on these three pages to create, save, and print a simple document.

Your Name
Your Address
Your Phone Number

Creating your document

For more information on creating and formatting a document, see page 28.

► **To enter the text:**

1. Turn on the keyboard/printer and the monitor.
2. When the Main Menu appears showing you the Ensemble applications, press the **ENTER** key. *Pressing **ENTER** at the Main Menu will automatically open Word Processing, the first icon on the menu.*
3. When the Word Processing screen appears with the blinking cursor, type your name and press **ENTER**.
4. Type your address and press **ENTER**.
5. Type your phone number.

► **To change the font and size:**

1. Press the **CODE** key and hold it down. Press the **/** key. Release both keys. *All your text has been selected.*
2. With the mouse, move the cursor to the button that says URW Roman. *The cursor will change into an arrow.*
3. Click once with the left mouse button while the arrow is over the button that says URW Roman. *A list of other fonts (or typefaces) will appear below URW Roman.*
4. Move the arrow with the mouse down to the URW Sans choice and click once. *Your typed text will now appear on screen in URW Sans font.*
5. Click once on the 12 button (to the right of the button that now reads URW Sans).
6. Click once on the number 18. *Your text size increases from 12 pts. to 18 pts.*

You can try out all the other fonts at this point if you like.

► **To center the text:**

1. With your text still selected (if it is not, repeat step 1 above), press **MENU + P**. (Press and hold the **MENU** key and press **P**.) *A list of menu choices will appear under the word "Paragraph."*
2. Press the **A** key. *A list of alignments appears.*



QUICK START

3. Press **CODE** + **E** to align your text in the center of the page.
4. Click the left mouse button once to remove the highlighting (“deselect”) the text.

You just created a document! If you save this document now, you can use it as letterhead later on when you want to write a letter.

Saving your document

For more information on saving a document, see page 33.

► **To save your document:**

1. Insert a diskette into the disk drive.
1. Press **MENU** + **F** to open the File menu.
2. Press the **S** key to Save.
3. When a gray box appears in the middle of the screen (the dialog box), move the arrow to the rectangular box beside New Name and click. *It will change into a cursor for text entry.*
4. Type in a name for your document. You might use “My Letterhead.”
5. Move the mouse to the Save button below the New Name box and click once with the left mouse button. *A screen message will tell you when your document is being saved.*

You just saved a document! If you want to print it, follow the directions on the next page.



QUICK START

Printing your document

For information on installing the ink-jet cartridge, see page 16. For more information on inserting paper, see page 9. For more information on printing, see page 46.

► **To print your document:**

1. Press the **PRINT** key on the top row of the keyboard.
2. Open the paper support on the back of the keyboard/printer, and place a sheet of 8.5" x 11" paper against the long, narrow guide mark. (This mark lines up with the 0" mark on the ruler on the top cover.)
3. Press the **PAPER INSERT** key on the top row of the keyboard. *The paper will move to the printing position.*
4. Press **P**. *A dialog box will appear telling you that your document is being printed.*
5. Press the **EXIT** key to return to the Main Menu.

Your Name
Your Address
Your Phone Number

You just created, saved, and printed an Ensemble document. Use the rest of this manual as a reference to continue to create all the documents that you need.

Inserting Paper

You have three ways to insert paper for printing:

- Manually, one sheet at a time from the paper support on the back of the Ensemble unit. (See below.)
- Manually, one sheet at a time from the front paper tray of the optional cut sheet feeder (page 14).
- Automatically, up to 30 sheets from the back paper tray with the optional cut sheet feeder (page 12).



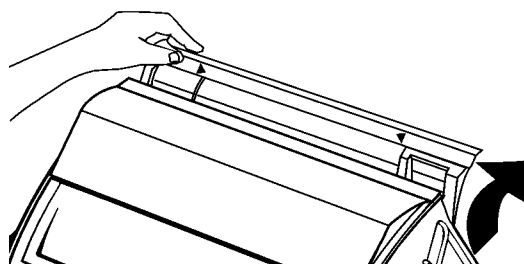
CAUTION:

Do not use the platen knob to insert paper. For proper paper insertion, you must use the PAPER INSERT key. The platen knob should only be used to remove jammed paper.



► To manually insert paper from the paper support:

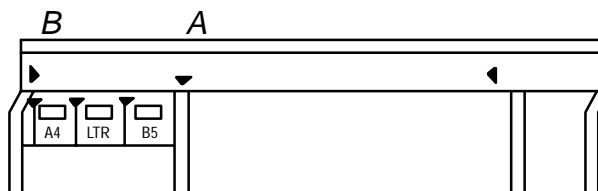
1. Turn on Ensemble and open the paper support.



2. Center and hold a sheet of paper in the paper support using the marks on the paper support. **If paper is 8.5" wide or less, align the paper with mark A.** If paper is wider than 8.5", use the alignment marks on the paper guide sticker. (See box at left for instructions on installing the sticker.) Alignment marks are provided for landscape printing with A4, Letter and B5 paper sizes. For A3 portrait positioning, use the A4 landscape mark. For B4 portrait positioning, use the B5 landscape mark. For any other paper widths greater than 8.5", estimate your paper alignment between points A and B.

To install the paper guide sticker:

1. Remove the adhesive backing from the strip. With the text facing you, hold the strip by the right edge.
2. Push the left edge of the strip up against the right side of the raised section that is point B.
3. With the edges butted together, gently push the adhesive strip onto the paper guide area.



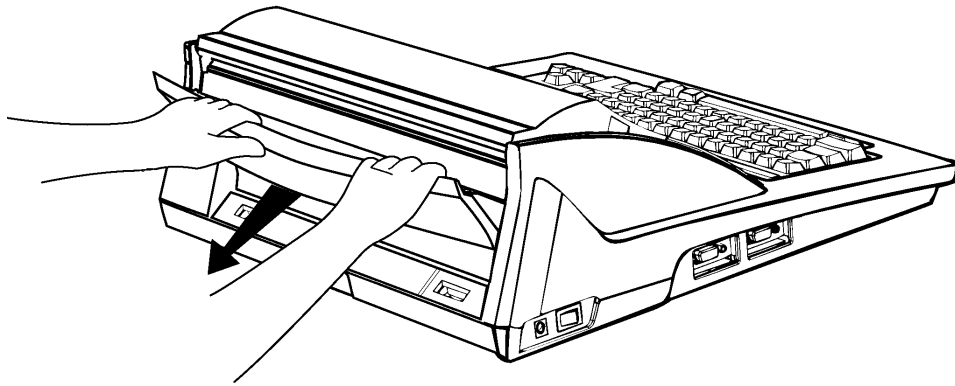
3. Press **PAPER INSERT** to automatically advance the paper to the printing position.
4. If paper appears to be crooked, press and hold **PAPER INSERT** to take the paper completely out, then reinsert it.

Optional CF-710 Cut Sheet Feeder

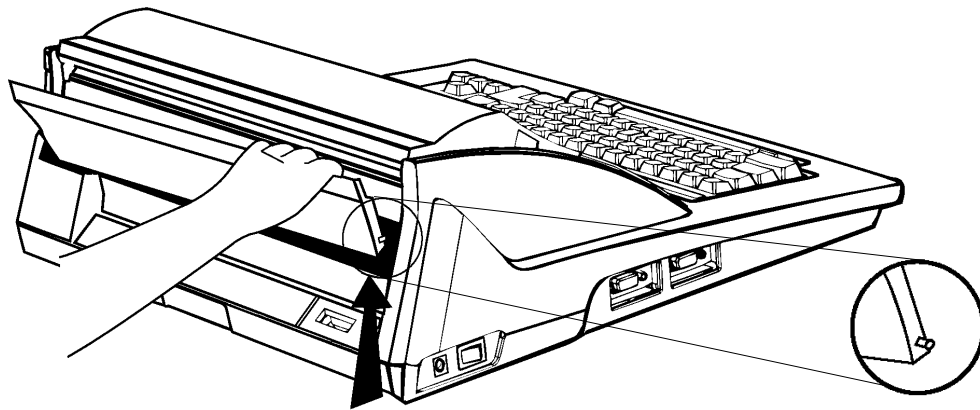
A CF-710 cut sheet feeder is available for your Ensemble Desktop Publishing System. The cut sheet feeder allows you to load up to 30 sheets of 16-24 lb. bond paper for automatic feeding.

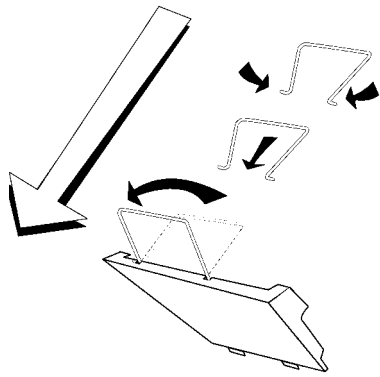
► **To install the cut sheet feeder:**

1. Turn off the Ensemble keyboard/printer and monitor. Turn the keyboard/printer unit around so that the back of it is facing you.
2. Flip open the paper support and slightly bend it in the center.

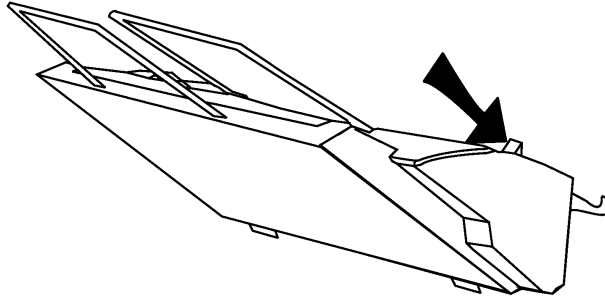


3. Carefully free the tab on one end of the paper support and then the other. Lift the paper support off of the back of the Ensemble unit.

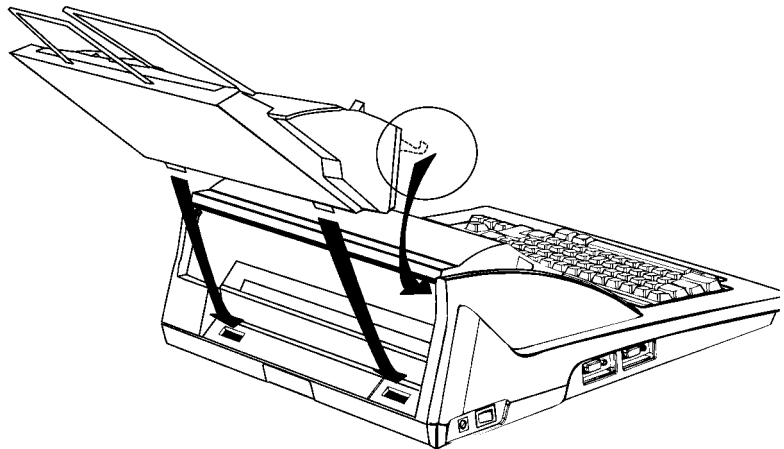




4. Insert the wire paper holders into the holes on the cut sheet feeder and then tilt them backwards.
5. Push down on the release button and hold it down while you gently position the two tabs over their slots on the back of Ensemble.



6. Slide tabs into slots and push down firmly until you hear or feel a click on the left side. Let go of the release button.



7. Test the fit of the cut sheet feeder by gently pulling the cut sheet feeder away from the unit. *It should remain firmly attached.*

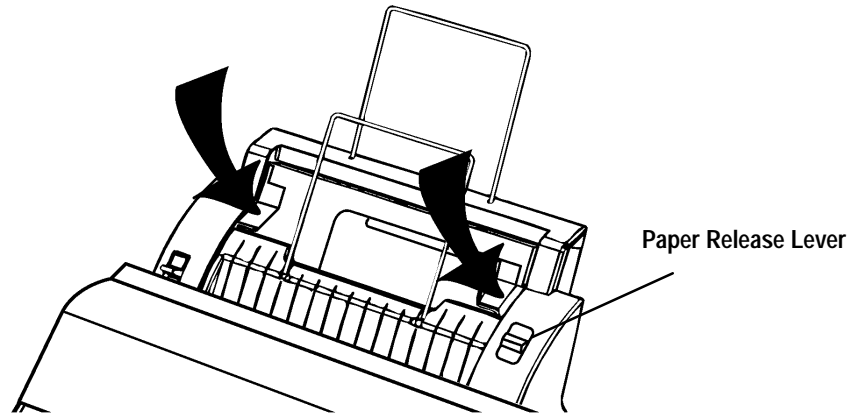
Automatic Paper Insertion (with Cut Sheet Feeder)

► To load paper into the cut sheet feeder:

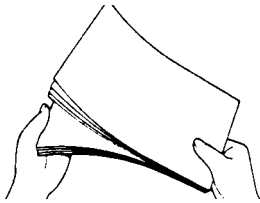
1. Push down on the tabs on both sides of the paper tray to move the paper release lever into the UP position.



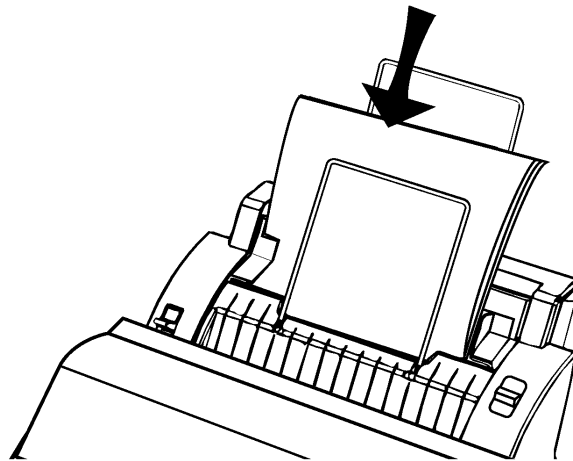
UP position DOWN position



2. Pick up no more than 30 sheets of 8-1/2" x 11" letter or A4-size (210 mm x 297 mm) paper.
3. Fan the paper before loading it.
4. Load the paper into the back paper tray.
5. Tap the edges of the paper stack to align the edges.



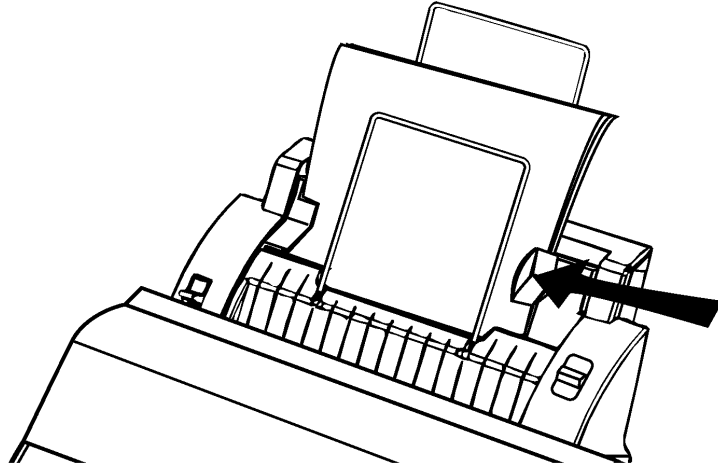
Paper recommendations: high quality bond, 16–24 lb.



The back paper tray of the cut sheet feeder is designed to handle 16–24 lb. bond 8.5" x 11" or A4 paper only. If you want to insert another weight or size, such as an envelope, use the front paper tray of the cut sheet feeder.

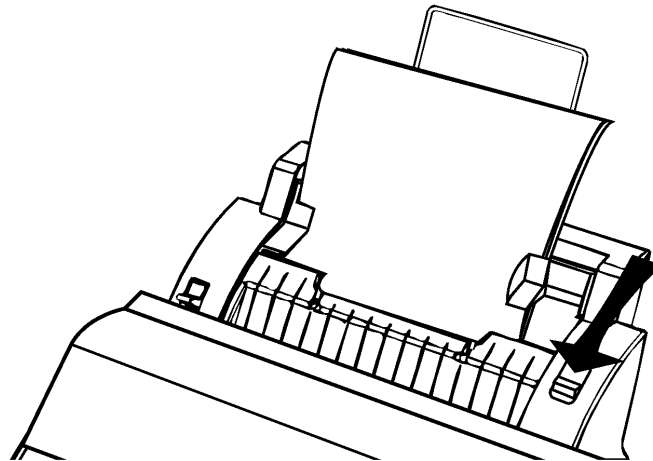
Paper will not insert properly if there is too much in the tray. Do not exceed the 30 sheet limit. Avoid using glossy or slick paper in the paper tray because it can cause paper jams.

6. Align the paper with the left tab and slide the right tab to the left until it almost touches the edge of the paper.



To manually insert single sheets of paper while the cut sheet feeder is attached, see next page.

7. Pull down on the paper release lever (on the right side of the paper feeder) to release the paper tray pressure plate so that the paper is held tightly against the rollers.



Manual Paper Insertion (with Cut Sheet Feeder)

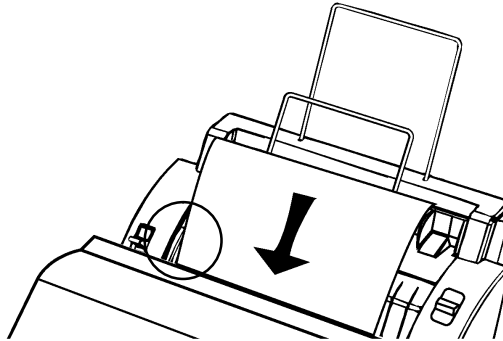
► To insert one sheet with the cut sheet feeder:

1. Remove all paper from the back paper slot of the cut sheet feeder.
2. Slide a sheet of paper into the tray in front of the front paper support. Slide the paper against the paper guide on the left.



CAUTION:

Do not use the platen knob to insert paper. For proper paper insertion, you must use the PAPER INSERT key. The platen knob should only be used to remove jammed paper.

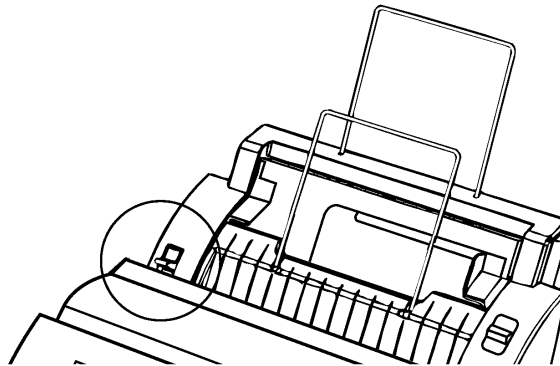


3. Press **PAPER INSERT** key. Do not use the platen knob to insert or adjust paper.

Removing the Cut Sheet Feeder

► To remove the cut sheet feeder:

1. Turn the Ensemble system off.
2. Push down on the cut sheet feeder release button.

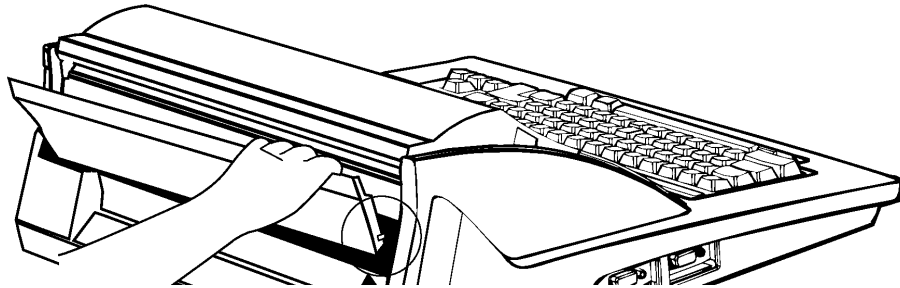


3. Lift up on the back of the cut sheet feeder and pull firmly while slightly tilting toward the keyboard.
4. Slide the feeder out of the Ensemble unit.
5. Reinstall the paper support and turn the Ensemble system on.

Reinstalling the Paper Support

► ***To reinstall the paper support:***

1. Bending the paper support slightly in the center, carefully insert one of the pins on the paper support into the hole on the back of the Ensemble unit.



2. Keeping the paper support bent, insert the other end into the other hole.
3. Turn Ensemble on and wait for the Main Menu to appear.

Ink-Jet Cartridge

Ink-jet Cartridge Precautions



Ensemble color models will print much faster with the black ink-jet cartridge rather than the color cartridge. Therefore, you will want to use black for all your printing except when you want color. Ensemble can detect whether you are using black or color ink; you do not need to change any settings when you change cartridges.

Ensemble uses a replaceable ink-jet cartridge that contains both the print head and ink. This cartridge will need to be replaced after approximately 1,000,000 characters (estimated using normal text in 12 point URW Roman font).

WARNING:

Keep new and used cartridges out of reach of children. Avoid contact between cartridge and face, eyes, skin, and clothing.

Follow these precautions for maximum life of your ink-jet cartridges:

- To prevent a cartridge from drying out, never open the sealed pack until you are ready to install the cartridge.
- Install the cartridge immediately after you remove the tape from it. If you set the cartridge aside for an extended period of time, the cartridge head may dry out. For models PDP-300CJ and PDP-350CJ, store the used ink cartridge in the storage box provided.
- The bottom of the cartridge is covered with wet ink. Never touch the bottom of the cartridge, and never let it touch any other surface.
- To prevent leakage, do not shake the cartridge after it has been removed from its pack.
- Do not expose cartridges to direct sunlight. Store them at a temperature lower than 40°C (104°F).
- We recommend that you use cartridges within one year of installation to assure high print quality.
- To transport Ensemble by air, take out the ink cartridge and install a new one at your destination.

Installing or Replacing an Ink-jet Cartridge

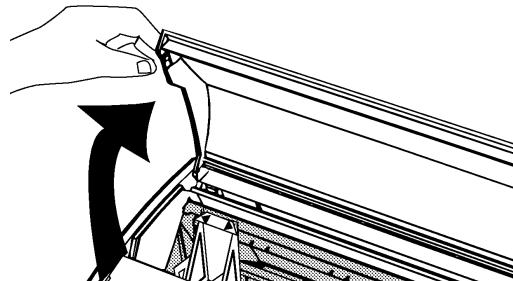


CAUTION:

Do not take out the ink-jet cartridge unless it has been moved to the left side by the INK CHG key. To do so may cause ink to leak from the cartridge. You have 5 minutes to install or change the ink-jet cartridge before the bracket automatically returns to the right hand position. In this case, return to step 3.

► **To install or replace an ink-jet cartridge:**

1. Open the paper support.
2. Open the top cover by pushing in firmly on the two slots on the sides.



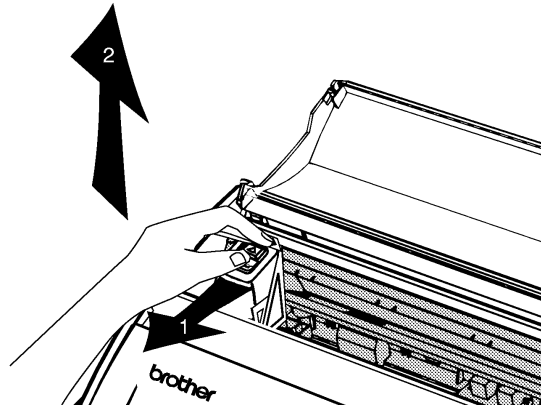
3. Press the **INK CHG** key. The cartridge moves to its ink change position on the far left of the carriage. Do not move the cartridge manually from side to side.

4. If you are installing a cartridge into a new system, go to step 5.

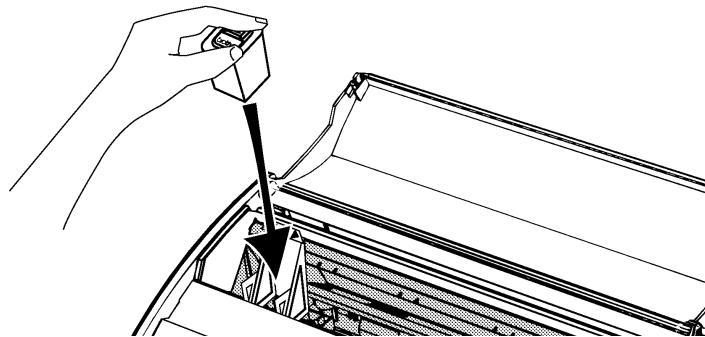
If you are replacing a used ink-jet cartridge: (1) Pull forward on the top of the ink cartridge until it pops out from under the latch. (2) Then pull the cartridge straight up. **To avoid getting ink on your hands, do not touch the bottom of the cartridge.** Dispose of the cartridge immediately or set it aside in a storage case.

Alternate method of ink-jet cartridge removal:

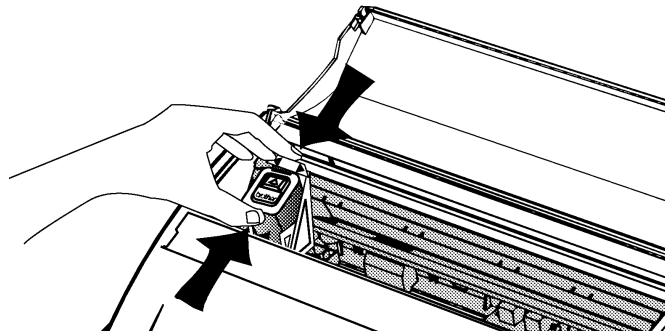
Pull up on the latch that holds the ink-jet cartridge in place and pull the cartridge toward you and then up.



5. Tear open the ink-jet cartridge pack and remove the new cartridge.
6. Carefully remove the protection tape before installing. Do not shake the ink-jet cartridge after the protection tape is removed.
7. Slide the cartridge into the cartridge bracket.



8. Push the cartridge down and backward, squeezing the latch and cartridge together until the cartridge clicks and locks under the latch.



9. Press **ENTER** and close the top cover. *The ink cartridge is ready to use. You will not be able to print if the cartridge is not correctly installed.*

Cleaning the Print Head

From time to time, you may need to clean the print head. You should clean the print head when the ink on the page looks splotchy or messy or when blank spaces appear on the page.

► To clean the print head:

Press **CODE + INK CHG**. The print head will move slightly to the left and then back to the right.

Cleaning the Print Cartridge Nozzles, Contacts, and Bracket Contacts

Do not use a paper towel for cleaning because it can leave tiny fibers that can clog nozzles and cover electrical contacts.

► To clean the ink-jet cartridge nozzles and contacts:

1. If print quality does not improve after cleaning the print head, remove the ink-jet cartridge (see instructions on page 16).
2. Gently clean the entire copper-colored area, including the nozzles and contacts, with a clean cloth, dampened with water only.
To dissolve any dried ink, hold the damp cloth against the nozzles for about three seconds. Gently blot and wipe dry.
3. Allow the copper-colored area to dry thoroughly.
4. Reinstall the ink-jet cartridge and press **ENTER**. Then press **CODE + INK CHG** and close the cover.

► To clean the bracket contacts in the printer:

1. If print quality does not improve after cleaning the print head, ink-jet nozzles and contacts, press **INK CHG** to move the ink-jet cartridge bracket to the left side of the carriage.
2. Turn the power switch off.
3. Remove the ink-jet cartridges. (See page 16.)
4. Use a clean, dry cloth to clean the gold-colored contacts on the inside of the ink-jet cartridge bracket.
5. Install the ink-jet cartridge.
6. Turn the power switch on.
7. Press **CODE + INK CHG** and close the cover. If print quality has not improved after this cleaning process, replace your ink-jet cartridge. If print quality still does not improve, your printer may require service. Contact your local authorized Brother Service Center.

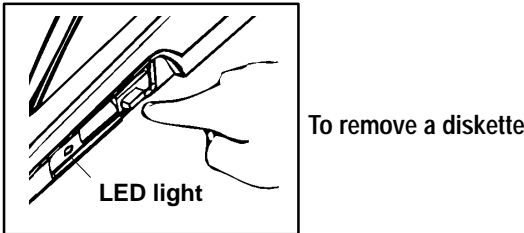
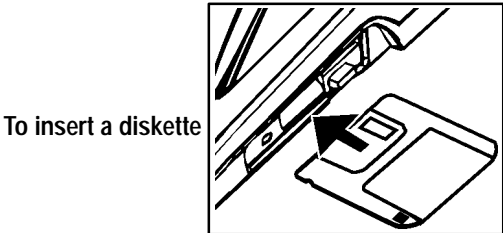
Diskettes



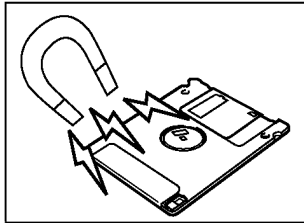
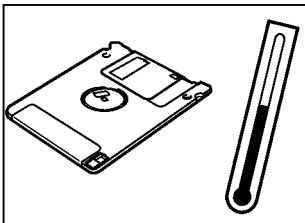
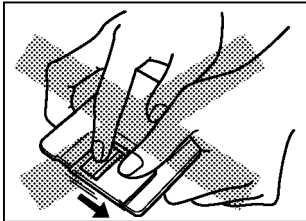
CAUTION:
The diskette may be inserted and removed when the power is either on or off. However, you should never insert or remove it while the LED light is on.

Diskettes (floppy disks) are used for storing the documents that you create. They can also contain application programs and files such as clip art for copying and pasting into your documents. Handle them with care and observe the following:

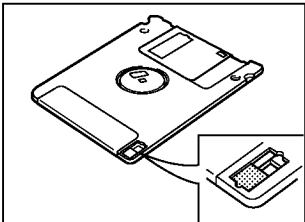
- We recommend that you buy 1.44 Mb double side/high density diskettes that are already IBM-formatted. These diskettes are ready for use and hold more information than double density diskettes. (If you use unformatted diskettes, see next chapter, "File Manager" for disk formatting.)
- Never open the shutter of the diskette.
- Never touch the surface of the material inside of the diskette.
- To remove the diskette, press the button on the disk drive.



- Never expose the diskette to extremely high or low temperatures or magnetic fields such as can be found near a television or on top of your monitor.



- The diskettes have a switch that protects their contents from accidental erasure. In the READ ONLY position (moving the switch leaves a hole in the diskette cover that you can see through), a diskette can be "read" but not altered in any way. In the WRITE position, the diskette can be used for saving or changing documents.

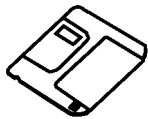


Starting the Tutorial and the Demonstration

If you are new to the “window and mouse” type of operating system, the tutorial will be especially helpful. It consists of these topics:

- System overview
- Using the mouse (pointer movement, clicking, dragging & dropping)
- Using windows (icons, menus)
- Using dialog boxes
- Working with documents
- Using the File Manager application (for formatting/copying diskettes, naming and moving files)

You can complete the tutorial in less than one hour, or you can save your progress at any point and come back to it later.



Tutorial

► **To start the Tutorial:**

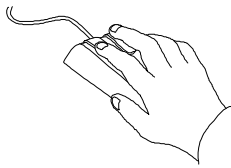
1. Turn on the keyboard/printer and monitor.
2. Insert Diskette 1 (the diskette containing the tutorial) into the disk drive on the right side of your machine.
3. When the Main Menu screen appears, press **CODE + T**.
4. Follow the directions on the screen.
 - To **continue** to the next screen, press **ENTER**.
 - To go to the **previous screen**, press **MENU + G**.
 - To **save your place and stop**, press **MENU + S**.
 - To **begin at the point where you saved your place**, press **MENU + R**.
 - To **exit** the tutorial and go to the Main Menu without saving, press **EXIT**.

The demonstration program (“demo”) provides a quick overview of your system.








► **To see the Demonstration:**

1. Insert Diskette 1 (the diskette containing the demonstration) into the disk drive.
2. From the Main Menu, hold down the **CODE** key and press **D**. Release both keys. *The demo will start and run about four minutes.*
3. Press **EXIT** to return to the Main Menu.

Using the Mouse



As you move the mouse, the pointer moves on the screen. Its shape changes as explained in the box below.

MOUSE POINTER SHAPES	
	The arrow pointer is the standard mouse pointer.
	The hourglass pointer appears when the system is busy. You must wait until it disappears before you can take further action.
	The I-beam pointer indicates that you can type or edit text. You can also use it to select text and to choose where the text you type appears.
	The do-not pointer indicates that the pointer is not in an area of the screen where you can take any action.
	The help pointer appears in system online help. The pointer indicates that you can jump to the section of help text shown by the pointer. See "Using Help."
	The drag pointer shows that you are moving text or graphics.
	The copy pointer shows that you are copying and moving text.

In any application, you can perform tasks by using either the mouse or the keyboard. Most tasks, such as selecting, moving, opening, and copying, are much easier when you use a mouse.

► To hold the mouse:

1. Put the mouse down on the table with its buttons facing up and the mouse cable extending from the top of the mouse toward the back of the unit.
2. Hold the mouse by the sides with your thumb and little finger, and lightly rest your index finger on the left mouse button.

► To point (select) with the mouse:

Slide the mouse on your desktop until its corresponding pointer is located where you want it on the screen: in a text area, on a choice in a menu, in a graphic frame, or on a window button. These are the types of actions you can perform with the mouse:

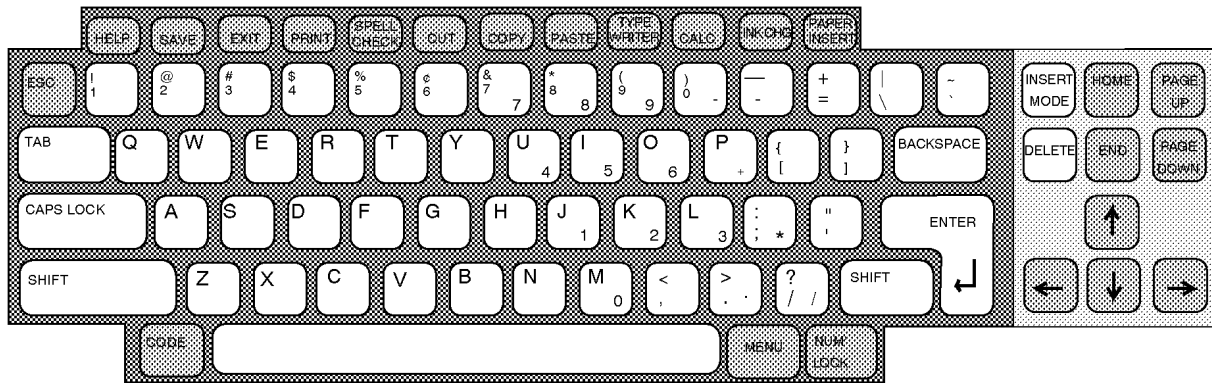
- **Clicking** is pressing and releasing a button on the mouse. In this manual, when you see the word "click," click the left mouse button. When you see the word "right-click," click the right mouse button. Most functions are performed using the left mouse button.
- **Double-clicking** is quickly pressing and releasing the left mouse button twice. Double-clicking opens and closes items and starts applications; it also selects a whole word when working with text. It is important to hold the mouse steady and click quickly when you are double-clicking.
- **Dragging** means pointing to something and then pressing and holding down the mouse button as you move the mouse. Dragging is used to move, resize, and scroll windows, to select a range of text, and to move cards in the Solitaire game. Dragging is also one way to browse through menus and make menu choices. You can use dragging to copy items also.

Using the Keyboard

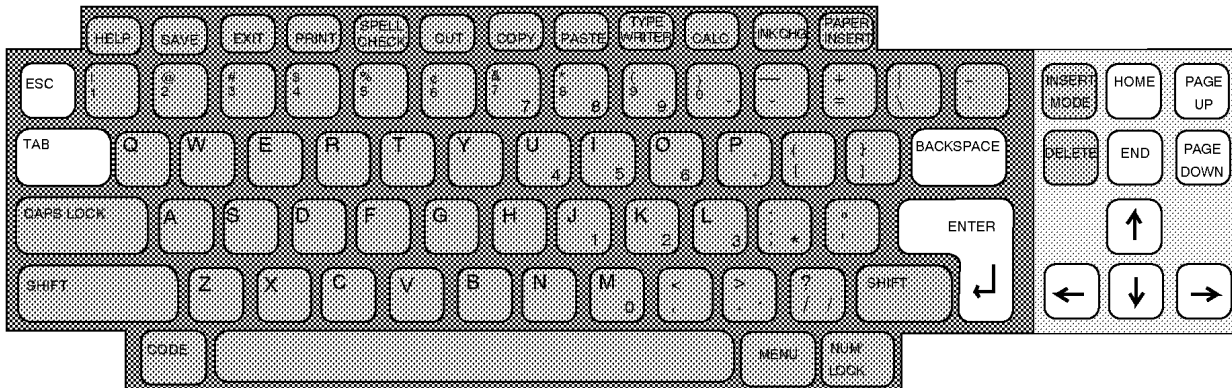
In any application, you can perform tasks by using either the mouse or the keyboard. Most tasks, such as selecting, moving, opening, and copying, are much easier when you use a mouse.

Ensemble has three types of keys: *character keys*, *navigation keys*, and *function keys*. *Character keys* are used to type the actual text. *Navigation keys* move the insertion point around on the screen or scroll the document in the window. *Function keys*, across the top of the keyboard, and *Control Keys*, used in combination with another key, are used to quickly perform tasks such as copying, pasting, and selecting.

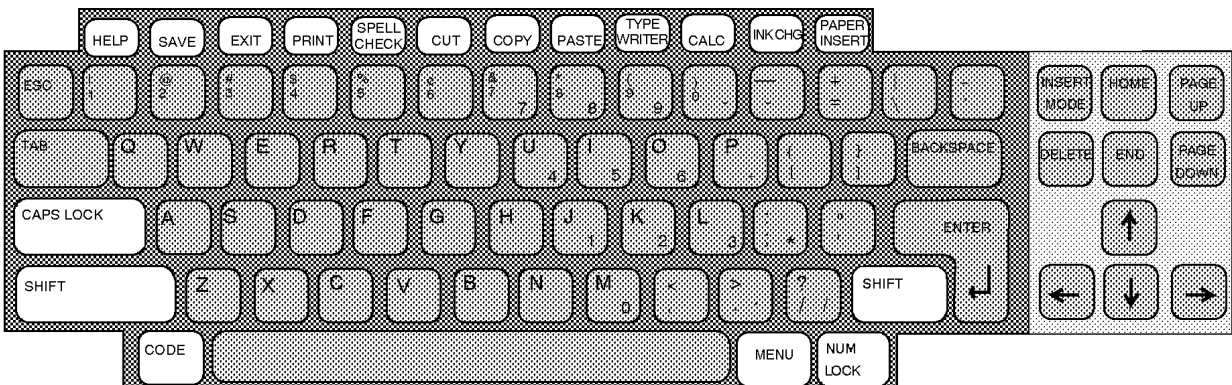
Character Keys









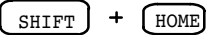
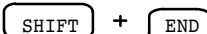
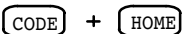
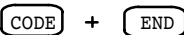
Navigation Keys















Function and Control Keys



NAVIGATION KEY USES Use these for quickly moving around in your documents.

Keyboard Symbols	Name	Purpose
	TAB	Moves the insertion point to the next tab stop.
	ARROW KEYS	Moves the insertion point in the direction indicated.
	SPACE BAR	Advances the insertion point one space (character width).
	HOME	Moves the insertion point to the beginning of the line.
	END	Moves the insertion point to the end of the line.
	PAGE UP/ PAGE DOWN	Moves the document one screen in the given direction.
	SHIFT + HOME	Highlights from the insertion point to the beginning of the line.
	SHIFT + END	Highlights from the insertion point to the end of the line.
	CODE + HOME	Moves the insertion point to the top of the screen.
	CODE + END	Moves the insertion point to the bottom of the screen.

FUNCTION KEY USES Use these as quick shortcuts.

Keyboard Symbols	Name	Purpose
	HELP	Opens the help screen for quick answers to system questions.
	SAVE	Saves your most recent work on diskette.
	EXIT	Takes you out of the application.
	PRINT	Opens the Print dialog box for printing your artwork, document, spreadsheet, etc.
	SPELL CHECK	Begins the spelling checker.
	CUT	Eliminates items such as graphics or text from your document and places them on the clipboard.
	COPY	Makes a copy of selected item which is stored in clipboard.
	PASTE	Pastes a copy of an item that had been copied or cut from a document at the insertion point in the current document.
	TYPE WRITER	Opens the Typewriter application.
	CALC	Opens the on-screen calculator.
	INK CHG	Moves the ink-jet cartridge to the ink change position.
	PAPER INSERT	Inserts paper into the platen, ready for printing.

On-screen Keyboard

In any application in which you can enter text, you can display the *On-screen Keyboard* to create characters and symbols that are not shown on the standard keyboard. For each font available from the document tool bar, there are several symbol and character layouts that can be displayed in the On-Screen Keyboard, and then inserted into the text of a document.


The On-screen Keyboard will stay open until you close it, even if you switch to another application. It will also disappear temporarily when the cursor is not present. It will reappear when you are entering text.

► **To display the On-screen Keyboard:**

Click on the **SYM** button at the lower right corner of the window. *The Symbol keyboard appears in the font you are using.* Click on a key with the mouse, and the character appears in your document.

OR

Click on the Symbols box at the top to see another keyboard in the font you have chosen.

	Font: URW Roman						Symbols = ?					
@	^	~	#	[]	{	}	()	%	\$	¢
`	“	”	’	’	,	„	<<	>>	f	£	¥	¤
/	\	_	...	†	‡	§	•	¶	·	*	¿	¡
·	˘	ˆ	¨	˜	-	˘	˙	˚	˛	˜	˜	˜
1	2	3	4	5	6	7	8	9	0	®	©	™

► **To move the On-screen Keyboard:**

Click on the empty button to the left of the Symbols box and drag the keyboard.

► **To close the On-screen Keyboard:**

Click on the box in the top left corner.

Preferences

Before you begin using Ensemble, you should first set the system Preferences, such as the date and time of the built-in clock. Once you set the correct time and date, Ensemble will keep the correct time and date for you each time you start Ensemble. Your on-screen clock will always have the correct time, and you will be able to find out the exact time and date each document was created (part of "file information").



You should open Preferences and set the correct time and date before going further. Then, whenever you create a document, the time and date you saved it will be saved with the file information.

Document Safeguarding (in the Look & Feel dialog box) is covered later in this chapter in "Beyond the Basics," page 51.

*Once you set or change settings and apply them, they remain in effect until changed or reset to defaults by pressing **CODE + MENU + SHIFT + HELP**.*

Experiment with all the settings until you create the working environment most comfortable for you.

- **Date & Time** turns the on-screen clock ON or OFF and sets the current date and time.
- **Lights Out** gives you 3 "screen saver" options. A screen saver is an image that appears when you have not moved the mouse or pressed the keyboard for a period of time that you set (1-30 min.). To see your original screen, just move the mouse or press **SPACEBAR**.
- **Look & Feel** sets options that control the background design and name of the Main Menu.
- **Modem** installs and configures a modem (if available).
- **Sound** turns on or off the sound for errors.

► **To set or change Preferences:**

1. Click the Preferences icon on the Main Menu. *The Preferences menu appears.*
2. Click on the desired feature, such as Date & Time. *A dialog box for that feature opens.*
3. Set the options as required in the dialog box and close it by clicking on OK. If you want to go back to the way the settings were before you changed them, click on Reset.
4. At the top of the Preferences menu screen, click on File. *A submenu appears.*
5. From the submenu, click on Exit to return to the Main Menu or press **EXIT**.
6. To return all settings to the original Ensemble settings, press **CODE + MENU + SHIFT + HELP** while at the Main Menu screen.

Getting To Know the Applications

What is an Application? An *application* is a program that contains everything you need to perform a group of tasks. For example, the Word Processing application contains all the tools you need to create a document with text and graphics. These are the Ensemble applications built into your system and provided on the diskettes.

Main Menu:



Word Processing creates, edits, and prints documents such as memos, letters, and reports.



Spreadsheet creates and edits spreadsheets, performs calculations, and creates charts.



Drawing creates graphics by drawing and painting, or by importing and editing.



File Manager opens, copies, and deletes files; formats diskettes; opens applications on diskette.



Addressbook stores names, addresses and other information for reference or for mailing labels.



Planner schedules appointments on a perpetual calendar.



Desktop Reference checks spelling and gives you synonyms.



Scrapbook temporarily stores a drawing or piece of text.



Book Reader opens books on screen for you to find information.



Typewriter functions like an electronic typewriter.



Calculator performs math calculations.



Turnabout is a strategy game.



Preferences customizes the system settings such as date and time.

On Diskettes:

Diskette 1

- **Tutorial** will help you get started.
- **Zip Codes and Area Codes** books for Book Reader
- **Demo** summarizes Ensemble features.

Diskette 3

- **Clip Art** gives you artwork that you can place in your documents.

Diskette 2

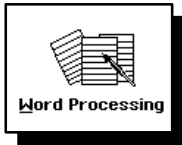
- **Text File Editor** allows you to work with DOS files.
- **Communication** allows you to use an optional modem to send data.
- **Solitaire** is a card game.
- **Import/export libraries** allow you to import and export files from other sources.
- **Templates** are forms you can use to simplify document creation.

Starting and Exiting Applications

You can start an application by opening it directly from the Main Menu.

OR

You can start an application by opening a document from the File Manager.



► **To start an application from its icon on the Main Menu:**

Locate the icon representing the application you want to start on the Main Menu and click on it. *The application opens in a window on your screen and is ready for use.*

OR

Locate the icon and press the key that corresponds to the underlined letter in the name of the application.



my letter

You cannot open two documents simultaneously from File Manager. Open one first, then the other from within the application.

► **To start an application by opening a document:**

1. Insert a diskette containing the document, and open the File Manager.
2. Locate the icon representing the document you want to open, and double-click on it. *The application starts and automatically opens the document.*

OR

Click to select the icon of the document you want to open; then choose Open from the File menu.

With whichever method you use, the application opens with the selected document ready for use.

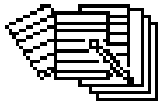
► **To exit an application while in a document:**

1. Click File on the menu bar. *The File submenu appears.*
2. Click Exit from the File menu (or press the **EXIT** key on the function key row). *If you made any changes, a message appears asking you to save the document.*

► **To exit an application from the New/Open Dialog Box:**

Press the **EXIT** key on the keyboard.

All About Documents



letter

A *document*, also called a “file,” is a holding place for information. For example, you can use a Planner document to track your appointments. In File Manager, documents on diskette appear as icons like the Word Processing document icon at left.

Creating and Opening Documents

In the world of electronic publishing, a “file” is usually a saved document. A “folder” is the place where files are stored.

Creating a new document is like starting with a blank piece of paper or an empty address book or day planner. You can create new documents whenever the need arises. Once you have created documents and saved them, you can open them, change them, and save them again.

Be sure to define your document (using Page Size and Page Setup) according to the size of the paper, envelope, label, or transparency that you are going to print. You will be able to create your document more accurately and your document will print correctly.

The new document is named “Untitled.” You will need to give it a name when you save it. See “Saving Documents,” page 33, in this chapter for more information on saving documents.

► To create a new document:

1. Click on the Word Processing, Spreadsheet, or Drawing icon on the Main Menu. *An empty document window appears.*

OR

If you have a document open, choose Close from the File menu. (If you have unsaved changes in the current document, you will be asked if you want to save or discard them.) *The New/Open dialog box appears.*

2. Click on the New button at the bottom of the New/Open dialog box. *A new document appears.*

► To define the page:

1. Choose Page Size from the File menu. *The Page Size dialog box appears.*
2. Click on the button for the type of document that you will create. If you are creating a transparency, click on Paper in this dialog box.
3. Sliding the button between the arrows, click on the document size. *Notice that the dimensions will change automatically in the Width and Height boxes.*

OR

If you want to create a custom size document, enter the dimensions in Width and Height.

4. Highlight the Page Orientation that you wish to use for creating your document. You can choose between portrait (height greater than width) or landscape (width greater than height).
5. Click Apply and then click Close. *The page on the screen has the desired dimensions and layout.*

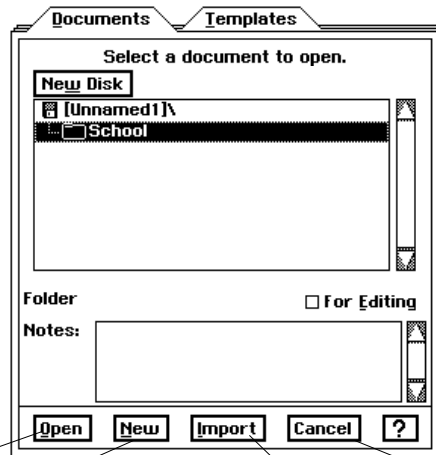
For Word Processing, the default set-up is 8.5" x 11" with 1 inch margins. If your document will have other dimensions or margins (envelope, etc.), you must set up the page to reflect the size so that it will print properly.

You can have different margins for each page in Word Processing. See Page Setup in Word Processing, page 74.

You can size a page up to 45" x 45". To print this page, select Print Actual Size when asked whether you want to scale the document or print its actual size. You will then need to insert as many sheets of paper as required in the printer and tape the pages together when finished.

The New/Open dialog box

Once you have opened the New/Open dialog box, you will not be able to do anything in the application until you first make a selection. (The arrow pointer changes to the “do-not” pointer if moved *outside* the dialog box.)



Open. Click here to open the document selected.

New. Click here to create a new document.

Import. Click here to create a new document by reading in a document created in another application, such as a DOS application from a computer. This button is not present in Drawing.

Exit or Cancel. Click here to exit any application or cancel the opening of a second document in Word Processing, Spreadsheet, or Drawing.

► To open an existing document:

1. Insert the diskette that contains the document you want to open.
2. From the Main Menu, open the application in which you created the document.
3. From the File menu, select New/Open. *The New/Open dialog box appears.*
4. Double-click on the folder icon containing the document you wish to open.
5. Click the name of the document you want to open. *If the document has document notes, they appear in the Notes field.*
6. Double-click the name or icon to open the document. *The dialog box closes and the selected document appears.*

Double-click the name to open it immediately.

Document Notes are explained later in this chapter in “Beyond the Basics.”

► To open a document by its icon:

From the File Manager, locate the icon representing the document you want to open and double-click it. *The application starts and automatically opens the document.*

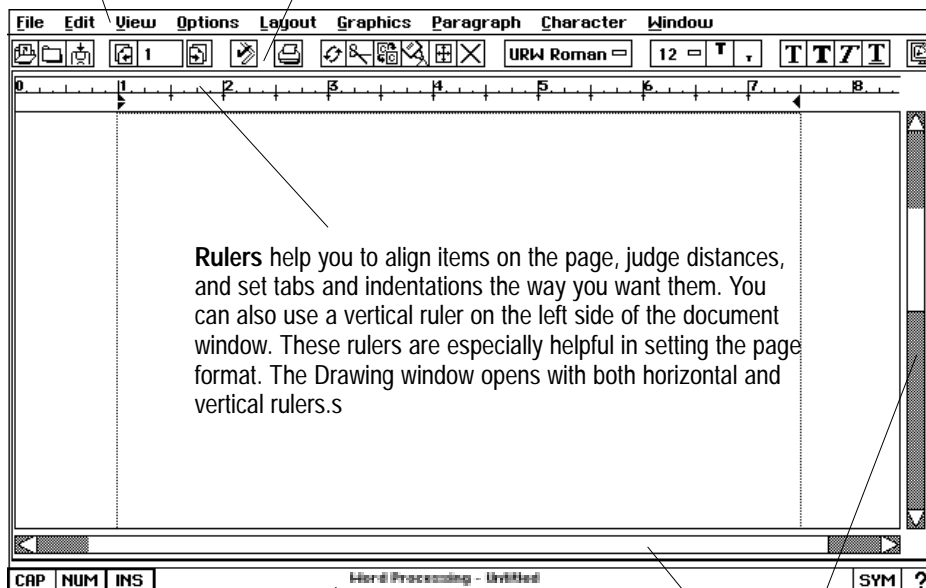
What You Will See in a Document Window

Word Processing, Spreadsheet, and Drawing all use variations of the document window shown below.

Menu Bar contains the names of all the menu items available for that application. You can make menu choices with the mouse or with the keyboard (**MENU** + the first letter of the menu item name).

The **Basic Functions tool bar** appears in the Word Processing and Spreadsheet windows. It has a series of symbols for common operations, such as save, print, copy, etc. Word Processing and Spreadsheet also have an Advanced Functions tool bar. You can find these tool bars in the Options menu, Show Tools submenu.

Tool bars for drawing can be used in Drawing, Word Processing, and Spreadsheet. The Drawing, Word Processing, and Spreadsheet applications have both horizontal and vertical rows of drawing tools. To use a particular feature or function, click on its button and the button is selected (its color changes). In Drawing, when you click to select an item on the vertical tool bar, it opens an extended menu row of choices.



Rulers help you to align items on the page, judge distances, and set tabs and indentations the way you want them. You can also use a vertical ruler on the left side of the document window. These rulers are especially helpful in setting the page format. The Drawing window opens with both horizontal and vertical rulers.

Title Bar shows you the application you are in and the name of the open document. This document has not been named yet.

Scroll Bars help you to move a document around in the window, and do not affect the location of the cursor.

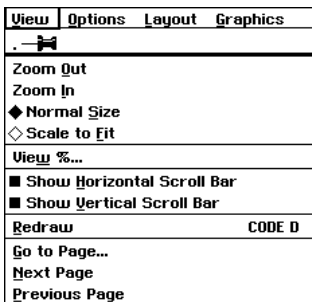
Changing Your View of a Document Window

The View menu provides choices for changing the way you view a document in a window.

When you open a document, it appears at normal size, the size of the printed document. When you want to see more of your document at once, you will **zoom out**. If you want to make your document look larger, so that you can see details more clearly, you will **zoom in**. Zooming in is like putting a magnifying glass over a small portion of the document.

► To Zoom In or Zoom Out on a document:

1. To *enlarge* the size of a page so that you can see more details, choose Zoom In from the View menu.
2. To *reduce* the size of a page so that you can see more of it, choose Zoom Out from the View menu.
3. To return to normal size, choose Normal Size from the View menu. (Normal size is 100% of the view.)



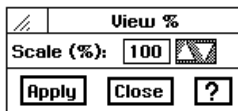
Use scale to fit when you want to see an entire page in the window at once.

► To scale a document to fit the window:

Choose Scale to Fit from the View menu. *The view percentage changes, shrinking the document so that an entire page fits in the window at once, if it can.*

► To change the document viewing percentage:

1. Choose View at % from the View menu. *The View % dialog box appears.*
2. Type a number (depending on the application, you have different minimum and maximum values), or use the arrow buttons to change the value in the View (%) box. Click Apply. *The percentage you specify is applied to the document, and the View % dialog box remains open so that you can experiment with other values. When you have selected the value you want, click Close to close the dialog box.*



Scroll Bars

Since the scroll bars take up space in your document window, you may want to hide them to have more space to work in.

► To show or hide the horizontal or the vertical scroll bars:

Select or deselect Show Scroll Bar, as desired, from the View menu.

Redraw



You may need to **redraw** the screen when you notice that the appearance of some items on the screen change after you change another item. This is because it can take a while for the application to redraw every component on a complicated page. Often, applications redraw only some of the components to save time. If you need complete accuracy, however, use the Redraw choice to force the application to take the time to redraw every component of your page.

► To redraw the screen:

Choose Redraw from the View menu or click on the Redraw icon on the tool bar. *The document redraws, updating the accuracy of any complicated text and graphics on the page.*

View	Options	Layout	Graphics
. —			
Zoom Out			
Zoom In			
◆ Normal Size			
◇ Scale to Fit			
View %...			
■ Show Horizontal Scroll Bar			
■ Show Vertical Scroll Bar			
Redraw		CODE D	
Go to Page...			
Next Page			
Previous Page			

Showing Rulers

You can display the measuring rulers in various units: inches, centimeters, points, or picas. Spreadsheet has a special ruler that does not normally show measurements. Instead it shows the numbers and letters that correspond to the rows and columns.

► To turn rulers on or off:

1. Choose Rulers from the Options menu. *The Rulers submenu appears.*
2. In a Word Processing or Drawing document, choose Show Vertical Rulers or Show Horizontal Rulers to turn the corresponding ruler on or off. (These two choices work independently.)

OR

1. In a Spreadsheet document, choose Rulers from the Options menu. *The Rulers submenu appears.*
2. Choose Show Rulers. *The special Spreadsheet rulers appear.*

Changing Ruler Measurement Units

In Drawing, the Show Rulers and Measuring Units selections are on the same submenu.

In a Spreadsheet document, the Show Rulers, special Spreadsheet ruler, and Measurement Unit selections are on the same submenu.

► To change the ruler type or measuring units:

1. Choose Rulers from the Options menu. *The Rulers submenu appears.*
2. In a Word Processing document, choose Ruler Units. A submenu appears, listing the following types of measurement units:
 - Inches
 - Centimeters
 - Points
 - Picas
3. Choose the type of measuring unit you want. *The rulers change to represent the new measurement unit.*

Saving Documents

Should you forget to save your document, applications have a safeguarding feature that protects you from losing changes before you've had a chance to save them. For more information, see "Safeguarding a Document" in the *Beyond the Basics* section of this chapter, page 55.

After you have saved a document, the Save option on the submenu will change to gray. If you make more changes to your document, the Save option will again appear in black.

Colons (:), backslashes (\), asterisks (*), and question marks (?) are **not** permitted in the names of documents.

You should save your documents periodically as you work on them. It is also good practice to save a document before you print it, before you make a significant change to it, and as soon as you have finished any work you would not want to redo.

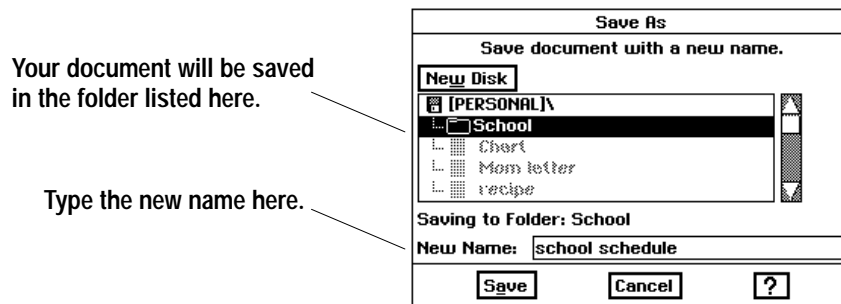
When the file that you are working in becomes too large, Ensemble will let you know by asking you to save your document or informing you that the system memory is filling up.

To avoid losing any of your work, immediately save the file you are working on and open a new file. For example, if you are working in the file "Aug. report" and the Memory Full dialog box appears, save the document at the end of the page or erase to the end of the previous page. Save the document as "Aug. report1" and open a new document that you save as "Aug. report2."

When you create a new document it is temporarily called "Untitled." To save it, you must give it a name. There are some rules to follow when you name a document. The name can be up to 32 characters long, and may contain both upper- and lower-case characters. For example, you could name a document "John's Birthday Card" or "Seating Chart for Class 12/4/93." Each space or character you type (by pressing the **SPACEBAR**) counts as one character.

► To save a new document:

1. Choose Save As from the File menu. *The Save As dialog box appears with a New Name text entry box.*



2. Highlight the folder where you would like to place the document.
3. Type a document name in the New Name text entry box. *The best way to name a document is to describe its contents so that you can recognize the document by its name. For example, a letter you write to your friend Karen might be named "Karen 1/11/96." A Christmas card you designed might be named "Christmas Card 1996."*
4. Click Save to save the document using its new name. *You return to the open document, and its name appears in the title bar.*

► **To save changes to a document that already has a name:**

Choose Save from the File menu. *Any changes you have made are saved, and you are immediately returned to the open document.* (If the Save choice is dimmed, there are no changes to save.)

► **To save a new document onto another diskette:**

1. Choose Save As from the File menu. *The Save As dialog box appears with a New Name text entry box.*
2. Insert the diskette where you would like to save the file.
3. Click on New Disk in the Save As dialog box.
4. Type a document name in the New Name text entry box.
5. Click on Save.

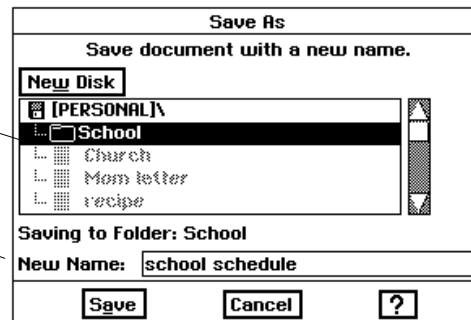
Save As serves many useful purposes. For example, suppose you wrote a resume and named it "Resume." This year you want to revise the information, but you also want to keep the original intact so you can refer to it. You could open "Resume" and immediately save it as "Updated Resume." The original document, "Resume" is preserved on disk and "Updated Resume" appears in the document window.

► **To save a copy using a different name:**

1. Choose Save As from the File menu. *The Save As dialog box appears with the current name of the document in the New Name text entry box.*
2. Highlight the folder where you would like to place the document.
3. Type the new name, which replaces the current name of the document. *The new name appears in the text entry box:*

Your document will be saved in the folder listed here.

Type the new name here.



4. Click on Save to save the document using its new name. *The original document is closed and remains as you last saved it. Any recent, unsaved changes are saved to the new version only, which appears in the window ready for editing. If you continue editing the version on the screen, you are editing the new document.*

Using Copy To

When you use Copy To, you create a copy of the current version of a document and give it a new name. The document with the new name is saved to diskette and you are left editing the original. This is in contrast to Save As, which saves all of your changes to the document with a new name and closes the original document without saving any changes to it. The following table summarizes the difference between Save As and Copy To:

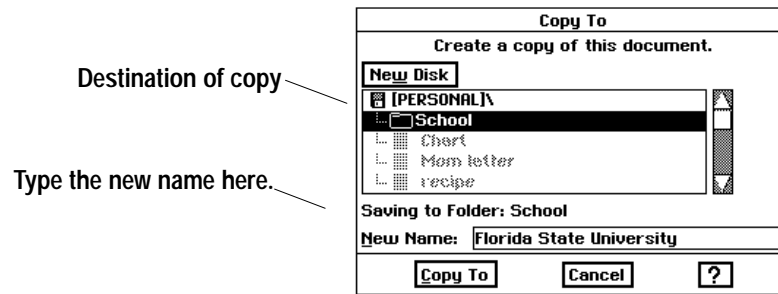
FEATURE	COPY TO	SAVE AS
Saves changes to a document using a new name.	✓	✓
Reverts the original document to its last saved version.		✓
Leaves you editing the copy.		✓
Leaves you editing the original.	✓	

Copy To can be used for several purposes:

- If you are writing a report and want to keep progressive copies so that you can revert to an earlier one if you need to, use Copy To. You could save the report at 8 am and name it REPORT 8 AM. Then you could use Copy To to save a copy of the report every two hours, naming the first copy REPORT 10 AM, the second one REPORT 12 PM, and so on. Using the Copy To function, you continue editing the original version whenever you make a copy. But you also have the option of reverting to an earlier version if you want to.
- If you are drawing a greeting card that you want to personalize, use Copy To. For example, you could make one standard card, personalize it for Mary, and then save it. A copy of Mary's card is saved and you continue to work on it. Personalize the original card for Bill and then use Copy To. This saves Bill's card. You can continue this process indefinitely, until you have personalized all your cards without fear of losing any of them.

► **To copy a document using Copy To:**

1. Choose Other from the File menu. *The Other submenu appears.*
2. Choose Copy To. *The Copy To dialog box appears with the name of the document in the New Name text entry box.*



3. Highlight the folder where you would like to put the copy.
4. Type the name you want to use for the copy. (You can use **BACKSPACE** or **DELETE** to edit the name.) *The new name appears in the text entry box.*
5. Click Copy To to make a copy of the document using its new name. *The document with the new name is saved and closed, and the document with the original name remains in the document window.*

Closing Documents

When you close a document, you remove it from the screen. However, the application remains open. You may want to close a document but not its application so that you can create or edit another document in that application.

► **To close a document:**

Choose Close from the File menu. If there are unsaved changes in the document, you will be asked if you want to save the changes. *If no changes were made, the document will close. If there are no more open documents, then the New/Open dialog box appears.*

If Discard Changes is dimmed, you have made no changes since the last time you saved.

This feature is useful when you want to experiment. For example, if you want to rearrange your address book, you can save it before you begin the experiment, then if you don't like what you've done to the information, you can use Discard Changes to go back to the original.

► **To discard changes:**

1. Choose Other from the File menu. *The Other submenu appears.*
2. Choose Discard Changes. *A dialog box appears asking you if you are sure you want to discard all the changes you have made to the document since you last saved it.*
3. Click on Yes, and the last saved version appears in the window. *All changes since then are erased permanently.*

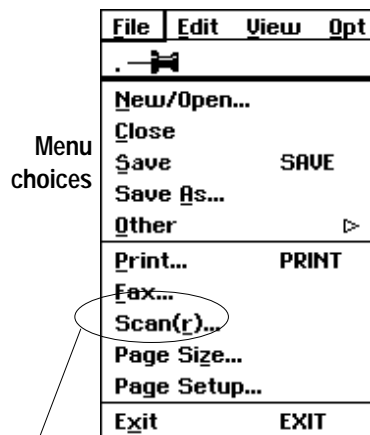
Working with Menus

Many applications share basic features such as opening, saving, copying, and printing documents. Applications often have similar menus because shared features work the same way in each application. Almost every application has a File, Edit, View, and Options menu. Once you know how to use choices from these menus in one application, you know how to use them in others.

An application *menu*, like a restaurant menu, contains a list of choices. When you select a choice from a menu, the application begins that function or activates that feature. For example, to print a document, you choose Print from the File menu, and the Print dialog box opens.

When you open a menu, it appears on your screen, and you select from it. Menu choices that are not currently available appear dimmed; if you select a dimmed menu choice, nothing happens. For example, in Addressbook, Copy Record is dimmed until you first view an existing record.

Opening a Menu and Making a Choice



This menu choice has an ellipsis (...).

Every application has its own set of menus. You do not see the menu itself until you click on the menu name. This is called *opening a menu*.

► To choose from a menu by clicking:

1. Click on the name of a menu on the menu bar. *The menu opens.*
2. If the choice you want is not on this menu, click the name of another menu. *The first menu closes and the second appears.* Continue clicking menu names until you see the choice you want.

OR

If you select a menu choice followed by an ellipsis (...), a dialog box appears so you can provide more information about your selection.

3. Click on the choice you want. *As long as you select an available choice, a corresponding action is initiated and the menu closes.*

OR

Close the menu without making a choice by clicking anywhere outside the menu.

► To choose from a menu by dragging:

1. Position the pointer over the name of a menu on the menu bar.
2. Press and hold down the left mouse button and the menu appears. Continue to hold down the mouse button as you drag the pointer left or right across the menu bar. *The menu for each menu name appears.*
3. When the menu appears with the choice you want, pause, **but do not release the mouse button.**
4. Drag the mouse pointer down the list of menu choices in the open menu. *As you drag through the choices, each choice in turn is highlighted.*

- When the choice you want is highlighted, release the mouse button. A corresponding task is initiated and the menu closes (as long as you selected an undimmed choice).

OR

If you select a menu choice followed by an ellipsis (...), a dialog box appears so you can provide information about your selection.

OR

Close the menu without making a choice by dragging the mouse pointer outside the menu and releasing the mouse button.

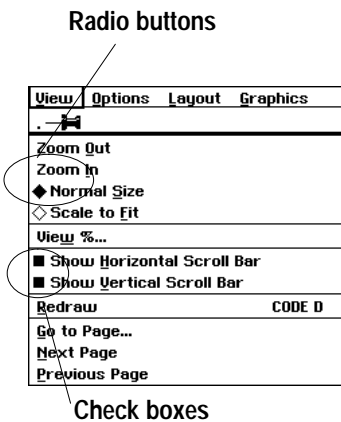
Choosing from a Menu with Buttons or Check Boxes

Some menu choices can be turned either on or off. When one of these choices is turned on, a small button next to the choice is darkened. When a choice is turned off, the button is not darkened.

Radio buttons are one type of button that appear before a menu choice. They come in groups of two or more, and only one button in the group can be on at any given time.

Check boxes can come in any number, and any number can be on at a given time.

For more about check boxes and radio buttons see “Responding to a Dialog Box” in this Chapter.



► To select from a group of radio buttons:

From a group of radio buttons, choose one that is not darkened. The menu choice is turned on and the button darkens; the previously selected menu item is turned off.

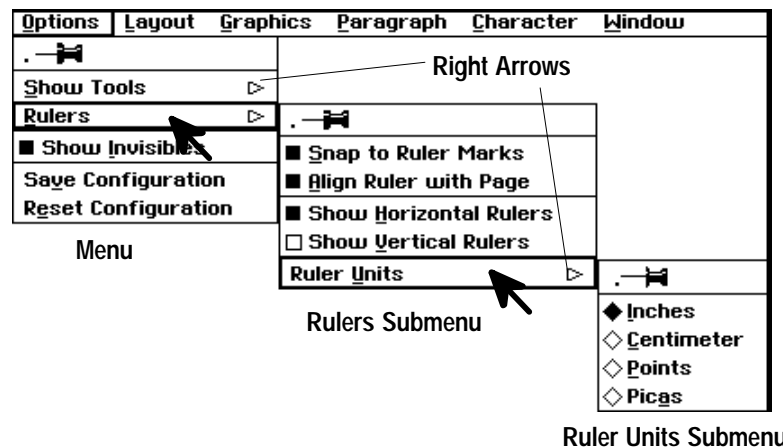
► To turn on or off a check box choice:

Select the menu choice. If the menu choice was off, then it is now on (darkened); if the menu choice was on, then it is now off.

Choosing from a Submenu

Some submenus themselves have submenus; these submenus can also have submenus, and so on. You make a choice from a submenu in much the same way you do from other menus.

Submenus are menus that you can find by selecting a menu choice that has a right arrow next to it.



► **To choose from a submenu by clicking:**

1. Open a menu from the menu bar as you normally would.
2. Select a menu choice that has a right arrow. *The submenu opens.*
3. Select the choice you want from the submenu. *The submenu closes.*

OR

Close the submenu without making a choice by clicking anywhere outside the menu.

While dragging to select, hold down the mouse button until you are done with the entire procedure.

► **To choose from a submenu by dragging:**

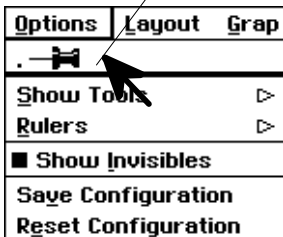
1. Drag to open a menu as you normally would.
2. Drag the pointer down the open menu to a choice that has a right arrow. *When the pointer is over the right arrow, the submenu opens.*
3. Drag the pointer to the right of the first menu and onto the submenu.
4. Drag the pointer down the submenu to the choice you want and release the mouse button. *Both menus close.*

OR

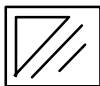
Close the menu without making a choice by dragging the pointer outside the menu and releasing the mouse button.

“Pinning” a Menu

Click here and drag to pin the Edit menu.



Only menus with push-pins at the top can be pinned open.



The Window Control button closes the window.

If a drop-down menu covers something you need to see on the screen, you may want to “pin it.” A *pinned menu* can be moved out of the way and it stays open until you close it. If you want to keep a menu open so that you can make a series of selections from it, you can pin the menu, the same way you would pin a piece of paper to a wall.

► **To “pin” a menu:**

1. Open a menu as you normally would.
2. Click on the push-pin at the top of the menu. *The menu stays open.*
3. If necessary, click on the menu name and drag the pinned menu to the desired location on the screen.
4. To close the pinned menu, click on the Window Control button to the left of the menu name.

Using Shortcut Keys to Save Time and Work

To choose Cut, press CUT key on top row of keyboard.

Edit	View	Options	Layout	Gr
. — [Icon]				
Undo Typing		CODE Z		
Cut		CUT		
Copy		COPY		
Paste		PASTE		
Delete		Del		
Insert Special ▶				
Find and Replace...		CODE F		
Check Spelling...		SPELL CHECK		
Thesaurus...				
Counts...				
Select All		CODE /		

To choose Find and Replace, press CODE + F.

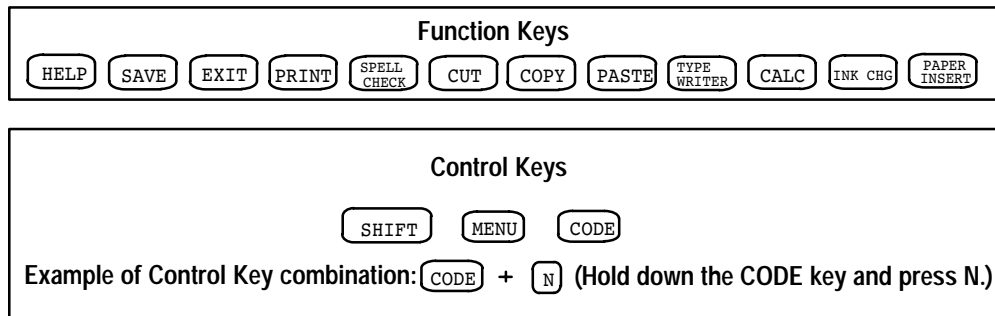
Shortcut keys are keystrokes you can use to perform actions. Using a shortcut key has the same effect as pulling down a menu and selecting a menu choice. If you are familiar with using a keyboard, you may find that using shortcut keys speeds up your work.

Ensemble uses two types of shortcut keys: the *function* keys across the top of the keyboard, and *control* key combinations (they “control” the effect of the key used with them) using **CODE**, **SHIFT**, or **MENU**.

► To select a menu choice by using a shortcut key:

1. Open the menu to see if the choice you want has a shortcut key. Close the menu.
2. Press the shortcut key or press the key combination by holding down the control key and pressing the character key. *This has the same effect as selecting a menu choice using the mouse.*

Shortcut Keys



Using Arrow Keys

You can use any combination of arrow keys and underlined letters to select menu choices using the keyboard.

Arrow keys may be easier and quicker for you to use at times, rather than the shortcut keys or the mouse to select menu choices.

► To select from a menu using the arrow keys:

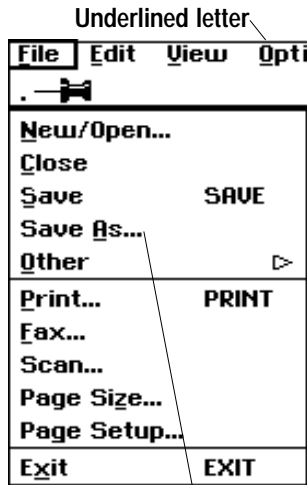
1. Press and release **MENU**. *The name of the first menu on the menu bar is highlighted.*
2. If this menu is not the one you want, press **LEFT ARROW** or **RIGHT ARROW** to move across the menu bar, highlighting each name as you move across.
3. Press **DOWN ARROW**, **SPACEBAR**, or **ENTER** to display the menu for the highlighted name. *If the choice you want is not on the menu, use **LEFT ARROW** and **RIGHT ARROW** to move through the other menus.*
4. When the menu you want is shown, use **UP ARROW** and **DOWN ARROW** to highlight your menu choice.
5. If your choice has a submenu (indicated by a right arrow next to the menu item), you can open it by pressing **RIGHT ARROW**. When the submenu is open, use **UP ARROW** and **DOWN ARROW** to highlight the choice you want. If you want to close the submenu without making a choice, press **LEFT ARROW**.

6. When the choice you want is highlighted, press **SPACEBAR** or **ENTER**.
This selects the choice and closes the menu.

OR

Close the menu without making a choice by pressing **ESC**.

Using Underlined Letters to Make Menu Choices



Choose Save As by pressing A.

The name of each menu and menu choice has an underlined letter. This is typically the first letter of the choice, unless several choices on a menu share the same first letter. The underlined letter is the one you use to select from a menu. Of course, you can use the mouse, function keys, or arrow keys as well.

► To select from a menu using the keyboard:

1. Hold down **MENU** and press the underlined key in the menu name you want. *For example, if you want to open the File menu, hold down **MENU** and press **F**. The File menu opens.*
2. Once the menu is open, press the letter of the choice you want. *For example, to choose Save As from the File menu, press the **A** key.*

OR

Close the menu without making a choice by pressing **ESC**.

Working with Dialog Boxes

A **dialog box** asks you for information. You can think of it as a “conversation” between you and your application.

When an application needs more information from you or needs to alert you to something, a dialog box appears. There are two major types of dialog boxes: one that requires a response before you can continue; the other type stays open after you have responded to it.

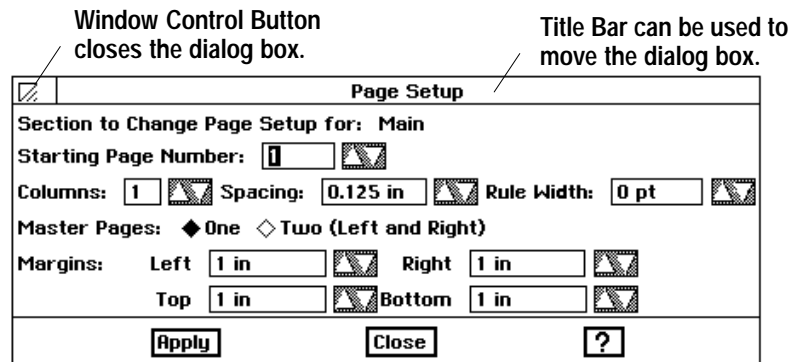
Two Types of Dialog Boxes



Do-Not Pointer

The first type of dialog box *requires a response* from you before you can continue. If you move the mouse pointer outside this type of dialog box, the pointer changes to a do-not pointer. Examples of this type of dialog box are the New/Open Dialog Box, and the dialog box that appears after you close a document that you have not saved. You cannot do anything else in the application until you respond to this type of dialog box.

The second type of dialog box *stays open until you close it*, or exit the application. An example of this type of dialog box is the Page Size or the Page Setup dialog boxes that you may open from the File menu.



How to Respond to a Dialog Box

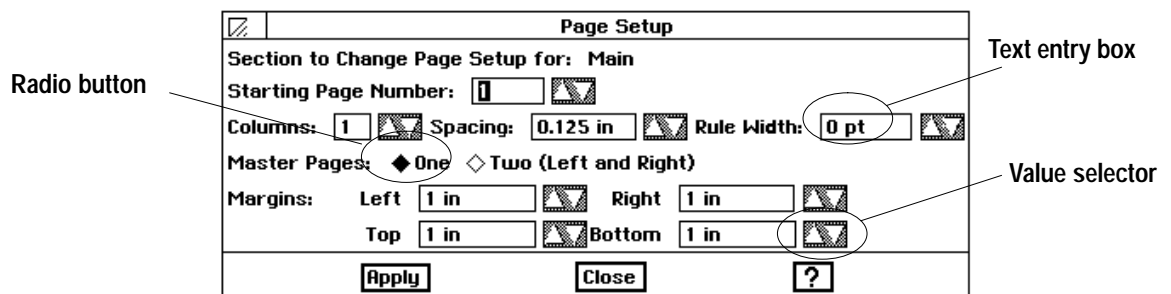
To respond to a dialog box, you select options and type text in text entry boxes. When you have finished, you click one of the buttons at the bottom of the dialog box to apply what you have set or chosen and continue. Every dialog box has buttons that initiate actions when you click them. If a button label is followed by an ellipsis (...), clicking it leads to another dialog box.

There are various ways for you to enter information and make choices in dialog boxes. Some of these include:

- **Radio buttons.** Use radio buttons to select one choice from a group of choices.
- **Check boxes.** Use check boxes to turn choices on or off.
- **Text entry boxes.** Use text entry boxes to type in the appropriate text.
- **Value selectors.** Use value selectors to change a value.
- **Lists.** Use lists to select one or more items.

► To select a radio button:

Click one radio button in a group. Or, use the arrow keys to highlight a selection and press **ENTER** or **SPACEBAR**. *The radio button darkens to show it has been selected. (If you make a mistake, click the correct radio button.)*

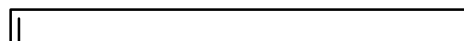


► To select or deselect a check box:

Click on an empty check box. *The check box darkens, indicating that the item is selected. Click the check box again to turn it off.*

► To enter text in a text entry box:

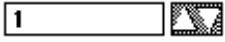
1. If the *insertion point* (a blinking vertical line) is not blinking in the text entry box or if the name in the box is not highlighted, move the mouse pointer to the text entry box and click. *The insertion point appears in the box.*



2. Type text in the box. *If you make a mistake, press **BACKSPACE** to erase as many characters as necessary and then type the correct text.*

► **To change a value in a value selector:**

Value Selector



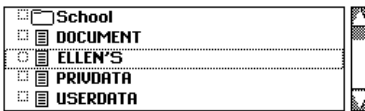
Click on the up arrow button to move to the next item or increase the value. (Click the down arrow button to move to the previous item or decrease the value.)

OR

If the insertion point is blinking in the value selector, type the appropriate value in the box. If the insertion point is not in the box, move the pointer to it and click. Then, type the appropriate value. (If you make a mistake, press **BACKSPACE** to erase the number, and then type the correct value.)

► **To select an item from a scrolling list:**

Scrolling List



Click on the item you want to select. The selected item is highlighted. If the list contains more items than can fit in the window, click the scroll arrow buttons to display other portions of the list, then make your selection.

► **To open or close a folder from a scrolling list:**

Double-click on the folder. If it is closed, it will open and the names of the files or folders within it will appear below its name. If it is open, it will close.

Drop-Down List



► **To select an item from a drop-down list:**

1. Click on the drop-down list button. *The list drops down so that you can make a different selection.*
2. Select the item you want from the list. *The item is selected, and the drop-down list closes.*

► **To initiate an action by clicking buttons:**

- **Apply.** *Applies the current settings but leaves the dialog box open so you can continue to adjust the settings.*
- **Close.** *Closes the dialog box. (The current settings are applied only if you have previously used the Apply button.)*
- **Reset.** *Resets the box to its original settings, undoing any changes you have made.*
- **OK.** *Applies the current settings and closes the dialog box.*
- **Cancel.** *Closes the dialog box without applying your changes.*
- **Stop.** *Ends the task in progress at the next possible stopping place.*

- **Yes.** Answers yes to the question in the dialog box. The dialog box closes.
- **No.** Answers no to the question in the dialog box. The dialog box closes.

► **To use the keyboard to respond to a dialog box:**

1. To move from one group of options to another group, press **TAB**. To move backward, hold down **SHIFT** and press **TAB**. (When the selection cursor is in a group, use the arrow keys on the keyboard to move from item to item.)
2. To select or deselect a check box, move the selection cursor with **UP ARROW** or **DOWN ARROW** to the item and press **SPACEBAR**.
3. When you finish setting items, select one of the buttons at the bottom of the dialog box.
4. One button has a thick border around it. If this is the button you want to select, press **ENTER**.

OR

Either press **TAB** or **SHIFT + TAB** until the button you want to select is surrounded by a thick border. Then press **ENTER**.

► **To close a dialog box:**

Click on the button in the upper left corner.



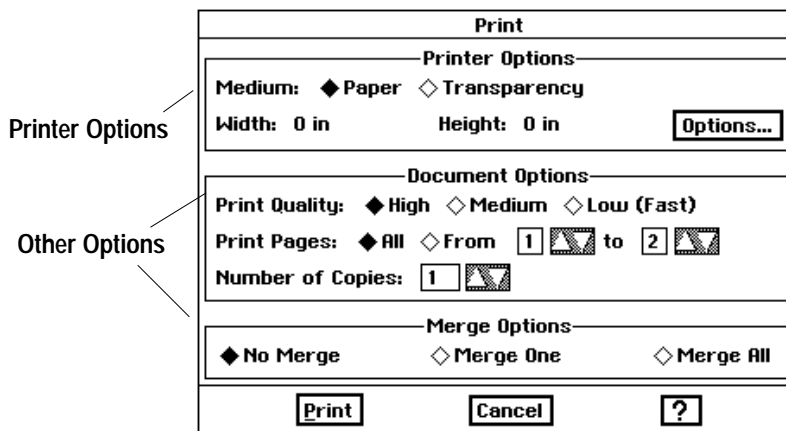
Printing a Document

This information applies to Word Processing and to a large degree, the other applications.

For a list of recommended paper, label, and transparencies, see the Appendix (page 387).

Typically, you print documents from within an application by choosing Print from the File menu. This section explains many common printing features and functions. However, the specific printing options you see will depend on the application you are using.

When you choose Print from the File menu, the Print dialog box appears which allows you to set various printing options before you print a document. The following illustration shows a typical Print dialog box with some common options:



The minimum margins for printing labels which extend to the edge of the paper is 1/4". Truncating will occur when margins are less than 1/4".

In most applications, the Print dialog box is divided into two sections: Printer Options and Options that will vary with application.

- **Printer Options.** Includes medium (type of surface to be printed on), width and height of paper, and more options.
- **Document Options.** Includes items such as print quality and number of copies.
- **Other Options.**

Merge Options. Can be used to merge names and addresses with documents. (See "Merging a Document" in the Word Processing chapter.)

Printing with Standard Settings

If you have not set your Page Size and Page Setup to accurately reflect the actual size and layout of your document, it will not print correctly. See page 28 to define the page.

To print from the Typewriter application, see Chapter 10.

The Print dialog box comes with standard settings that work well to print most documents. The standard settings assume that you want to print one copy of an entire document on 8.5" by 11" paper. If the standard settings do not meet your needs, see "Changing Document Options" in this chapter.

► To print a document with standard settings:

1. Choose Print from the File menu. *The Print dialog box appears.*
2. Click on Print at the bottom of the dialog box. *A message appears informing you that your document is printing. The document prints with the standard settings.*

Changing Items in Print Dialog Box

For color models: To save time and ink, use color ink-jet only when you require a color print. Use the black ink-jet cartridge when you want to print a preliminary draft of a color document to check for placement of graphics or to proofread it. The black ink-jet cartridge will print blacks much faster than the color ink-jet cartridge can print either black or color.



CAUTION:

When Printing

Transparencies:

- Use transparency film for ink-jet printers only. We recommend Lexmark transparency film for ink-jet printers, IBM ExecJet 4076 or 4076c, or Hewlett Packard #HP 51636F.
- Avoid high temperature and high humidity printing.
- Allow sheets to dry individually to avoid ink transfer and smudging; single sheet, manual feeding is recommended.

The following procedure explains how to change the most common Printing Options. The application you are using determines which of these options are available to you.

► To change Printer Options:

1. Choose Print from the File menu. *The Print dialog box appears.*
2. Fill in the dialog box, selecting from the Printer Options section as follows:
 - **Ink: Monochrome, Color.** You cannot set this button. Ensemble will automatically detect which type of ink-jet cartridge you have installed. The PDP-100J monochrome model does not have this button.
 - **Medium.** Click on the diamond to select paper or transparency. *Transparencies* are clear plastic sheets, also referred to as "film," used for overhead presentations (see Caution on the left). For more Printer Options, click on the Options button and see the section, "Changing Other Printer Options."

► To change Document Options:

1. Make selections for:

- **Print Quality.** Click the radio button that represents the print quality you want to use. High quality produces the most professional looking documents, but it uses more ink. Low quality prints use less ink and prints faster. Typically, you would want to print at low quality when you are working on drafts. Select high quality to print final documents.
- **Print Pages.** If you want to print the entire document, click All. If you want to print a range of pages, click From. A black dot appears in the From radio button. Click the arrow buttons or type numbers in the From and To boxes to reflect the range of pages you want printed. If your document has only one page, the To and From option is dimmed.
- **Number of Copies.** If you want to print more than one copy, change the number of copies by clicking the arrow buttons or typing a number in the Number of Copies box.

2. Click on Print if you are ready to print the document with the new settings.

If the application has Merge Options, see instructions for merging in that application.

If your document has been set up to begin on a page other than 1, Print Pages will still consider your first page as page 1.

Changing Other Printer Options

Your document will print faster if your page size and setup are the same as your printer options.

You are not likely to need to change Options very often. Typically, you only change options such as type, size, and orientation if you change the paper in your printer or if you install a cut sheet feeder.

Options must always reflect the actual physical setup of your paper in the printer. For example, if you are printing a document that is 12" by 20" with 8.5" by 11" paper, the paper size in the Options dialog box must be 8.5" by 11". Use Page Size from the File menu to specify the size of your document. The following procedures explain how to change Options.

Make sure the settings in the Options dialog box match the actual size and orientation of the paper in your printer. Also make sure that these settings match the settings you entered in the Page Size and Page Setup dialog boxes in the File menu.

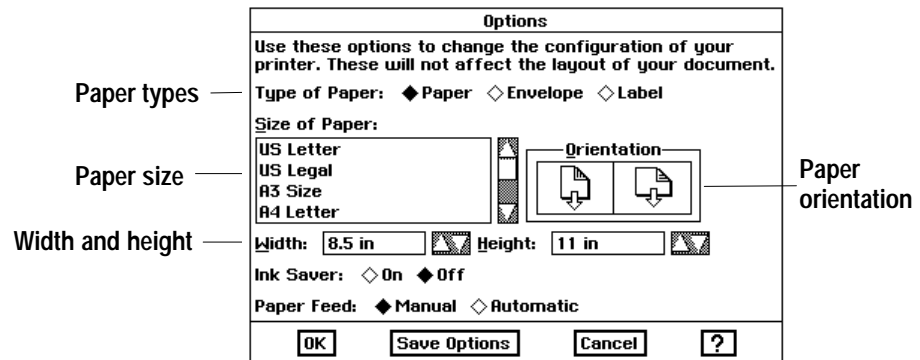
► To change Options:

1. Choose Print from the File menu. *The Print dialog box appears.*
2. In the Printer Options area of the Print dialog box, click the Options button. *The Options dialog box appears:*

When printing wide envelopes, a message may appear asking you if you want to scale the text to fit the document. Click on Leave it Actual Size.

When printing envelopes vertically (portrait orientation), open the sealing flap.

When printing labels, make sure the paper is straight when you insert it in the printer. If not, your labels may not be useable.



Maximum printing width is 9".
However 12" paper can be
inserted in the platen. Ensemble
will not print 0.5" from the top and
bottom of the paper, and 0.25"
from the sides of the paper.

Portrait Orientation 

Landscape Orientation 

It is recommended that portrait
orientation be used whenever
possible.

3. Fill in the dialog box, changing the options you want, as follows:
 - **Type of Paper.** Change the paper type if it is incorrect. Your choices are paper, envelope, and label. See the Specifications table in the Appendix for the recommended types of paper, envelopes, transparencies, and labels.
 - **Size of Paper.** If the selected paper size is not the size of the paper in your printer, select the correct size from the paper size list. For labels, choose the size of the individual labels.
 - **Ink Saver.** Turn this on for drafts if you want to cut ink use by 50%. In some instances, Ink Saver will give you higher quality printed images, especially with heavily inked documents. Experiment with settings until you find the one that suits the document you are printing.
 - **Orientation.** Select either portrait or landscape paper orientation, depending on the direction of the paper in the paper tray. *Portrait* orientation is a page printed so that, as you read it, the width of the page is less than its height. A horizontal orientation is called *landscape*. When you change orientation, width and height automatically change.
 - **Width & Height.** If you want to use a custom paper size that is not included in the paper size list, use the Width and Height value selectors to enter the width and height of the paper you want to use.
 - **Paper Feed.** Choose the type of paper insertion: manual or automatic. See page 9 for more information.
4. Click on OK if you want the changes you have made to remain in effect for the current session.

OR

Click Save Options and then click OK if you want the changes to remain in effect every time you print on this printer from now on. You can, of course, return to the Options dialog box whenever you want and change any of these options again.
5. Click on Print if you are ready to print the document with the new settings.

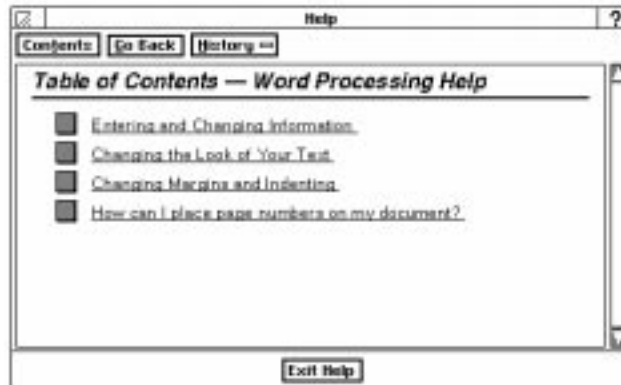
Using Online Help

To get quick answers to your questions use the online help.

► **To open Help:**



Click on the Help button in the bottom right corner of the application window or press the **HELP** key. *When you click either button, the Help information for the application or dialog box you are using will appear:*



When the Help window is open, it is on top of other windows. If the Help window is obscuring something you want to see or work with, move the Help window out of the way by dragging its title bar.



► **To get help on how to use the Help window:**

Click the Help button in the title bar of the Help window.

► **To resize the Help window:**

1. Put the cursor into any corner of the Help window. *The pointer will change to a frame pointer shown at left.*
2. Click on the corner and drag toward the center of the screen. *The screen becomes smaller. Drag away from the center to make the screen larger.*
3. Release the mouse button. *The screen is resized.*



► **To jump to another topic:**

1. Move the pointer over any text that is underlined and blue (on color Ensemble models). *The pointer changes to the help pointer, pictured at the left.*
2. Click on the underlined text. *Information specific to that topic appears in the help screen. You can go back to the previous screen by clicking Go Back.*

Help screens are organized by topic. Most of the topics are centered around common questions about Ensemble. It is designed so that you can easily jump from topic to topic quickly to find answers to your questions. The buttons at the top of the Help window help you move easily between topics.

► **To see the major topics for an application:**

1. Click the Contents button. *The Table of Contents help screen appears.*
2. To go to one of the topics listed in the Table of Contents screen, click the underlined text for that topic.

► **To return to the previous help screen:**

Click on the Go Back button. *The previous help screen appears.*

► **To go back to an earlier help screen:**

1. Click on History. *A drop-down list with your last ten help screens appears.*
2. Click on the topic you would like to see. *The help screen for that topic appears.*

Beyond the Basics

This section contains more advanced operations that you will be ready for after you have been working with Ensemble for a while. All of the topics in this section can be used in more than one application.

Using Templates for Easy Publishing

This section describes the ways you can create and customize templates to save typing, formatting, and layout time and to give your documents a consistent look.

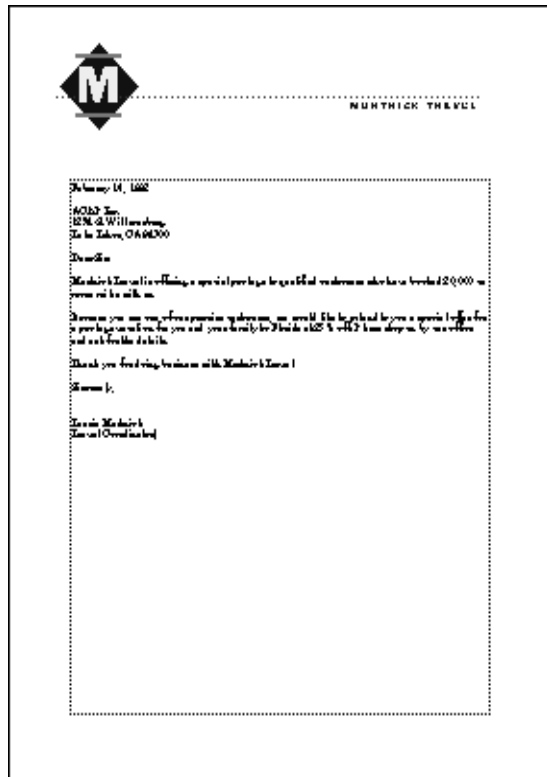
A *template* is a special document that you use as a model to create similar documents. It contains the text, graphics, formatting, and special layouts common to all documents of a particular type. For example, a letter template might contain the following elements:

Company logo

Date
Address
Salutation

Text

Closing
Name



You can use templates as you find them, or you can change them to fit your needs. You can also create your own library of templates for all sorts of uses!

Using standard templates

Templates available to you on diskette:

for Word Processing

Business Letter
Envelope #10
Fax Cover Sheet
Fun Fax Cover Sheet
Formal Personal Letter
Informal Letter
Informal Memo
Travel Itinerary
Menu
Overhead Slide
Newsletter (1 column)
Newsletter2 (2 column)
Resume

for Spreadsheet

Checkbook Register
Invoice
Purchase Order
Travel and Expense Report

for Drawing

Meeting Sign
Birthday Card
Party Invitation
Picnic
Student Award
Thank You Card

When you open a template, you can use it as is, or you can change it to suit your needs. When you choose a template from the New/Open dialog box, the application creates a new document containing the information in the template you selected. All you do is fill in the information that is missing or change the information of the *place holder text*. Place holders are text that define the type of entry in a location, such as "ZIP CODE" that you later replace with the actual information you want.

► To use a template:

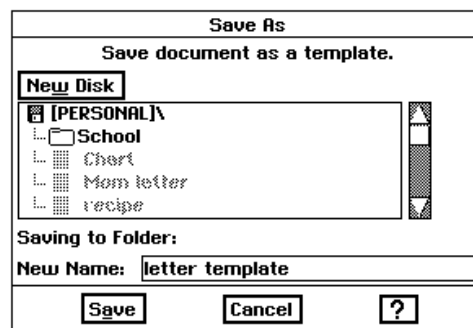
1. Start the application you want to use.
2. Choose New/Open from the File menu. *The New/Open dialog box appears.*
3. Click on the Template folder tab. *The template folder comes to the foreground on your screen, listing the available templates and folders.*
4. Select the template you want to use, scrolling the list if necessary. *A description of the template, if available, appears in the Notes box.*
5. Click on Use Template or press **ENTER** or double-click the highlighted name. *The application creates a copy of the template as a new, untitled document.*
6. Select the place holder text and type your text. *It will replace the place holder text.*
7. Save the document if you wish. *Changes you make to the new document do not affect the original template.*

Creating your own template

To create your own template, you can begin with an empty document or you can use an existing document and save it as a template.

► **To create a template:**

1. Open a new or existing document in the application you want to use.
2. Specify the settings you want to use. For example, in Word Processing, you might want to define the following:
 - Page size
 - Margins
 - Text specifications, such as font, size, and style
3. Add the text and place holder text (such as “City,” “State,” and “Zip Code”).
4. Add any graphics you want to include (such as a logo).
5. Choose Other from the File menu. *A submenu appears.*
6. Choose Save As Template from the Other submenu. *A dialog box appears.*



If you want to add document notes to the template, you should do so before closing it. See “Editing Document Notes” in this chapter, page 57, for more information.

7. If necessary, select the folder where you want to save the template.
8. Type the name of the template and then click on Save.
9. Close the document.

Modifying a template

You can change any template you’ve created so that it meets your particular needs. Sometimes you can modify the same template in different ways to be appropriate for different situations (such as documents for different clients or organizations).

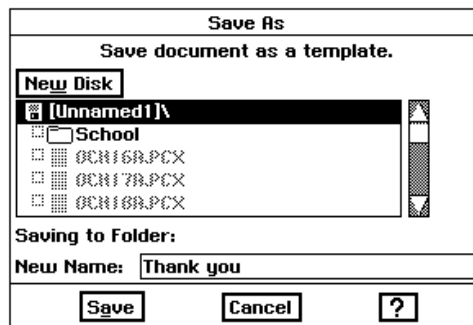
► **To change a template you have created:**

1. If the New/Open dialog box is not showing, choose New/Open from the File menu.
2. Click on the Template tab. *A dialog box lists the available template folders or templates.*

3. Select the template you want to modify, scrolling the list if necessary. *A description of the template, if available, appears in the Notes box.*
4. Select the For Editing check box and then click on Use Template. *The template appears in the application window.*
5. Edit the template until it appears the way you want.
6. Choose Save from the File menu, and close the document.

► **To create a new template based on one of the Ensemble templates:**

1. If the New/Open dialog box is not showing, choose New/Open from the File menu.
2. Click on Templates. *A dialog box lists the available template folders or templates.*
3. Select the template you want to use, scrolling the list if necessary. *A description of the template, if available, appears in the Notes box.*
4. Click Use Template. *The template appears in the document window.*
5. Choose Other from the File menu. *A submenu appears.*
6. Choose Save As Template from the Other submenu. *A dialog box appears.*



7. If necessary, select the folder to which you want to save the template.
8. Type the name of the template.
9. Make the changes you want for the new template.
10. Click on Save. *The new template is saved with the name you specified in Step 8.*
11. Close the document.

Safeguarding a Document

Your system periodically takes a “snapshot” of documents you have open so that you are protected in the event of a mishap, such as a power outage. This is called *document safeguarding* and it happens automatically.

If something happens and you are afraid you have lost work (you accidentally turn Ensemble off before saving and exiting, for instance), document safeguarding may have protected your work.

If document safeguarding occurs during a process in which you are alternating diskettes (such as a diskette copy), you will be asked to insert the document diskette (where your document is saved) in order to do a safeguarding save. After saving, again insert the diskette you were using before you received the message.

To get your work back, you do not need to do anything special. Simply open the document you were working on. If there are unsaved changes in the document, and document safeguarding was able to protect them, a dialog box will appear letting you know the document has unsaved changes. Respond to the dialog box and then choose Save from the File menu to make the changes permanent.

If you want to change how often your documents are safeguarded, or if you want to turn off document safeguarding altogether, you can do so with settings in Look & Feel in Preferences, page 25, reached from the Main Menu.

Working with Dual Documents

Dual Documents, or viewing two documents at the same time and switching between them, is possible in Word Processing, Spreadsheet, & Drawing.

Normally, each document you open fills the window. There is a way, however, to view two documents at the same time.

The names of open documents appear in the Window menu. You can use this menu to switch between one document and another. You can also set the window display of the documents to Full-Sized, Top/Bottom, Left/Right, Swap Documents, or Resize.

When the display is full-sized and you have more than one document open, you can only see the one on top, like seeing only the top page on a stack of reports sitting on your desk. You can switch between documents by choosing the name of the document you want to be on top from the Window menu. You can resize and move stacked or side-by-side documents in the application window by clicking on Swap Documents or Resize.

► **To change documents using the Window menu:**

Choose the name of the document from the list of open documents names in the Windows menu. *The document you chose will appear on top or its name will be highlighted if documents are side by side.*

► **To view documents as full-sized windows again:**

Choose Full-Sized from the Window menu.

► **To see two documents:**

Open two documents and choose Top/Bottom or Left/Right from the Window menu. *Two documents appear in the window in the positions selected.*

► **To resize both documents:**

1. Open two documents.
2. Choose Resize from the Window menu. *Two documents appear in the window.*
3. Use the resize cursor to adjust the size of the window.

► **To change the left/right and top/bottom positions:**

Choose Swap Documents from the Window menu.

► **To switch between documents by clicking their windows:**

To switch between documents by clicking their windows, the documents must both be visible.

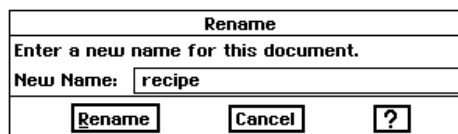
Click somewhere in the document you want. *The document you clicked is highlighted.*

Renaming a Document

When you rename a document, you change its name. You may want to rename a document so that the document name more closely identifies its contents or purpose. You may also want to rename a document if you want to use its original name for another document. You cannot rename an untitled document. You must first save the document and give it a name.

► **To rename a document:**

1. Open a document and choose Other from the File menu. *The Other submenu appears.*
2. Choose Rename. *The Rename dialog box appears with the document's current name in the New Name text entry box.*



Rename		
Enter a new name for this document.		
New Name:	recipe	
Rename	Cancel	?

You can also use File Manager to rename a document. See page 69.

3. Type the new document name. (You can use **BACKSPACE** or **DELETE** to edit the name.) *The new name appears in the New Name text entry box.*
4. Click the Rename button. *The dialog box closes and the new name appears in the title bar of the document.*

Editing Document Notes

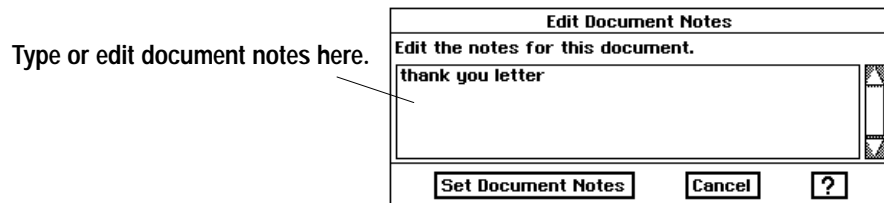
You cannot add document notes to an untitled document. You must first save the document and give it a name.

You can add document notes to any document. Document notes consist of information you might want to record about your document that you think is important to remember. For example, you can use document notes to keep a revision history of a document. If someone else modifies the document, they can read your notes and add their own.

Notes accompany a document, but they are not an integral part of the body of the document. You can see a document's notes in the New/Open dialog box whenever you open an existing document.

► **To create, view, or edit document notes:**

1. Save and name the document.
2. Choose Other from the File menu. *The Other submenu appears.*
3. Choose Edit Document Notes. *A dialog box appears:*



4. Type your new document notes or edit the existing ones. Then click Set Document Notes.

OR

If you are just viewing the document notes, click Cancel when you are done. *The dialog box closes and you return to the document.*

Importing and Exporting

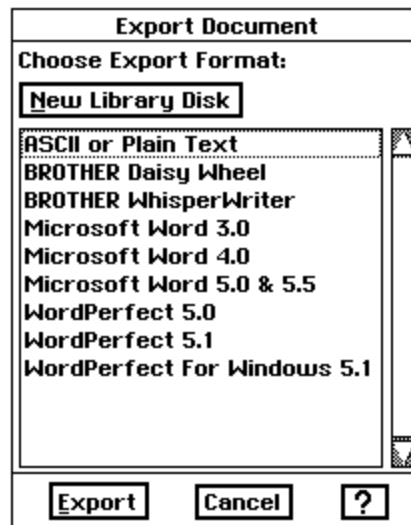
You can import and export in Addressbook, Scrapbook, Word Processing, Spreadsheet, and Drawing

You can import and export information to and from other DOS-based applications.

Many times when you import or export text, the text will keep characteristics such as italics, etc. Paragraph styles may remain the same also (indentation, spacing, etc.). Often, however, the font will not transfer. You will need to select the text once you have imported it and assign it a font.

Importing and exporting a document

Word Processing, Spreadsheet, Drawing, Addressbook, and Scrapbook allow you to import a complete document into these applications. Addressbook can import Lotus 1-2-3™ (.WK1 files only) and Comma Separated Values entries. Word Processing can import ASCII, Microsoft Word for DOS (up to DOS version 5.5; not the windows version), Word Perfect, and Brother Daisy Wheel & Whisperwriter. Spreadsheet can import Lotus 1-2-3™ and Comma Separated Values. Drawing can import BMP, PCX, and TIFF.



► To import a document:

1. Insert the diskette that contains the file you wish to import.
2. From the Main Menu, open the application you wish to work to work in.
3. Select New/Open from the File menu.
4. Click on Import.
5. Click on the name of the file you wish to import.
6. Click on the Import button. *Ensemble asks you to insert the diskette containing the Import/Export Libraries (Diskette 2) into the diskette drive.*
7. Insert Diskette 2 and click on OK.

8. From the Import dialog box, select the format of the document you are importing and click on Import. *Ensemble will ask you to insert the diskette with the document you wish to import.*
9. Eject the Import/Export libraries diskette, insert the diskette that contains the document you wish to import, and click on OK. *Importing begins and the document that you imported appears on the screen.*

► **To export a document:**

1. Open the document you wish to export.
2. From the File menu, choose Other.
3. Select Export Document.
4. Insert Diskette 2 and click on OK.
5. Select the format to be exported to (ASCII, etc.) and click on OK.
6. Insert the document diskette.
7. Type the name of the export file (be sure to include the DOS file extensions if any).
8. Click on the export button or press **ENTER**.

The maximum size for a Word Processing import document is 45k. The maximum size for Spreadsheet is 40k. Maximum graphics import size is 35k.

Naming a DOS File

File Manager can create DOS documents; these documents must have a DOS file name. If you need to use a DOS name, the application you're using will tell you. However, most documents use Ensemble document names, which are more flexible.

If you plan to use any of your documents on a computer that uses DOS, you will want to create a name that DOS will recognize. DOS files can be **up to eight characters long**, followed by an optional period and three more characters. The optional three characters following a DOS file name are called the *extension*, which usually indicates the type of data the file contains. A DOS text file, such as one created with Text File Editor, should be given a .TXT extension to be consistent with other DOS files of the same type.

DOS: Disk Operating System

DOS file names can only contain the letters A through Z, the numbers 0 through 9, and **only** the following *special characters*:

underscore	_____	caret	^
dollar sign	\$	tilde	~
exclamation point	!	number sign	#
percentage sign	%	ampersand	&
hyphen	-	braces	{ }
parentheses	()	at sign	@
apostrophe	'	grave accent	`

No other special characters are permitted.

DOS names cannot contain spaces, commas, backslashes, asterisks, question marks, or periods (except the period following the first eight characters). The letters are always converted to upper case.

Optional Accessories

Fax Modem	The FX-700 Fax Modem allows you to send a fax and send and receive data. See Chapter 16, "Using a Modem," for installation and operating instructions.
Data Modem	The MO-700 Data Modem allows you to send and receive data information. See Chapter 16, "Using a Modem," for installation and operating instructions.
Scanner	The SC-700 Image Scanner allows you to pick up images from printed material, including photographs, and import them into the documents you create. See Chapter 15 for connection and operating instructions.
Cut Sheet Feeder	The CF-710 Cut Sheet Feeder will hold up to 30 sheets of bond paper and insert them one at a time into your ink-jet printer.

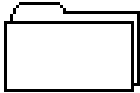
2 File Manager

File Manager shows you the contents of diskettes and the contents of the folders on the diskettes. When you open File Manager, you will automatically see the contents of the diskette in the disk drive.

Files, folders, and applications are represented by **icons**. When you want to do something with a file, folder, or application, you can use its icon. For example, to open a folder, double-click its icon.



“**File**” and “**document**” often mean the same thing. They do not contain other files or documents. Each one is a single unit. For example, a one-page letter is a document.



Folders store documents, applications, and other folders.

The contents of the folder appears in the **Folder Window**, which opens when you double-click on a folder. (The name and “path” of the folder appears in the Information Bar.)

Menu bar points to the top bar containing 'File', 'View', and 'Disk'.

Folder Icons. The terms “folder” and “directory” are often used interchangeably, in much the same way that “file” and “document” often are.

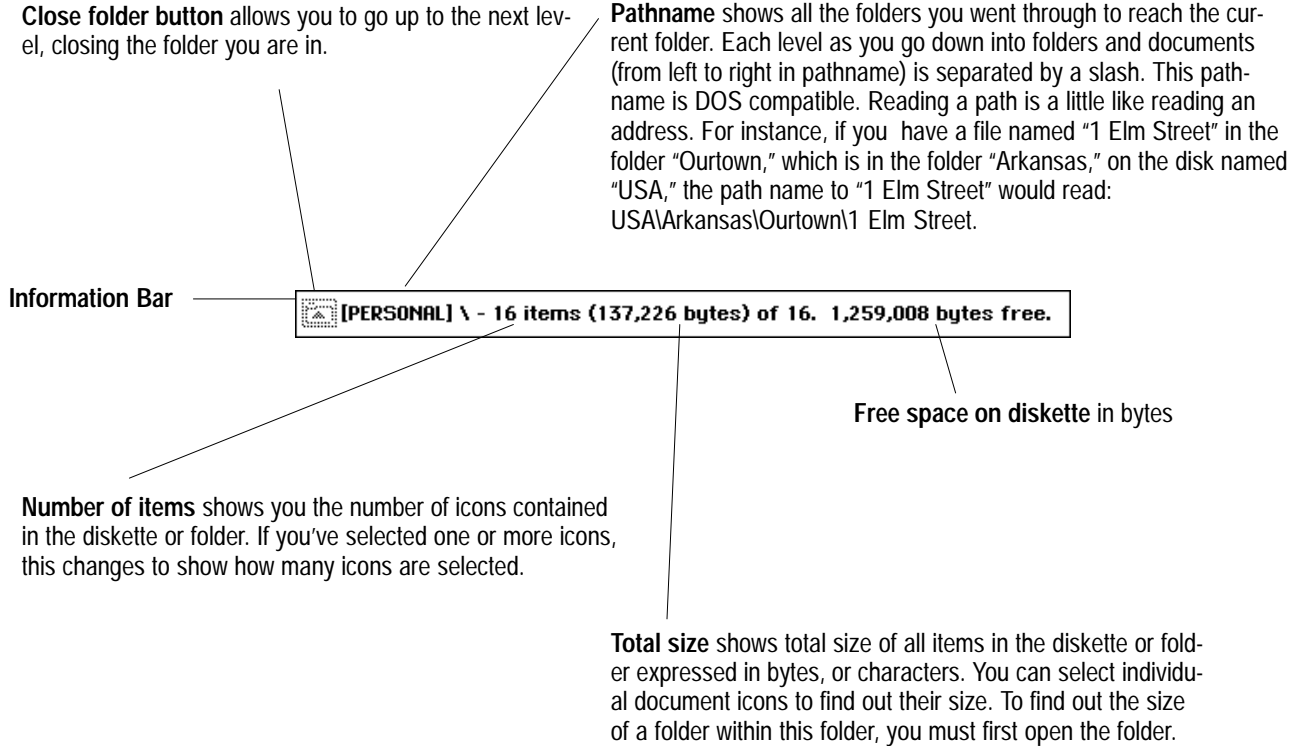
Information Bar displays the folder pathname, starting with the name of the diskette and its path, the number of files and folders currently in the folder window, the disk space in bytes (characters) used by the files shown, and the amount of space remaining on the diskette containing the folder.

File Icons show you the application that the document was created in, represented by the icon placed over 3 sheets of paper.

Title Bar shows you that you are in the File Manager application.

The screenshot shows a window titled 'File Manager' with a menu bar (File, View, Disk) and an information bar displaying '[PERSONAL] \ - 15 items (99,440 bytes) of 15. 1,296,896 bytes free.' The main area contains icons for folders (School, Letter, Mom letter, Recipe, School S schedule) and files (Budget, My S schedule, Default Scrapbook, FirstAddressbook, logo, APP382D.PCX). The status bar at the bottom shows 'CAP NUM INS' on the left and 'SYM ?' on the right.

The Information Bar. The Information Bar at the top of the folder window shows information about the folder.



Working with Folders



DOS users: Although folders correspond to DOS directories, their names do not have to conform to the DOS naming standard—Ensemble folder names can be as long as 32 characters, and contain upper and lower case letters.

You can create a new folder inside any open folder or diskette. The new folder is empty until you move or copy items into it.

► To open a folder:

Double-click the folder's icon.

OR

Use your arrow keys to select the folder icon and press **ENTER**. *The folder opens and its contents are displayed in a window.*

► To close a folder:

Click on the folder's icon in the information bar.

► To create a new folder:

1. Open the diskette or folder in which you want to place the new folder.
2. Choose Create Folder from the File menu. *A dialog box appears asking you to name the new folder.*

Create Folder	
Current Folder is:	[PERSONAL] \
New Folder Name:	<input type="text" value="Chart"/>
<input type="button" value="Create"/>	<input type="button" value="Cancel"/> <input type="button" value="?"/>

3. Type the name for the folder. You can use any characters, and the name can be as long as 32 characters.
4. Click on Create. *The new folder appears in the current folder or diskette.*

Moving and Copying a File or Folder

► To move a file or folder into another folder:

1. With the File Manager application open, select the document or folder (by clicking once on the icon) that you wish to move.
2. Select Move from the File menu. *A dialog box appears asking you where you wish to move the original.*
3. Indicate the destination folder and click on the Move button. *The icon appears in the new location.*

OR

1. With the right mouse button held down, drag the icons to a new location.
2. Release the mouse button. *The icon appears in the new location.*

The arrow looks like this when you are dragging.



The arrow looks like this when you cannot move the item to the destination.



► **To drag several icons into another folder:**

1. Select all the icons you want to drag by using the left mouse button and drawing a rectangle around the icons.

OR

Hold down **CODE** and click on the icons.

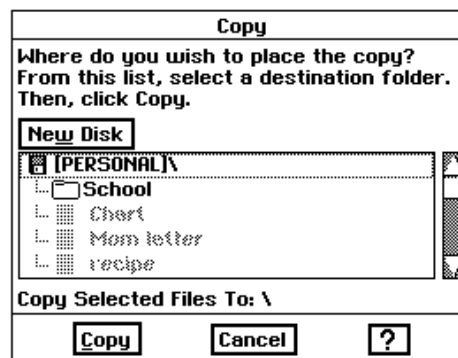
2. Move the mouse pointer directly over one of the highlighted icons, and then press and hold down the right mouse button. *A small outline appears on top of the icon.*
3. With the right mouse button held down, drag the mouse so that the pointer on the screen moves the small outline to the location you want. Then, release the mouse button. *All the icons appear in the new location.*

Copying a File or Folder to Another Diskette

In File Manager you can copy a file or folder to another folder or to another diskette.

► **To copy a file or folder to another folder:**

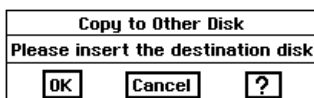
1. Select the file or files you wish to copy. (You may need to open a folder to find the file.)
2. Select Copy to Other Folder from the File menu. *A dialog box appears.*



3. Indicate the folder in which you would like for the file to be copied and press Copy.

► **To copy a file or folder to another diskette:**

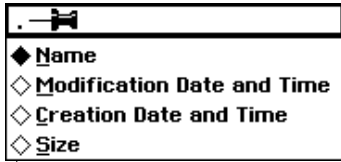
1. Select the file or folder you wish to copy.
2. Select Copy to Other Disk from the File menu. *A dialog box appears.*
3. Insert the diskette on which you would like for the file to be copied and press OK.
4. Follow the instructions on the screen. You may need to alternate diskettes several times to complete the copying process.



Sorting the Contents of Folders

You can arrange the contents of a folder in several ways: by name, the date the last changes were made, the date it was created, or by size.

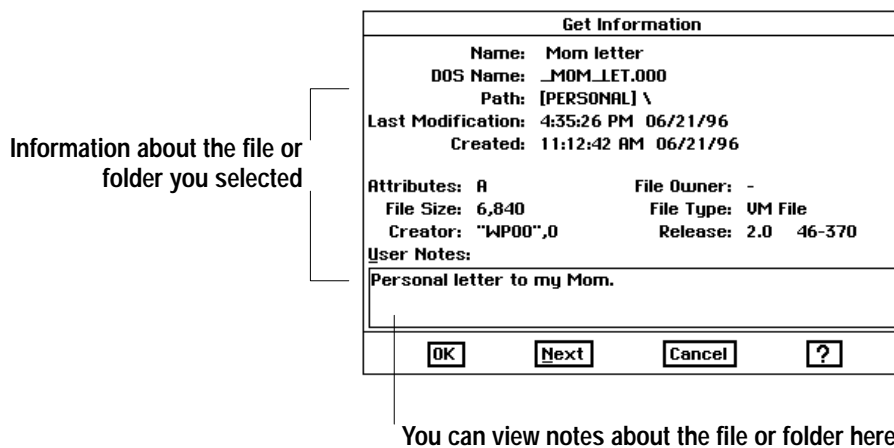
► To sort the contents of folders:



Choose one to sort the contents of the current folder.

1. Open a folder.
2. Choose Sort By from the View menu. *The submenu on the left appears, listing a variety of sort options.*
3. Choose a sort option (by clicking on the diamond next to your selection):
 - **Name.** This sorts the contents of the folder alphabetically by the entire DOS name.
 - **Modification Date and Time.** This sorts the contents of the folder by date and time of last modification in reverse chronological order.
 - **Creation Date and Time.** This sorts by date and time of creation in reverse chronological order.
 - **Size.** This sorts the contents of the folder in ascending size, with folders first, then individual files. *The contents of the folder appear in the new sort order.*

Viewing Information about Files and Folders



► To find information about files and folders:

1. Select one or more files or folders.
2. Choose Get File Information from the File menu. A dialog box appears showing information about the first file or folder you selected.
 - **Name.** This is the name that you usually use to refer to the file or folder.
 - **DOS Name.** This is the DOS name that your system uses to easily recognize the file or folder. A DOS name has eight characters with a three character extension. The DOS name may not resemble the other name.
 - **Path.** This is the location of the file, showing how you can get to it.
 - **Last Modification.** This is the time and date of the last change that was made to the file or folder.
 - **Created.** This is the time and date that the file or folder was created.
 - **Attributes.** The letters below (**A**, **D**, etc.) stand for attributes that have been given to a file.

Archive. This attribute is used as a flag by some DOS commands.

Directory. This indicates that the item is a DOS directory, which appears as a folder.

Hidden. This indicates that DOS does not display the file or folder in a directory list.

Read-Only. This indicates that you cannot modify the file or folder.

System. This indicates that this is a special-purpose file or folder for use by DOS.

Template. This indicates that this is an application template from Word Processing, Drawing, or Spreadsheet.

A file or folder has 2 names: a regular name that you use to refer to it (the name you gave it, perhaps) and the name the system uses, called the DOS name.

- **File Size.** This is the number of bytes in a file or folder.
- **Creator.** This is the name of the application with which a file was created.
- **File Owner.** This will remain blank.
- **File Type.** This identifies the system function of the file or folder. File types include the following:
 - Executable.* This file is an application.
 - Data File.* This file contains data.
 - VM File.* This file is a data file that uses the virtual memory storage system.
 - Folder.* The item is a folder or DOS directory.
 - DOS File.* The file is a DOS data file or application.
- **Release.** This is a version number used for applications only. Most recent releases of an application have higher release numbers than older releases.
- **User Notes.** You can view your own document notes in this text box.

3. Click either OK or Cancel to close the dialog box.

OR

If you selected several items for which you wanted to view information, click Next to see information about the next selected file or folder.

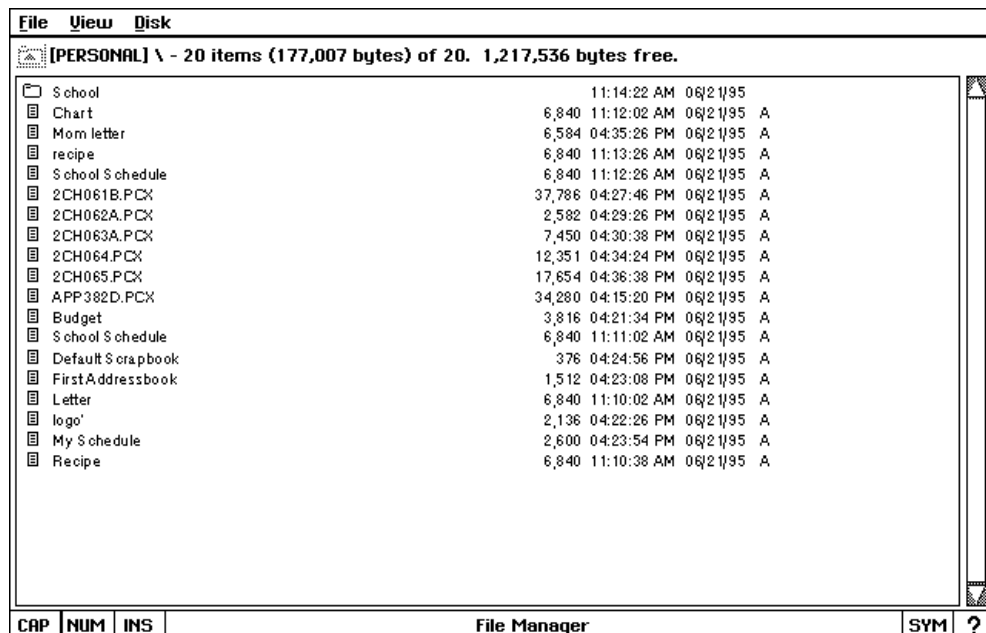
Viewing files and folders as a list

You can choose to view the contents of a folder as an alphabetized word list rather than as icons. Of the three options for switching between icons and lists, the highlighted option is the one currently in effect for the current folder.

► **To change the current viewing option:**

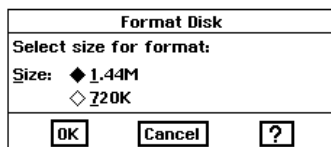
1. Open the folder you want to change.
2. Choose the option you want from the View menu. Your choices are:
 - **Names and Details.** Also shows the contents of the folder as a list of small icons but with the name, size, modification date, and attributes to the right of the icons. Each file attribute is represented by a single letter: Read-Only (R), Hidden (H), System (S), and Archive (A).
 - **Icons.** The standard option. Shows the contents of the folder as file or folder icons, with the name below the icon.

This is what a folder looks like when you've set the view to with Names and Details.



Formatting and Copying Diskettes

Formatting erases all information on a diskette.



Because File Manager makes an exact duplicate of the source diskette, the destination diskette must be the same size as the source diskette. Also note that, during a disk copy, File Manager writes over all files that are on the destination diskette. Be absolutely sure your destination diskette contains nothing you want to keep.

You can make a copy of the Ensemble diskettes so that you will have a complete back up. However, do not make a back up of the Ensemble diskettes by copying individual files to another diskette. Some applications will not work properly if you do.

► To format a diskette:

1. Insert the diskette into the disk drive.
2. Choose Format Disk from the Disk menu. *The dialog box at the left appears.*
3. Click the option for the disk capacity of your diskette.
4. Click on OK. A dialog box appears requesting a name for the diskette. Type a name for the diskette (1 to 11 characters long), and click on Format. *A message tells you when formatting is completed.*

► To copy a diskette:

1. Choose Copy from the Disk menu. *A dialog box appears.*
2. Insert the source disk (the diskette that contains the information you wish to copy).
3. When File Manager has completed copying all the information from the diskette, it will give you a message to insert the destination disk (the diskette on which you wish to copy). Insert the destination diskette.
4. Click on OK and follow the instructions on the screen. *You may need to repeat this process several times. The File Manager will show you the progress it is making as it copies. It also gives you the option of stopping at any time.*
5. When complete, click on OK.

► To rename a diskette:

1. Choose Rename Disk from the Disk menu.
2. Enter a new name (1-11 characters long).
3. Click on Rename.

► To rescan a diskette:

Choose Rescan Disk from the Disk menu. *Ensemble checks the disk drive and rescans the current diskette to show you the contents.*

Renaming, Duplicating or Deleting a File or Folder

The name that you give a folder or file is not necessarily permanent. You can change it at any time using the Rename button.

You can make copies (exact in all but name) of both files and folders. For example, you may want to duplicate a document file before making extensive changes to it, in order to have a backup copy of the original.

There are times when you need to make room on your diskettes by deleting files or folders you no longer need.

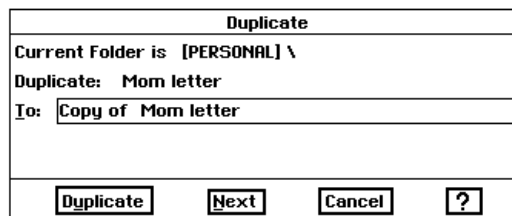
► **To rename an item:**

1. Select the item (or items) you want to rename.
2. Choose Rename from the File menu. *A dialog box appears.*
3. Enter the new name in the box.
4. Click on Rename to apply the new name. *If a file with the same name already exists, a dialog box asks you to type a different name.*

If you have selected several items, you get a separate dialog box for each item. Click Next to leave the name of the current item unchanged and go on to the next. Click Cancel to close the dialog box without renaming the remaining selected files.

► **To duplicate an item:**

1. Select the item (or items) you want to rename.
2. Choose Duplicate from the File menu. *A dialog box appears.*



3. Type in a name for the duplicate. If you do not, the copy will be named "Copy of (file or folder name)."
4. Click on Duplicate. *A duplicate copy of the selected item (or items) appears in the same folder as the original.*
5. If you are duplicating more than one item, the name of the next item appears in the dialog box and the whole process repeats.

When you duplicate many items, you are given a chance to change the name of each copy. Clicking on Next skips the current item altogether. Clicking on Cancel closes the dialog box without duplicating the remaining items.

Deleting a file removes the file from your diskette, so be careful to delete only those files you know you will not need later.

► **To delete an item:**

1. Select the item (or items) you want to delete.
2. Choose Delete from the File menu or press **DELETE**.

3 Word Processing



This chapter will show you techniques for creating almost any type of document, from a simple letter to a professional-looking newsletter with graphics. Or, you can also write a “form” letter and merge it with names and addresses from the Addressbook or Spreadsheet application.

Important Word Processing Tips

- In order 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 **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.
- Use only one space after a period or colon. When you use a typewriter, you usually use 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 don't have italic font style available so your only option for setting off book titles was to use the underline key. Ensemble gives you many of the 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 83.)
- Use bullets for denoting lists such as this list of tips. (See Using Special Characters and Symbols on page 83.)
- You can undo almost anything. The most important thing to remember about undoing a mistake is that you can undo only the **last** action you took.

Creating a Document

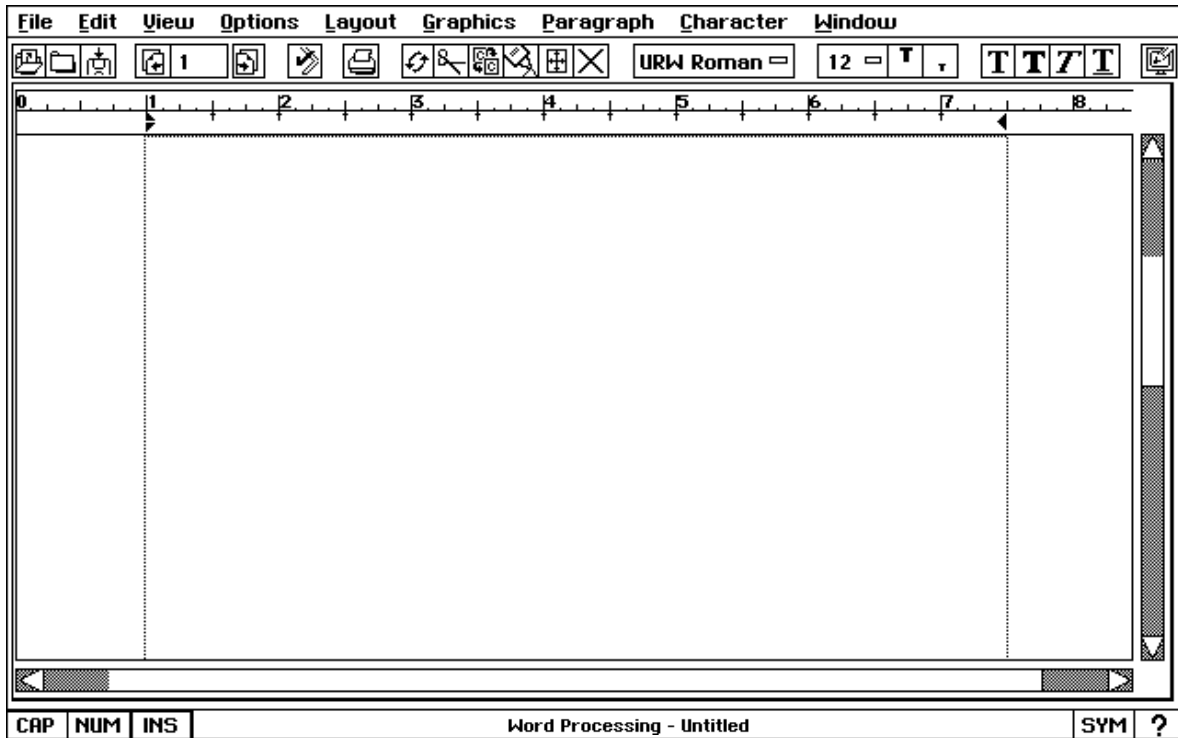


By default, the Word Processing icon is automatically selected (outlined in dotted white line, pointer on the icon) when you turn ON your machine or any time when the Main Menu is started.

► To create a new document:

From the Main Menu, click the left mouse button on the Word Processing icon (or press **ENTER** if the icon is already selected).

A new Word Processing document appears:

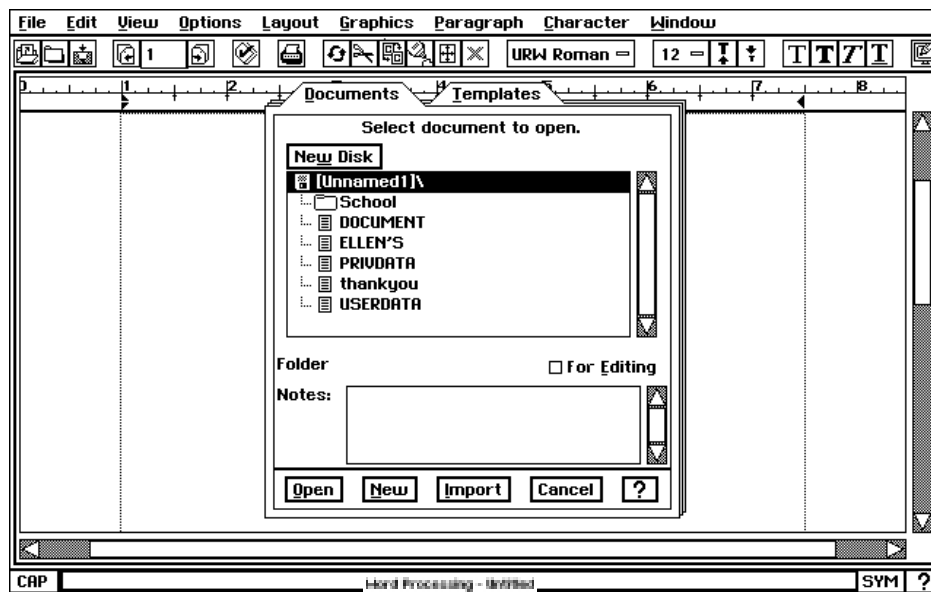


Opening a Document

For information on how to use templates, see Chapter 1, page 51, "Getting Started."

► To open an existing document or template:

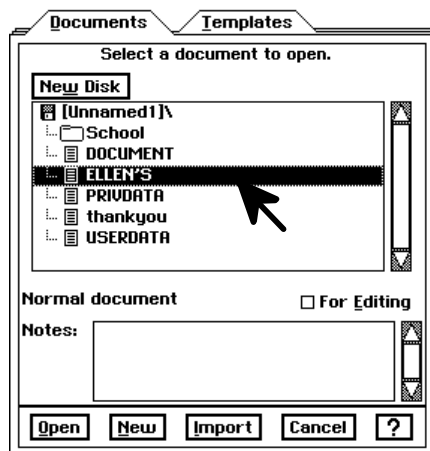
1. Insert the diskette that contains the document or template into the drive.
2. Select New/Open from the File menu. *The New/Open dialog box appears:*



3. Double-click 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.*

► To open a document from another Word Processing application:

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 the Import button. *The Import Document dialog box appears.*
4. Select the file you want to import by clicking on it.
5. Click the Import button at the bottom of the dialog box. *A dialog box will appear asking you to insert the diskette containing the Import/Export libraries. Diskette 2 contains these libraries.*
6. Insert Diskette 2 and click on OK.
7. From the Import dialog box, select the format of the document you are importing and click on Import. *Ensemble will ask you to insert the diskette with the document you wish to import.*
8. Eject Diskette 2, insert the diskette that contains the document you wish to import, and click on OK. *Importing begins and the document that you imported appears on the screen.*

Working with Text

This section will show you how to set up your page, and how to enter, move, copy, and edit text.

Setting Up Your Page

Before you start typing in your text, you will want to define the type of page you are creating.

The standard business size for an envelope is #10. To quickly create envelopes, use the envelope template on diskette.

You can create a document much larger than the printing area. Choose Leave at Actual Size and print across multiple pages. You can then tape the pages together.

► **To choose the page size:**

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

The page set up will affect the entire document.

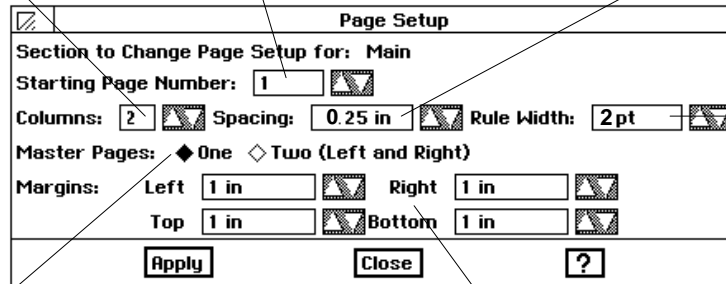
► **To set up the page:**

1. Select the document for which you want to change the page setup. (Position the insertion point anywhere in that document.)
2. Choose Page Setup from the File menu. *A dialog box appears.*
3. Fill in the dialog box, making the selections you want:

Columns. Select the number of columns in the document. See Managing Columns at the end of this chapter.

Starting Page Number You can start your document on a page other than 1. If you have several chapters or sections to the same document, you can save them separately and still have consecutive page numbering.

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.



Rule Width. If you have more than one column, you may want to draw a line between and then select the width of a vertical line. By default, this setting is zero (0) points, or no vertical rule.

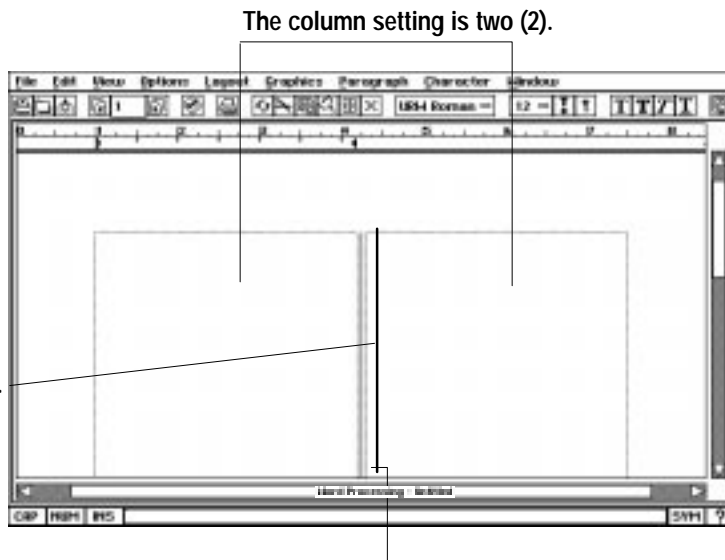
Master Pages. Select whether you want a single page or left (even) and right (odd) pages that look like mirror images of each other. You would select two if, for example, you wanted the page number or section name to always appear on the outside margin of a page: the left margin on a left page and the right margin on a right page. By default, this setting is one master page. See Using Master Pages on page 108.

Margins. Select the left, right, top, and bottom margins. By default, these settings are at one inch each. To change the margins of an individual page, see side note on page 109.

4. Click on Apply to apply your changes to the selected document.
5. Click on Close to close the dialog box.

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.

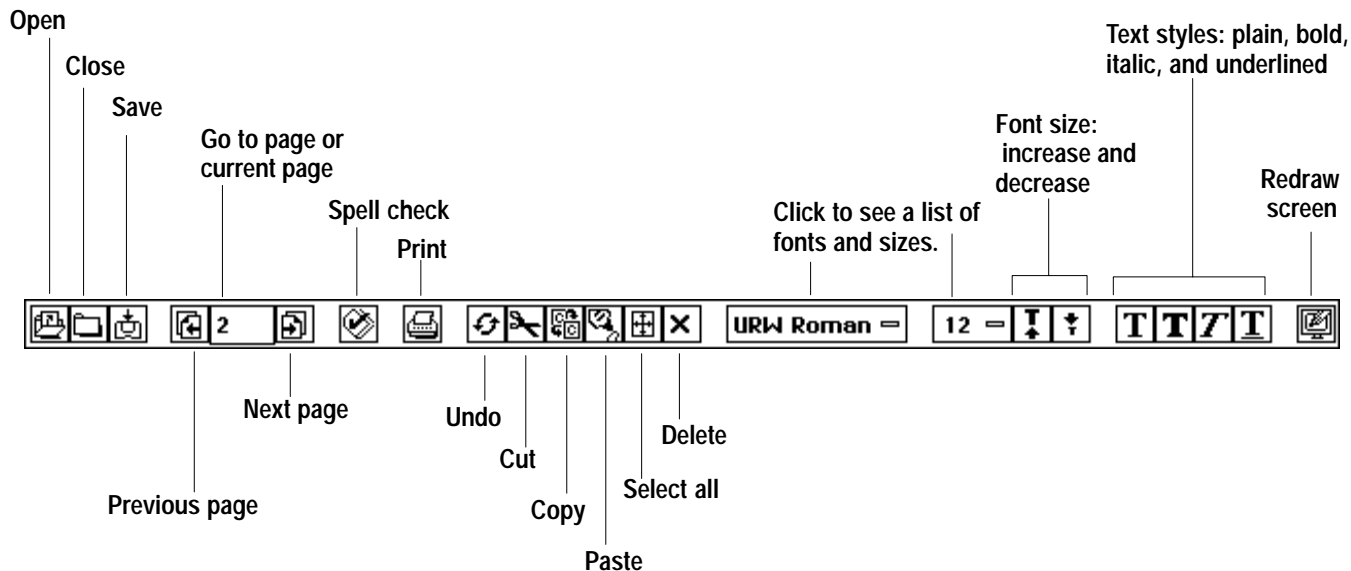


The distance between columns is 0.25 inches.

Using the Basic Functions Tool Bar

For a complete description of the drawing, and bitmap tools, see the "Drawing" chapter.

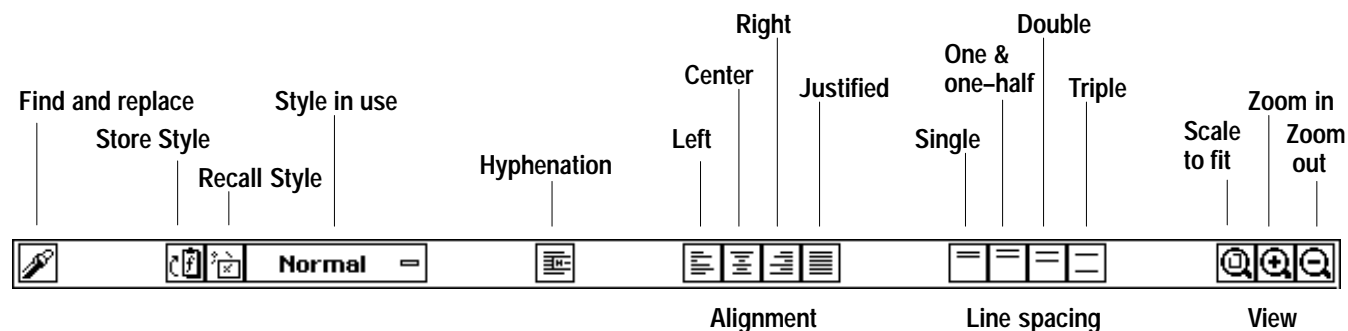
The Basic Functions tool bar appears when you open Word Processing. The tools on the Basic Functions tool bar allow you to move from page to page of your document and change text characteristics of selections: font, text size, and text style, as well as other editing functions.



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

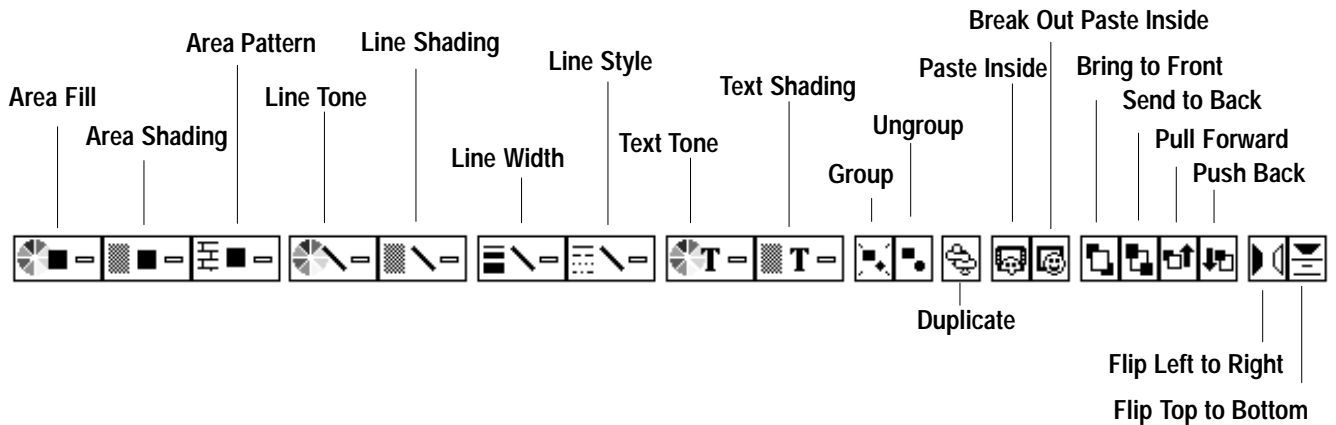
Using the Advanced Functions Tool Bar

The Advanced Functions tool bar appears when you select Advanced Functions from the Show Tools submenu of the Options menu. The Advanced Functions tool bar appears above the Basic Functions tool bar.



Using the Graphics Tool Bar

The Graphics tool bar appears when you select Graphics Bar from the Show Tools submenu of the Options menu. The Graphics tool bar appears above the Basic Functions and Advanced Functions tool bars.



► 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. (If the button is a pull-down menu, press the button and drag to select the choice you want.) *The characteristics change.*

Drawing and Bitmap tool bars are also available in Word Processing.

Using the Drawing and Bitmap Tool Bars

The Drawing and Bitmap tool bars are explained in detail in the Drawing chapter. (See page 206.) When you are working with graphics in Word Processing, it will be helpful for you to 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.

Entering Text

To switch in and out of insert mode, you can use the Insert button in the bottom left corner of the screen. Press **INS** (**INS** is selected by default) to turn off Insert (erasing the type underneath).

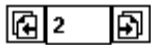
The method for entering text described in this manual is called *insert mode*. In the insert mode, the characters you type appear at the insertion point, pushing all existing characters to the right to make room for the new characters.

Insert mode is the recommended mode because you will not lose any text unless you select it and delete it. If you want the characters you type 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 on the keyboard, the words appear in the text area. As words reach the end of a line, they automatically wrap down and continue on the next line. This keeps the lines and sentences together in the same paragraph.

The *insertion point* is the blinking vertical line that indicates where the characters you type appear on the screen. On a blank page, the insertion point appears at the upper-left corner. While you are typing, the insertion point moves to the right, appearing after the last word. When you need to make changes to something you have already typed, you can 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 the SPACEBAR, TAB or ENTER key.**

► To go to another page:



Click on the Go to Page icon or choose Go to Page from the View menu. *If your document has more than one page, the page you choose will appear. 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.*

You can quickly, and easily move the insertion point using the mouse; if you prefer, you can use your keyboard arrows.

► To move the insertion point with the mouse:

1. Move the mouse pointer to the location in the text where you want to start the insertion.
2. Click the left mouse button. *The insertion point moves to the new location.*

If there is no text in the text area, you cannot move the insertion point with the mouse. You can use the **SPACEBAR**, the **TAB** key, or the **ENTER** key.

► To move the insertion point with the keyboard:

Press the keys shown below to move the insertion point:

- **HOME**. To the beginning of the current line.
- **CODE + HOME**. To the beginning of the document.
- **END**. To the end of the current line.
- **CODE + END**. To the end of document.
- **Arrow Keys (LEFT, RIGHT, UP, and DOWN)**. One character or line in direction of arrow.

- **CODE + LEFT ARROW.** To the beginning of the current word, or if it is already there, to the end of the previous word.
- **CODE+ RIGHT ARROW.** To the end of the current word, or if it is already there, to the beginning of the next word.
- **PAGE UP.** Up one screen.
- **PAGE DOWN.** Down one screen.
- **CODE + PAGE UP.** Right one screen.
- **CODE + PAGE DOWN.** Left one screen.

► **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.

*If you want to split an existing paragraph into two paragraphs, position the insertion point where you want to split the paragraphs, and press **ENTER**.*

► **To start a new paragraph:**

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

If there is existing text to the right of the insertion point, the existing text moves to accommodate the inserted text.

► **To insert text:**

Place the insertion point where you want to add text and start typing. *Anything you type is inserted into the document at that location.*

Selecting Text

You can use either the mouse or the keyboard to select text.

When you want to make changes such as rewording a sentence or moving a paragraph, you must first select the text you want to change. Selected text appears highlighted (surrounded by black). Once the text is selected, you can manipulate it in many ways.

► **To select text with the mouse:**

1. Move the mouse pointer to the beginning of the word, line, or paragraph you want to select.
2. Press and hold the left mouse button and drag the mouse across the text until what you want is highlighted; then release the mouse button.

OR

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

This table shows shortcut methods for selecting text with the mouse:

2 Clicks	Selects a word (but not the space after the word)
3 Clicks	Selects a line
4 Clicks	Selects a paragraph
5 Clicks	Selects the entire document

On the last click, if you continue holding down the mouse button rather than immediately releasing it, you can drag to select additional words, lines, or paragraphs at a time.

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

Press the keys shown below:

- **SHIFT + RIGHT** or **LEFT ARROW**. Selects one character in the direction of the arrow; reduces or extends the selection a character at a time in the same way.
- **CODE + SPACEBAR**. Selects the current word; the insertion point must be within the word.
- **CODE + SHIFT + RIGHT ARROW**. Selects to the end of the current word. If already at the end of a word, selects to the beginning of the next word; extends or reduces the selection in the same way.
- **CODE + SHIFT + LEFT ARROW**. Selects to the beginning of the current word. If already at the beginning of a word, selects to the end of the previous word; extends or reduces the selection in the same way.
- **SHIFT + UP** or **DOWN ARROW**. Selects from the insertion point one line in the direction of the arrow; extends or reduces the selection in the same way.
- **SHIFT + HOME**. Selects 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**. Selects 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.
- **CODE + SHIFT + UP** or **DOWN ARROW**. Selects to the beginning or ending of a paragraph in the direction of the arrow; extends or reduces the selection in the same way.
- **CODE + SHIFT + HOME**. Selects from the insertion point to the beginning of the document.
- **CODE + SHIFT + END**. Selects from the insertion point to the end of the document.
- **CODE + /**. Selects 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, press and 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 the clipboard.

► **To delete text with the mouse:**

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

OR

Press **CUT** or choose Cut from the Edit menu.

► **To delete text by using the keyboard:**

As long as no text is selected, you can use the following keystrokes to delete text:

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

Cutting, Copying, Pasting, and Replacing Text

You can move text around within your document, as if you were cutting and pasting with scissors and glue.

When you copy or cut a selection to the clipboard, it replaces whatever is currently on the clipboard.

When you select text, you can cut it to move it elsewhere, or copy it to paste a replica of it in another place. The selection you copy or cut is placed on the *clipboard*, an electronic holding space. When you choose Paste from the Edit menu, 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.

► **To move a selection:**

1. Select the item or text you want to move.
2. Choose Cut from the Edit menu or press **CUT**. *The item is removed from your document and placed on the clipboard, replacing any item already there.*
3. Move the insertion point to the location where you want the item to appear.
4. Choose Paste from the Edit menu or press **PASTE**. *The contents of the clipboard are inserted into the document, and the pasted text appears at the insertion point.*



If you want to leave an item in its original location and also insert it somewhere else, use **Copy** instead of **Cut**.

When you paste an item into a document from the clipboard, the item also remains on the clipboard unless you replace it. So you can continue to paste the same item from the clipboard to multiple locations in your document.

► **To copy a selection:**

1. Select the item or text you want to copy.
2. Choose **Copy** from the Edit menu, click on the Copy icon, or 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. Choose **Paste** from the Edit menu or 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.
2. Press **COPY** or **CUT**, or choose **Copy** or **Cut** from the Edit menu. *The text is placed in the clipboard.*
3. Select the block of text you want to replace, and choose **Paste** from the Edit menu. *The selection is replaced by the contents of the clipboard.*

Dragging and Dropping Text



Move



Copy

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

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

1. Select the text you want to move or copy.
2. Move the mouse pointer over the selected text.
3. Press and hold down the right mouse button. *The pointer changes to the drag and drop pointer.*
4. To move, drag the pointer so that it is over the location where you want to move the selection.

OR

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

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

Do not release the **CODE** key until after you have released the right mouse button.

Using Undo to Reverse Your Last Action

Pressing **CUT** or choosing *Cut* from the Edit menu will replace 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, you can choose Undo from the Edit menu to restore the text to its last condition. Undo undoes the last editing you did. Once you choose Undo, its name on the Edit menu changes to Redo so that you can undo what was undone.

► **To undo your last editing operation:**

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

Choose Undo from the Edit menu. *The text you are working on reverts to the way it was before your last editing operation.*

Using Special Characters and Symbols

For more international characters see the International Keyboard for your font. To see all characters available in Ensemble, see the Appendix. Once you open the On-screen Keyboard, it will stay open until you close it. Even if you close the application, the keyboard will return to the document window of another application. It disappears whenever you are not in a text input situation and reappears when the cursor reappears.

► **To find and insert special characters and symbols:**

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 to close the On-screen Keyboard.

Changing Text Style and Format

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

You can apply character attributes in two ways:

- You can select the text that you want to change, then choose the attribute you want; for more information, see “Selecting Text” on page 79 in this chapter.
- You can choose 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 you want to change.
2. Choose Character Attributes from the Character menu. *A dialog box appears.*
3. Fill in the dialog box, selecting the attributes you want:
 - **Character Weight (%)**. Select the weight of the characters. *You can choose any weight from 75 to 125.*
 - **Character Width (%)**. Select the width of the characters. *You can choose any width from 25 to 200.*
 - **Character Spacing**. Select the spacing between characters. *You can choose any spacing from -150 to 500.*
4. Click Apply to apply your changes to the highlighted text.
5. Click Close to close the dialog box.

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 provides the following fonts:

Occidental Font

☆*■* ☆□■* +□■▼

Shattuck Avenue Font

URW Mono Font

URW Roman Font

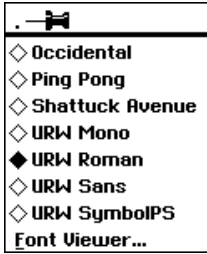
URW Sans Font

ΥΡΩ Συμβολιc Font

- Occidental
- Ping Pong
- Shattuck Avenue
- URW Mono
- URW Roman
- URW Sans
- URW SymbolPS

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. In other words, an “i” uses less space than a “w.”

The font you use in a document depends on many factors, including your personal style and the purpose of the text you are formatting.



► **To change the font:**

1. Select the text you want to change.
2. Choose Fonts from the Character menu. *A menu of fonts appears.*
3. Choose a font. *Your text is changed to the font you selected.*

► **To change the font more quickly:**

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

Changing text sizes

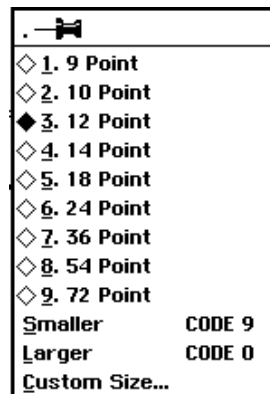
Text size determines how tall and wide a character is. Text size is usually measured in *points*, a measurement used in the printing industry. A point is approximately 1/72 of an inch. Therefore, 72 point text is one inch tall, and ten point text is one seventh of an inch tall. Most books and magazines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

You can choose the size of the characters in your document from a list of standard point sizes (9 points through 72 points). You can also use a custom text size.

► **To change the text size:**

1. Select the text you want to change.
2. Choose Sizes from the Character menu. *A submenu appears:*

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.



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 from the Basic Functions tool bar:**

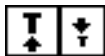
1. Select the text you want to change.
2. Click on the Text Size button on the Basic Functions tool bar. *The menu of text sizes (pictured at left) appears.*
3. Select the text size you want. *The highlighted text appears in the size you selected.*

► **To change the text size incrementally:**

1. Select the text you want to resize.
2. If you want to use the menu, choose Sizes from the Character menu. *A submenu appears.*
3. Make the text larger or smaller using one of the following methods:

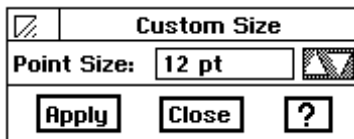
Sizes Menu	Keyboard
Smaller	CODE + 9
Larger	CODE + 0

OR



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 predefined size.*

► **To set a custom text size:**



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

Changing text styles

You can 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. H₂O)
- Boxed (with a box around it)
- Button (to resemble a button that you press)



► **To change the style of text:**

1. Select the text that you want to change.
2. Choose the style you want from the Styles submenu on the Character menu.

OR

Choose the style from the Basic Functions tool bar. *The selected text appears in the style you selected.*

Using the Ruler

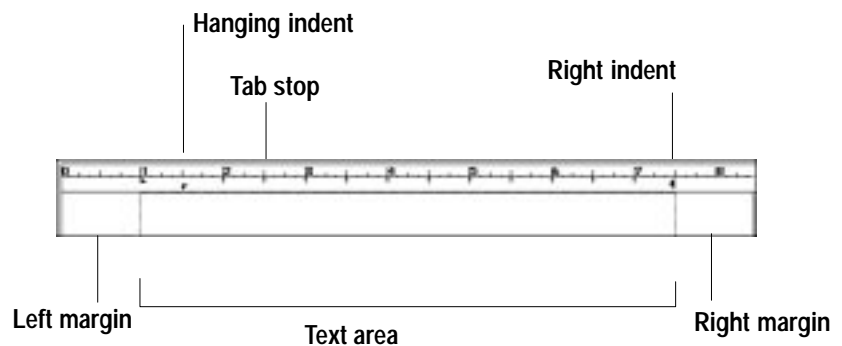
You have additional options for changing paragraph indentation and setting tab stops. For more information, see "Setting Indentations" on page 88.

You can change headers and footers. However, ruler changes do not affect header and footer text. For more information, see "Using Headers and Footers" on page 100.

Snap to Ruler Marks is explained in the section Using Graphics in a Document on page 111.

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

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



You may want the ruler to begin at the edge of the margin rather than the edge of the paper. Or, you may want to use a vertical ruler. Follow these steps to change options on the ruler.

► **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 would like to use.

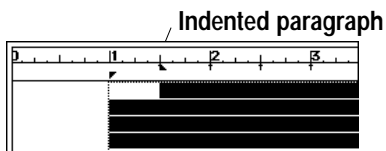
Setting indentations

The text of each paragraph wraps within the indentation setting, which you can change using the Indentation markers on the ruler. The Right Indent marker is a single triangle that you can drag to a new location to specify the right edge of the text. The Left Indent marker includes two triangular markers:

- 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).

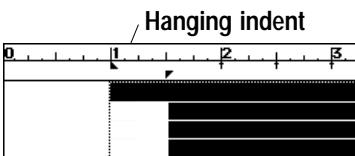
If both of the Left Indent triangles are together, all lines in the paragraph align beneath the markers. If the top triangle is to the right of the bottom triangle, the paragraph indents in the standard way with the first line indented, as shown in the illustration at left.

Hanging indents allow you to align the text when you use bullets or numbered lists.



► **To indent the first line of a paragraph using the mouse:**

1. Select all of the paragraphs you want to indent. (If you want to indent only a single paragraph, simply move the insertion point into that paragraph.)
2. Drag the First Indent marker (the upper triangle) the distance you want for the indentation. *The existing text or text you type will be indented as specified.*



► **To create a hanging indent using the mouse:**

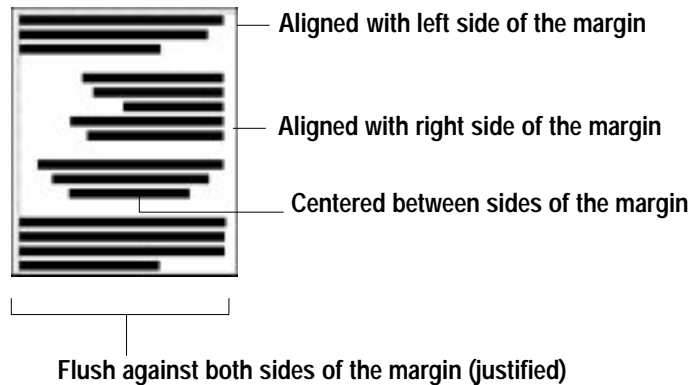
1. Select the paragraphs for which you want a hanging indent, or move the insertion point to where your hanging indent will begin.
2. Drag the Hanging Indent marker (the lower triangle) to where you want the second and subsequent lines to align.

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

1. Select one or more paragraphs you want to change.
2. Choose Indents from the Paragraph menu. *A dialog box appears.*
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 page right margin.
4. Click on Apply to apply your changes to selected paragraphs.
5. Click on Close to close the dialog box.

Aligning text

You can decide how text lines up along a margin: left aligned, centered, right aligned, and full left *and* right aligned, or *justified*. For example, when text is left-aligned, the rows of text line up along the left margin (excluding specified indentation) and the right ends of the lines are ragged.



► **To change text alignment:**

1. Select the text or move the insertion point into the paragraph you want to align.
2. Choose Alignment from the Paragraph menu. *A submenu appears.*
3. Select the alignment you want (Left, Center, Right, or Justified).

► **To change text alignment with the Advanced Functions tool bar:**

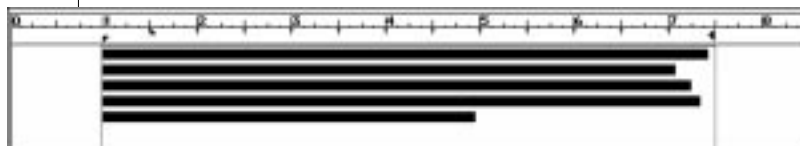
1. Select the text or move the insertion point into the paragraph you want to align.
2. Select an alignment using the Advanced Functions tool bar, or one of the following keystroke combinations:

Alignment	Keyboard
Left	CODE + L
Center	CODE + E
Right	CODE + R
Full (Justified)	CODE + J

Changing line spacing

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

Line spacing is the space between lines in a paragraph.



You may want to add more space between the lines of text in a paragraph. You can choose from the following line spacing:

- **Single.** This is considered normal spacing. There is no extra line space between each row of text.
- **One and a Half.** There is a half line space between each row of text.
- **Double.** There is a whole line space between each row of text.
- **Triple.** There are two whole lines in between each row of text.
- **Custom.** You can set 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. Choose Line Spacing from the Paragraph menu. *A submenu appears.*
3. Select one of the following options from the submenu: Single, One and a Half, Double, Triple, or Custom line spacing.

Using Tone in Text

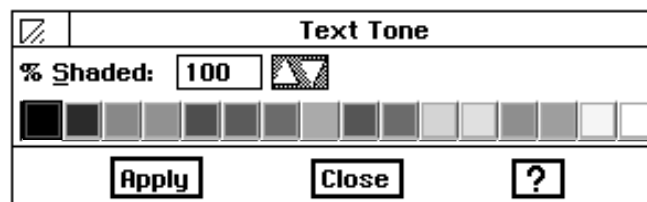
You can set the text tone before you begin type in if you wish, or select it and change it later.

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

For monochrome Ensemble, you can select shades of gray (some shades will appear on the screen to have patterns in them, but may print without pattern). You can also increase or decrease the percentage of shading to fade or sharpen the intensity. You can also choose different patterns to create a different texture in the background.

► **To change the text tone:**

1. Select the text you want to change.
2. Choose Text Tone from the Character menu. *A dialog box appears:*

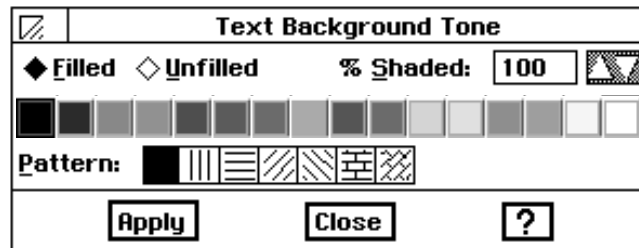


Keep in mind that the tone you achieve is not going to appear on the screen exactly as it will print.

3. Fill in the dialog box, selecting the attributes you want:
 - **% 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 to apply your changes to the selected text. *(Continue to make changes as desired until you are satisfied with how the text looks.)*
5. Close the dialog box and 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 you want to change.
2. Choose Text Background Tone from the Character menu. *A dialog box appears:*



3. Fill in the dialog box, selecting the attributes you want:
 - **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 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 to apply your changes to the selected text. *(You can continue to make changes as desired until you are satisfied with how the text looks.)*
5. Click again somewhere on the page to deselect text in order to see the text in the tone you chose.

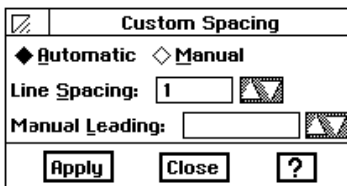
Formatting Documents

To use a template for easy document creation and formatting, see chapter 1 "Getting Started."

This section describes the features that make it quick and easy to create formatted documents. This section describes how to:

- Format paragraphs by changing alignment, spacing, margins, tabs, borders, and other attributes.
- Find text quickly and replace it with different text.
- Add headers and footers to your document.
- Add a title page to your document.
- Proof your document using spell checking features and an online thesaurus.
- Use and manage styles to save formatting time and to give your documents a consistent look.

Formatting Paragraphs



► To set custom line spacing:

1. Select one or more paragraphs you want to change.
2. Choose Line Spacing from the Paragraph menu. *A submenu appears.*
3. Choose Custom Spacing from the submenu. *A dialog box appears.*
4. Select Automatic for automatic line spacing or Manual for more precise control.
5. Set the line spacing option you want:
 - **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.
6. Click on Apply to apply your changes to selected paragraphs.
7. Click on Close to close the dialog box.

► To change paragraph spacing:

1. Select one or more paragraphs you want to change.
2. Choose 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 space you want to appear before a paragraph.
 - **Space On Bottom.** Select the space you want to appear after a paragraph.
4. Click on Apply to apply your changes to selected paragraphs.
5. Click on Close to close the dialog box.

Setting tabs

Tabs are the locations where the insertion point stops when you press **TAB**. You use tabs to create aligned columns, such as a table of contents or columns of numbers. Automatic tabs are placed every 1/2 inch, and you can add your own by clicking on the ruler.

You can set tabs with more precision and additional options, such as right aligned tabs, decimal tabs, custom positions, and *tab leaders* (dots or lines between tabbed items).



► **To create tabs on the ruler:**

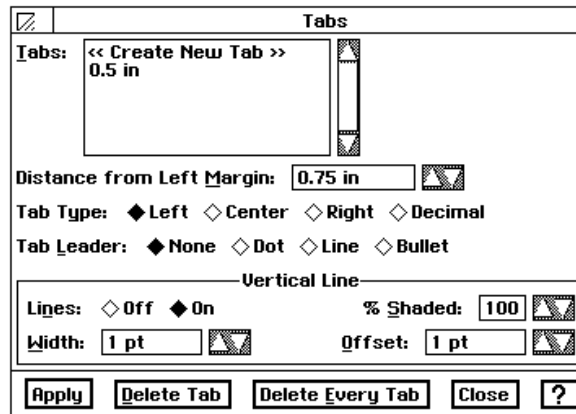
1. Select the paragraphs for which you want to create tabs, or if you want to add a tab to a single paragraph, move the insertion point into the paragraph.
2. Click on the ruler. *The tab marker appears where you clicked. The automatic tab markers disappear to the left of the new tab marker.*
3. If the tab marker is not exactly where you want it on the ruler, drag the marker to the location you want.
4. Continue clicking and dragging until you have placed all the tab markers you need.
5. When you press the **TAB** key while entering text in the specified paragraphs, the text aligns under the tab marker(s).

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

1. Select one or more paragraphs you want to change.
2. Choose Tabs from the Paragraph menu. *A dialog box appears.*
3. Fill in the dialog box, selecting the options you want.
 - **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, you would 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, when selected, 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 to create the tab setting using the current settings. *The tab is applied to selected paragraphs.*
5. Click on Close to close the dialog box.

► **To change a tab:**

1. Select one or more paragraphs you want to change.
2. Choose 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 to save your changes to the selected tab setting and to apply them to selected paragraphs.
6. Click on Close to close the dialog box.

► **To delete a tab:**

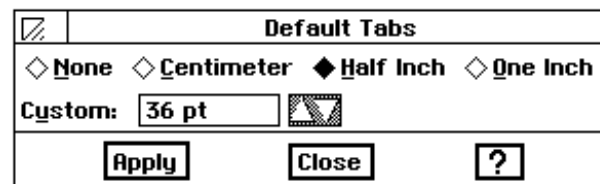
1. Choose Tabs from the Paragraph menu. *The Tabs dialog box appears.*
2. Select the tab you want to delete in the Tabs list.
3. Click on Delete Tab or drag it off the ruler. *Word Processing deletes the tab and shifts the text to the next tab.*

► **To delete all tabs:**

1. Choose Tabs from the Paragraph menu. *The Tabs dialog box appears.*
2. 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. Choose 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 to apply your changes to selected paragraphs.
5. Click on Close to close the dialog box.

Setting borders

You can put a border (lines or a box) around a paragraph to add emphasis and make it stand out in the flow of text. The border width 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 you want to have a border.
2. Choose 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 you want to have a custom border.
2. Choose Borders from the Paragraph menu. *A submenu appears.*
3. Choose Custom Border. *A dialog box appears.*
4. Fill in the dialog box, selecting the options you want:
 - **Sides to Border.** Select this option to set the sides of the border (Left, Top, Right, and Bottom). Select all to put a box around the text. Select Draw Inner Lines to draw between lines of text.
 - **Border Width (points).** Select the width of the border in points.
 - **Border Spacing (points).** Select the border spacing in points.
 - **Border Type.** Select the type of border (Normal, Shadow, or Double Line).
 - **Shadow Anchor.** If a shadow border type 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 type 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 to apply your changes to selected paragraphs.
6. Click on Close to close the dialog box.

With the monochrome PDP-100J, tone will appear as a shade of gray.

► To change the border tone:

1. Select one or more paragraphs you want to have a custom border.
2. Choose Borders from the Paragraph menu. *A submenu appears.*
3. Choose 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 to apply your changes to the selected text. *(Continue to make changes as desired until you are satisfied with the border.)*
6. Click on Close to close the dialog box.

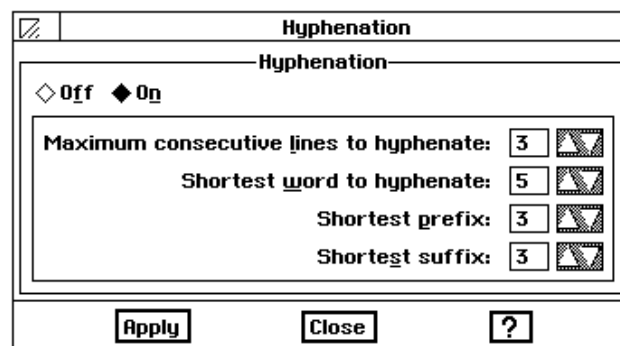
Hyphenation

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

If hyphenation is active (it is turned off by default), a word extending beyond the right margin is split between syllables. Ensemble inserts a hyphen (-) and line break, and wraps the rest of the word to the next line. Word Processing provides default hyphenation settings that you can change as desired. 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. Choose Hyphenation from the Paragraph menu. *A dialog box appears:*



3. Fill in the dialog box, selecting the options you want:
 - **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.** Too many hyphenated lines in a row can clutter a document. Use this setting to restrict the total number of lines that can be hyphenated.
 - **Shortest word to hyphenate.** Too many hyphenated words, particularly if they are short, can clutter a document. Use this setting to limit the hyphenation to words of a certain length.
 - **Shortest prefix.** Use this setting to set the length of the shortest prefix to hyphenate, such as “pre” in “prefix.”
 - **Shortest suffix.** Use this setting to set the length of the shortest suffix to hyphenate, such as “ing” in “hyphenating.”
4. Click on Apply to apply your changes to the selected text.
5. Click on Close to close the dialog box.

Finding and Replacing Text

You can 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

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

► To search for text:

1. Choose Find and Replace from the Edit menu.

OR

Press **CODE + F**.

OR

Click the Find and Replace tool on the Advanced Function tool bar.
A dialog box appears.



Find and Replace	
Find:	form
Replace With:	from
<input checked="" type="checkbox"/> Special Characters	<input type="checkbox"/> Ignore Case/Accents <input type="checkbox"/> Match Partial Words
<input type="button" value="Find Next"/>	<input type="button" value="Find Previous"/>
<input type="button" value="Replace In Selection"/>	<input type="button" value="Replace"/>
<input type="button" value="Close"/>	<input type="button" value="Replace All"/>
	<input type="button" value="?"/>

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. You can stop the search here, or you can 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 to tell you. Click on OK to close the message dialog box.
4. Click on Close to close the dialog box.

Replacing text

You can replace any search text with different text.

► **To replace text:**

1. Choose Find and Replace from the Edit menu.

OR

Press **CODE + F**.

OR



Click the Find and Replace tool on the Advanced Functions tool bar. *The Find and Replace dialog box appears.*

2. Type the text you want to search for. (You can search for any combination of numbers, letters, spaces, and other printable characters, such as punctuation marks.)
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:*
 - You can replace one occurrence of the selected text. To do this, click on Replace. You can stop the search here, or you can click on Find Next to resume the search for another match.
 - You can replace all occurrences of the search text with the replacement text. To do this, click Replace All. A dialog box appears asking if you want to replace all occurrences. Click Yes to continue, or click No to abandon the operation.
 - Replace in Selection is the same as Replace All, except that it replaces all occurrences only within selected text.
5. Click on Close to close the dialog box.

Using wildcards and special characters

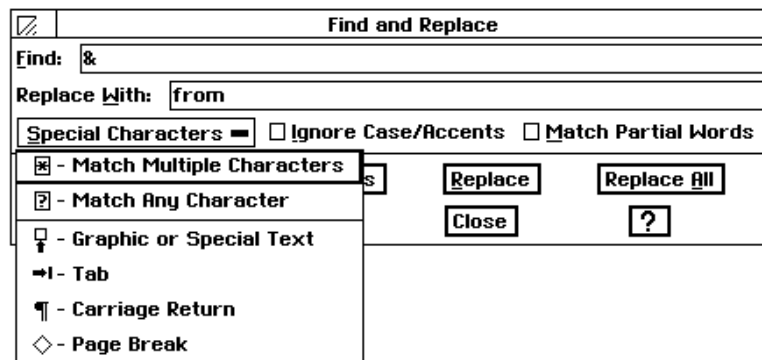
You can use two wildcards and all special formatting characters when you search and replace text. A *wildcard* is a symbol that substitutes for a single character (?) or a series of characters (*). You can use wildcards to search for words or phrases that are similar or have slightly different spellings.

For example, if you want to find any word that begins with “math” (such as math, mathematics, mathematical, and so on), you can use the Multiple Characters wildcard in your search text (“math*”). Similarly, if you want to find any occurrence of the words “affect” and “effect”, you can use the Any Character wildcard in your search text (“?ffect”).

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. Choose Find and Replace from the Edit menu, or press **CODE + F**. *The Find and Replace dialog box appears.*
2. Click Special Characters. *A drop-down list appears.*



3. Select the wildcard(s) and special character(s) you want to search for.
 - **Match Multiple Characters.** Allows you to match text where the beginning or end of the text might vary (such as “professor” and “professional”).
 - **Match Any Character.** Allows you to match text where one or more characters might vary (such as “arise” and “arose”).
 - **Graphic or Special Text.** Allows you to add a character to search for any graphic object or any special text character (dates, times, numbers, and so on) to the Find text.
 - **Tab.** Allows you to add a tab character to the Find or Replace With text.
 - **Carriage Return.** Allows you to add a carriage return character to the Find or Replace With text.
 - **Page Break.** Allows you to add a page break character to the Find or Replace With text.

For special characters, you can set the following options:

- **Ignore Case/Accents.** This is a special character option that 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.** This is a special character option that instructs the 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 to close the dialog box.

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 of each page. 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 into Word Processing, the headers and footers from the source document do not appear in the target document.

Header information appears at the top of the page just above the top margin. Footer information appears at the bottom of the page just below the bottom margin. Headers and footers are not required in your document. Normally, you use them in documents with multiple pages. They can contain text formatting (such as bold or italicized text) and multiple lines of text.

You can be quite creative with headers. For example, you can use a different header or footer on the first page. Similarly, you can use different headers and footers on odd and even pages, thereby putting the page number near the outside edge of each page.

► **To set up a header:**

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



To remove any text, press the **BACKSPACE** key.

2. Enter the header information. *You can also use the following buttons located at the top of the header window 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 Close. *The document page reappears with the header or footer you created.*

► **To set up a footer:**

1. Choose Edit Header/Footer from the Layout menu. *A page appears with the insertion point in the upper-left corner of the footer area.*
2. Enter the footer information. *You can also use the following buttons located at the top of the footer window 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 Close. *The document page reappears.*

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

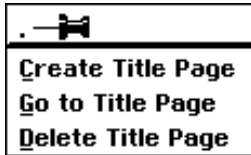
1. Choose Header/Footer from the Layout menu.
2. From the Drawing tool bar, select the pointer tool and then select the text region (header, footer, or body text) you want to resize.
3. Point to any handle, hold down the left mouse button, and drag the handle until the text region becomes the size you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

Creating a Title Page

The *title page* is typically the cover page of a document. The title page usually contains descriptive information such as the title of the document, the author's name, the date of printing, and so on. The title page is numbered 0, but the number will not print.

► To add a title page to a document:

1. Choose Title Page from the Layout menu. *A submenu appears.*
2. Choose Create Title Page from the submenu. *A dialog box appears asking if you want to continue.*
3. Click 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 tool. (You can resume editing anywhere in the document.)



The title page appears with a page break line below the cursor. To move the cursor down the page, use the **ENTER** key.

► To go to the title page:

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

► To delete the title page:

1. Choose Title Page from the Layout menu. *A submenu appears.*
2. Choose 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 Text Style Sheets

When you create a style, you give it a name. Styles help ensure a consistent look to your text. They also make it easier to reformat a document because changing a style automatically updates paragraphs in that style as well as any styles that depend on that style. You can save styles so that you can use them over and over.

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.

You can use a style to apply all the text and paragraph attributes to an object at the same time. 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, tab stops, and paragraph spacing.

Styles make it easy for you to apply a group of attributes to text all at once. This saves you the effort of setting the same attributes for different sections of text. For example, you might want a title style to automatically center and display title text in a large, bold font. You could define the character and paragraph formatting for each Title paragraph individually, which might be time-consuming, or you could simply apply the Title style to each paragraph and save time.

Using default styles

Word Processing provides a set of three commonly-used styles. You can use them as is, or as a starting point for creating your own custom styles:

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

Applying a style

You can change the format of a paragraph simply by applying a style from the style sheet.



► **To apply a style to a paragraph:**

1. Select one or more paragraphs you want to change.
2. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*
3. Click Apply Style from the submenu. *A scroll list appears.*
4. Select the style you want, scrolling the list if necessary. *Ensemble applies the style formatting to selected paragraphs.*
5. Click the window control button in the top left corner to close the dialog box.

► **To apply a style from the Advanced Functions tool bar:**

1. Select one or more paragraphs you want to change.
2. Click on the Styles drop-down list button on the Advanced Functions tool bar. *A list of styles appears.*
3. Select the style you want. *Ensemble applies the style formatting to selected paragraphs.*

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, you use the Store Style choice. While named styles are saved with your document, graphic styles that you record with the Store Style choice 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. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*
3. Choose Store Style from the submenu. *Ensemble 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. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*
3. Choose Recall Style from the submenu. *Ensemble 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 .25 inches, Word Processing increases the left margin in "Indent Level 2" by .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 instead.

► **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. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*

4. Choose 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 Styles pop-down list. 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. Choose a name that indicates what the style does. For example, you could call a style that contains the name of a chapter "Chapter Name."
5. Click on Define New Style to define the style. *Word Processing applies the new style to the selected text or paragraph.*
6. Click on Close to close the dialog box.

Changing styles

You can change a style in two ways. You can change its attributes (text size, paragraph spacing, and so on) or you can change 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.

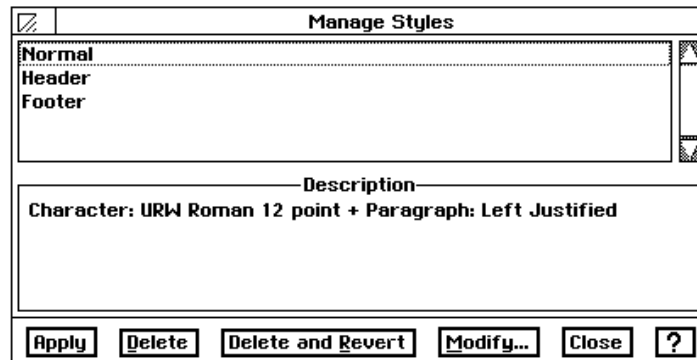
You can change the visual attributes (text and paragraph attributes) of an existing style. Doing so updates all text in the changed style with the attributes you selected. You can also change the style attributes of an existing style. If the style serves as the base style for other styles, changes can affect those styles as well.

► **To update a style:**

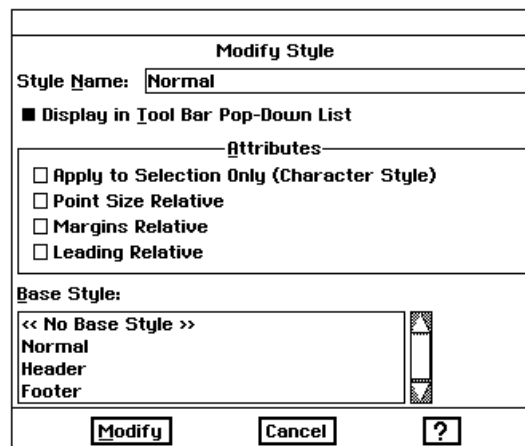
1. Select a paragraph in the style you want to change.
2. Set any character and paragraph attributes you want for this style.
3. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*
4. Choose Redefine Style from the submenu. *Word Processing updates the style with the formatting in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

► **To modify an existing style:**

1. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*
2. Choose 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:*



You can change the base style if you want by selecting it in the list. If you do not want a base style, choose <<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 close the dialog box.

You can delete a style you no longer need to eliminate clutter in the style sheet. Once you delete a style, you cannot recover it.

► **To delete a style:**

1. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*
2. Choose 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.*
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 close the dialog box.

If you select a paragraph, you can change its attributes from the current style to the attributes of the base style of the current style.

► **To revert to the base style:**

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

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. Choose Text Style Sheets from the Paragraph menu. *A submenu appears.*
2. Choose Bring In Style Sheet from the submenu. *A dialog box appears.*
3. Select a document or template from the list.
4. Click 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 to close the dialog box.

Saving Configuration

You can use the Options menu to save Word Processing with the settings the way you want them. After you have changed options in an application, you can save that configuration so that it is in effect each time you start the application. If you want to change the options back to their original settings, you can reset the configuration.

► **To save the configuration:**

1. Set the options you want on the Options menu.
2. Choose Save Configuration from the Options menu. *Each time you start Word Processing, these settings will be in effect.*

► **To reset the configuration:**

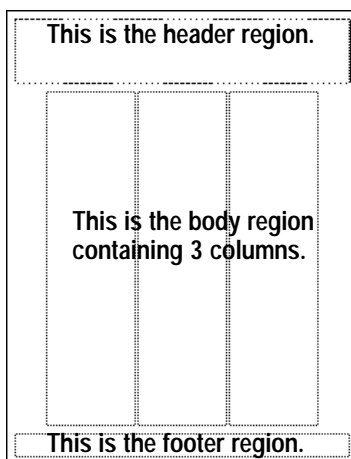
Choose Reset Configuration from the Options menu.

Designing Documents

This section describes the advanced features that make it quick and easy to create documents using templates, graphics, and page layout. This section describes how to:

- Combine graphics and text together in a document.
- Use Word Processing's page layout mode for **desktop publishing**.

Using master pages



With master pages, you can specify the kind of information that repeats on each page of a document. For example, you might want a logo to appear on every page, or you might want to make the header bigger 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.

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 modify the document to suit your needs without affecting the master page.

Each document has either one or two master pages, depending on the master pages setting in Page Setup. By default, each document has just one master page. The illustration at the left shows a typical master page designed with three columns.

Editing the master page

If you want to change the format of an individual page in your document, do not use 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 to change the size of the footer to make room for footnotes above it, or when you want the margins of a particular page to be different from the rest of the document.

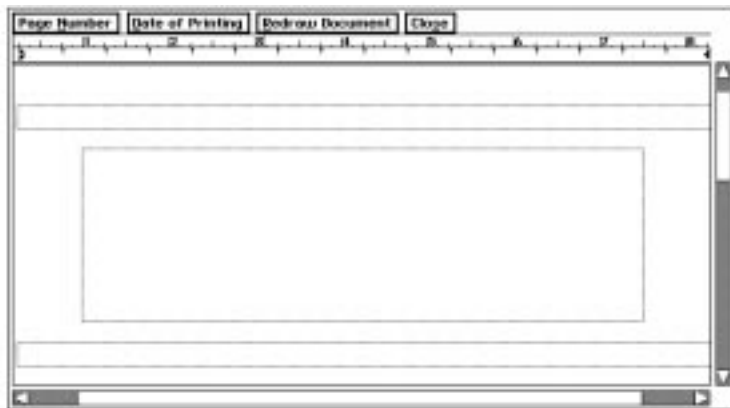
There are several ways to change the master page:

- You can change the header and footer.
- You can change the column settings, master page settings or margins in Page Setup.
- You can edit the master page directly, which gives you more precise control over its contents.

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

► **To edit the master page:**

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

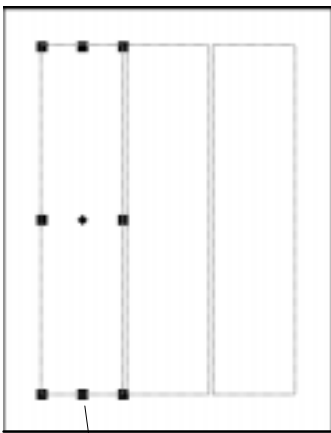


- **Page Number.** Click this button to put the page number at the insertion point.
 - **Date of Printing.** Click this button to put the date of printing at the insertion point.
 - **Redraw Document.** Click this button to refresh the screen and implement any changes you've made. This option is useful if the master page and the document appear on screen at the same time.
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 Close. *Word Processing updates all affected pages with any changes you've 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, if you wanted 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. You can adjust the width or position of these columns by editing the master page.



Handles show that the text region is selected. Selecting a text region allows you to move it or resize it.

► **To select a text region:**

1. Select the Pointer tool from the Drawing tool bar in the Show Tools submenu of the Options menu. *The mouse pointer becomes an arrow.*
2. Point the tip of the arrow to a border of the text region (header, footer, or body text), and click the left mouse button. *Handles appear along the border of the text region to indicate that it is selected.*

► **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, press and hold down the left mouse button, and drag the handle until the text region becomes the size you want.
3. Release the left mouse button.

► **To move a text region:**

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

► **To copy a text region:**

1. Select the text region you want to copy.
2. Press **COPY**.

OR

Choose Copy from the Edit menu.

OR

Click on the Copy tool on the Basic Functions tool bar. *Word Processing copies the text region to the clipboard.*



3. Position the insertion point to where you want to paste the text region.
4. Press **PASTE** (or choose Paste from the Edit menu).

OR



Click on the Paste tool on the Basic Functions tool bar. *Word Processing pastes the text region to the document.*

► **To delete a text region:**

1. Select the text region you want to delete.
2. Press **DELETE** (or choose Delete from the Edit menu).

Using Graphics in a Document

This section shows you how you can use graphics in a Word Processing document. It discusses some, but not all, of the graphics features available in Word Processing. The drawing and graphics features are very similar in Word Processing and Drawing. Complete information about drawing and graphics is included in Chapter 5, Drawing.

Graphics, especially large ones, take up more "space" in the Ensemble memory than text. If you use graphics such as the large clip art images on diskette, you may need to break up your document and save the pages with graphics separately.

Open the tool bars by selecting Show Tools from the Options menu.

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. Similarly, you could create a graph in Spreadsheet, copy it to the clipboard, and paste it directly into a Word Processing science report that discusses the graph.

You can even 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. You should display and use the Drawing tools whenever you create graphics in Word Processing.

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

Using Graphic Frames

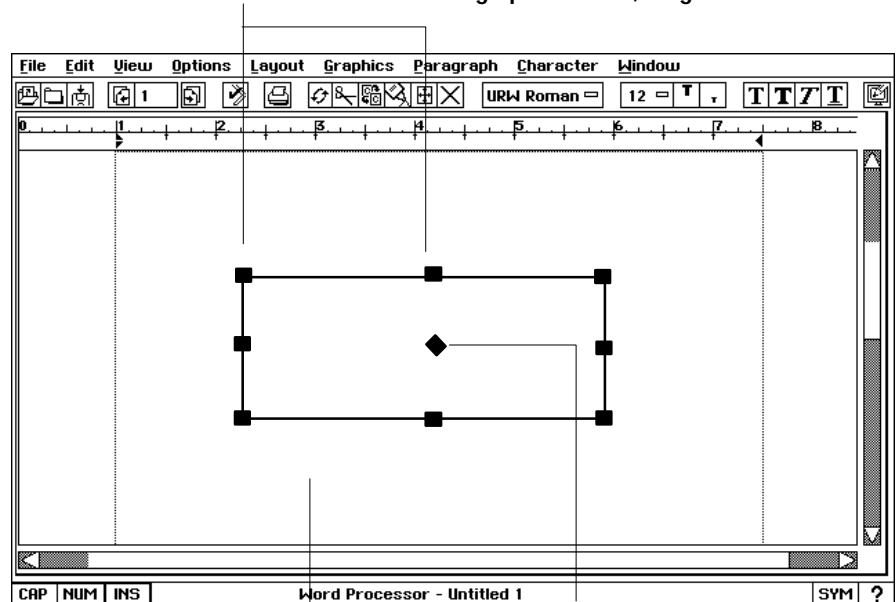
A *graphic frame* is a rectangle that you can use to put a frame around text or graphics in a document. You can fill a graphic frame with tone and patterns, change the tone and thickness of its border, and make text wrap around it, wrap inside it, or even flow right through it.

You can *resize*, *move*, and *delete* with the pointer tool in the Drawing tool bar a graphic frame. To change a graphic frame, you must first select it. When you add a new graphic frame, it is selected automatically. The border of a graphic frame has handles when it's selected.

► **To add a graphic frame:**

1. Choose Create Graphic Frame from the Layout menu.
2. Point to where you want to anchor the upper-left corner of the graphic frame.
3. Press the left mouse 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 left mouse button. *The graphic frame appears with handles along its borders, as shown in the following illustration:*

The handles along the borders of the graphics frame indicate that it is selected. To resize the graphics frame, drag a handle.



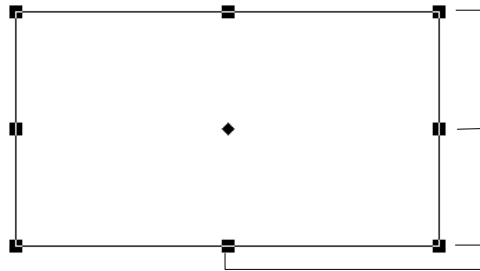
The text region shows where the text goes.

To move the graphics frame, drag the move handle.



► **To select 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 the left mouse button. *Handles appear along its border to indicate that it is selected.*



The handles along the borders of the graphics frame indicate that it is selected.

► **To deselect a graphic frame:**

Point anywhere outside or inside the border of the graphic frame and click. *The handles do not appear whenever a graphic frame is not selected.*

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

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

► **To line up a graphic frame to a ruler:**

1. Select the Rulers from the Options menu.
2. Select Snap to Ruler Marks. *Ensemble will now align 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, press and hold down the left mouse button, and drag the graphic frame to where you want it to appear.
3. Release the left mouse button.

► **To delete a graphic frame:**

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

Setting attributes

Tone and patterns can add emphasis and appeal to a graphic frame. You can define tones and patterns for the inside fill (*area attributes*) and border (*line attributes*) of a graphic frame. You can fill the space inside with tone or patterns, or you can leave it empty (unfilled). When using tone and patterns in a graphic frame, consider the impact on text, background, and graphics. You might need to adjust the tones and patterns for any of these objects to clarify any point or message you may be making.

Using Clip Art

Pasting graphics into a document

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

You can select and copy more than one graphic object at a time, if you want.



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

1. In the application you are using to draw the graphic (Drawing, Spreadsheet, or even Word Processing), select the graphic object you want to copy.

2. Press **COPY**. (or choose Copy from the Edit menu).

OR

Click on the Copy tool on the Basic Functions tool bar. *Word Processing copies selected graphic objects to the clipboard.*

3. Open the Word Processing document into which you want to paste the graphic object or objects.
4. Position the insertion point on the page on which you want the graphic object or objects to appear.
5. Press **PASTE** (or choose Paste from the Edit menu).

OR

Click on the Paste tool on the Basic Functions tool bar. *Ensemble will ask if you want it 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. Choose the layer by clicking on the button. The graphic appears on the page.
7. Resize or move the graphic objects as desired.

► **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 left mouse button, and drag the handle until the graphic object or objects become the size you want.

OR

Select Transform from the Graphics menu and use Scale to custom size the graphic object or frame.

3. Release the left mouse button.

► **To move a graphic object:**

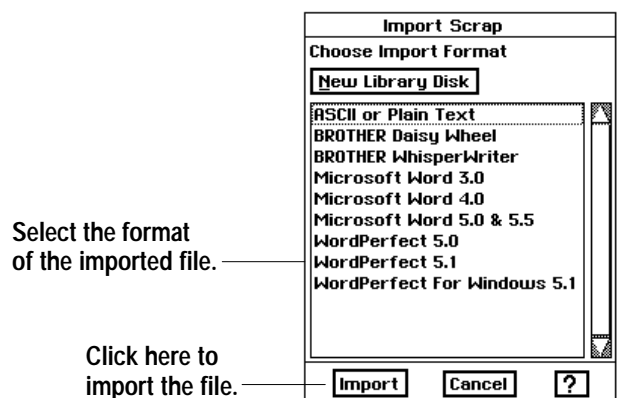
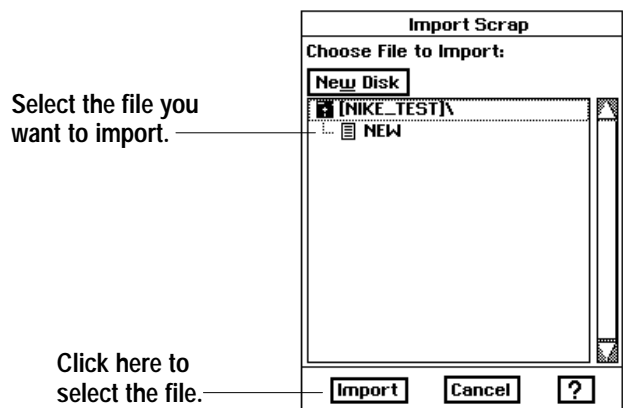
1. Select one or more graphic objects you want to move.
2. Point to the move handle, press and hold down the left mouse button, and drag the selected graphic objects to where you want it to appear.
3. Release the left mouse button.

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

You must first import the clip art into your scrapbook. Then, copy the clip art from scrapbook and paste into your Word Processing document.

If your scrapbook is empty, it only has one page.

1. Open a Scrapbook. If you do not wish to place the clip art in your Default Scrapbook, you will need to create another scrapbook. (See Scrapbook, page 252.)
 - If you have never created your Default Scrapbook, you will receive a message allowing you to create it by clicking on the New. (See Scrapbook, page 247.)
 - If for some reason you have a scrapbook, but it is not labeled as Default Scrapbook, you will get a message saying that it cannot find your default scrapbook. Select the Cancel button to obtain a New/Open Scrapbook dialog box. Then select your scrapbook name and click on open.
2. Locate the page in your scrapbook which 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 Diskette 3 (clip art diskette).
4. Choose Import Scrap from the File menu. *The Import Scrap dialog box appears and shows a list of file names:*



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

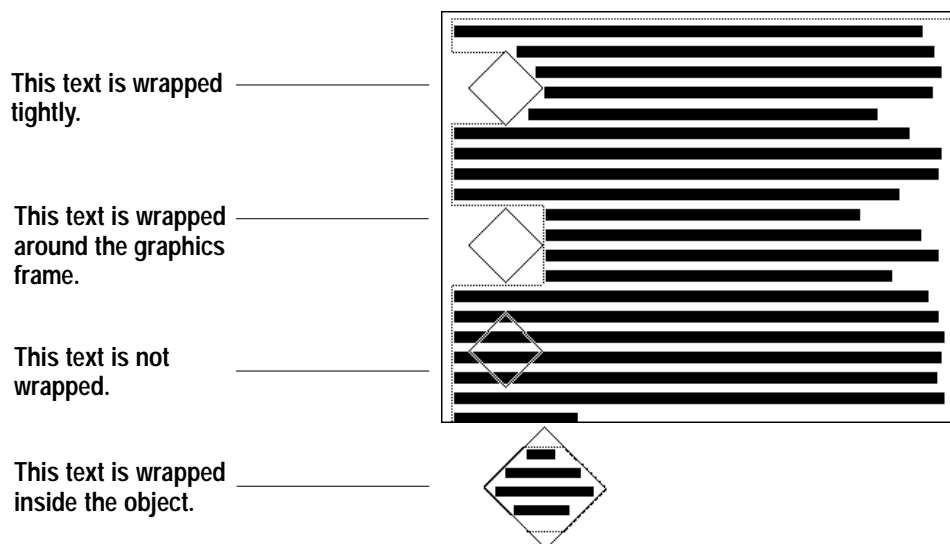
5. Select the name of the file you want to import, and click on the Import button. *Your system asks for the diskette containing the import libraries.*
6. Insert Diskette 2. *The Import Scrap dialog box reappears with a list of the file formats you can import.*
7. Select the format (Ensemble clip art is TIFF) of the image you are importing.
8. Click on the Import button. *It may take several seconds for the image or text to be imported and placed in the scrapbook.*
9. Select Copy from the File menu or press COPY.
10. Open the Word Processing document into which you want to paste the clip art.
11. Position the cursor where the clip art is to be inserted.
12. Press **PASTE** or choose Paste from the Edit menu. *Ensemble will ask if you want the graphic on the text layer or graphics layer.*
 - To resize the object, see Drawing on page 211.
 - To move the object, see Drawing on page 227.

This enables Scrapbook to copy the clip art image file in a format that the Word Processing can understand.

You can use Scrapbook to first 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.

Wrapping Text

Wrapping text determines how a graphic fits in with the text. Text can go outside or inside the borders of a graphic object or it can flow right through the graphic object. The following illustration shows examples of each option:



Ensemble applies the wrap type you selected and wraps text accordingly.

► **To set text wrapping:**

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

Inserting, Appending, and Deleting Graphic Layouts

Insert, Append, and Delete are useful when you have multiple page documents with text and graphics on the same page. These are sophisticated functions that allow you to move an entire page of graphics independently of the text. These functions always insert or append the graphics contained in the master page.

► **To insert or append a graphic layout:**

1. Place the cursor on a page in the document where you would like to add a graphic layout.
2. From the Layout menu, select Graphic Layouts.
3. If you want to insert a graphic layout before the current page, choose Insert (Before This One) and click on Yes when the message box appears.
 - *If you have graphics on this page which 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 Delete Graphics if you want to delete the graphics on the last page. Click Move Graphics to keep the graphics on the last page. Click Cancel Delete to create a new page that contains just the graphics from the last page.*

OR

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

- *If you have graphics on the following page which 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 Delete Graphics if you want to delete the graphics on the last page. Click Move Graphics to keep the graphics on the last page. Click Cancel Delete to create a new page that contains just the graphics from the last page.*

You will not lose the text when you delete a page. You will be deleting the graphic layout for that page.

► **To delete a page:**

1. Place the cursor on the page you wish to delete.
2. From the Layout menu, select Graphic Layouts.
3. Select Delete. A message will appear asking you 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.

Proofing Your Document

If you want to find synonyms for a word, "jumble" it to find new words, or check hyphenation, save your document and close Word Processing. Open Desktop Reference.

Word Processing provides tools you can use to proofread your document before printing it. The spell checker finds misspelled words and typographical errors. The thesaurus finds words with similar meanings. This section describes how to use these tools to help you produce a more well-written document.

In addition to the Ensemble spell checker dictionary, Word Processing also lets you create a custom *user dictionary*. The user dictionary contains special or unique words or spellings of words, such as FOTO. When the diskette with your user dictionary is in the disk drive, spell checker will use both the Ensemble and user dictionaries. You can add proper names, special terminology, or anything else which you will use often.

Checking Your Spelling

Checking your spelling is a good way to find misspelled words and to look for typographical errors. Word Processing has an electronic spelling dictionary of 114,000 words it checks to look for mistakes. When the spell checker finds a word in your document 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:**

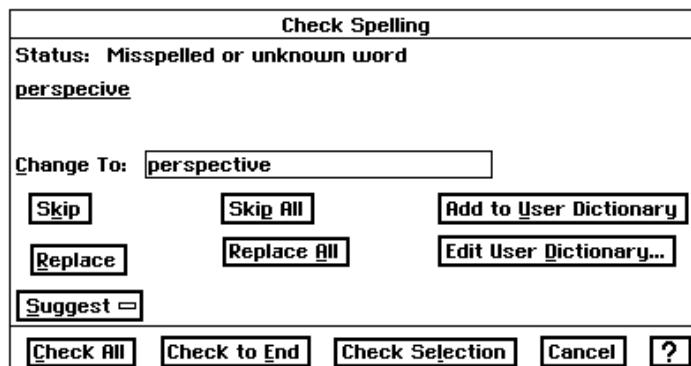
1. Select the word or block of text you want to check.
2. Click the Check Spelling tool on the Basic Functions tool bar (or press **SPELL CHECK**).

OR

Choose Check Spelling from the Edit menu. A dialog box appears:



You can check the spelling of a single word, a block of text, or the text in the entire document. (To check the entire document, start with step 2.)



3. Select how much of the text you want to spell check:
 - **Check All.** Click this button to check all the text in the document.
 - **Check to End.** Click this button to check the text from the position of the insertion bar to the end of document.
 - **Check Selection.** Click this button to check only selected text.

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

4. Select the action you want to take on this word.
 - **Skip.** Click this button to ignore this occurrence of the spelling.
 - **Skip All.** Click this button to ignore all occurrences of the spelling.
 - **Replace.** Type the word correctly, then click this button to replace the misspelled word with the new spelling.
 - **Replace All.** Type the word correctly, then click this button to replace all occurrences of the misspelled word with the new spelling.
 - **Suggest.** Click this button to display a menu of alternative spellings for the misspelled word. When the suggestions appear, click the spelling you want to use and then click the Use This Suggestion button. If no suggestion is appropriate, click the Suggest button again, and then type the word correctly in the Change to: box. The spell checker replaces the word with the new spelling and proceeds with its checking.
 - **Add to User Dictionary.** Click this button to add the word to the user dictionary. If you do not have a user dictionary yet, you will automatically create one when you add your first word to it. From this point forward, the spell checker will accept this spelling in this and other documents.
 - **Edit User Dictionary.** Click 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 to return to Word Processing.

Creating a User Dictionary on Diskette

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

► *To create the user dictionary:*

1. Insert the diskette that contains a Word Processing document.
2. Open the document and click on the Check Spelling tool on the Basic Functions tool bar (or press **SPELL CHECK**). *A message will appear asking you to insert a user dictionary that you would like to use.*
3. Click on OK. *Ensemble automatically creates a user dictionary on your diskette with the terms you enter by editing the user dictionary.*

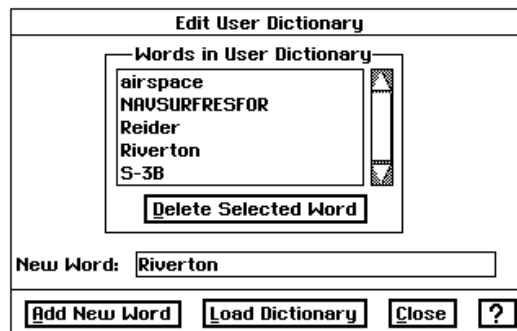
► **To edit the user dictionary:**

1. Insert the diskette that contains your user dictionary.
2. Click the Check Spelling tool on the Basic Functions tool bar (or press **SPELL CHECK**).

OR

Choose Check Spelling from the Edit menu. A *dialog box appears*.

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:*



To add a new word, you must first type over the highlighted word already 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 Add New Word. If you attempt to add a word that already exists, a message dialog appears; click OK and continue.
 - **Load Dictionary.** Click on this button to use a user dictionary on another diskette.
5. Click on Close to close the Edit User Dictionary dialog box.
6. Click on Close to close the Check Spelling dialog box.

Using the Thesaurus

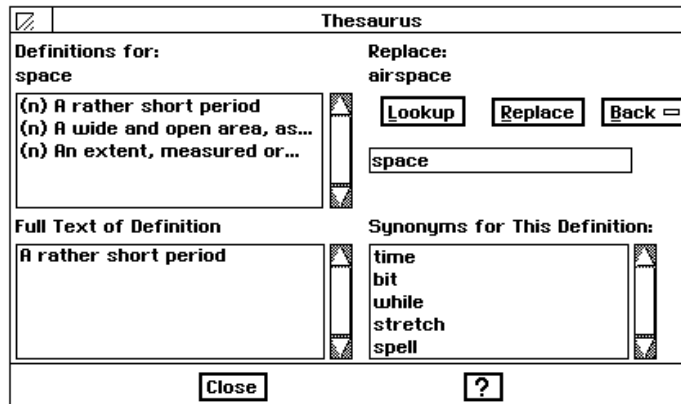
While writing or editing a document, you might sometimes ask yourself “What’s a better word for _____?” What you want is a *synonym*: another word with a similar meaning.

How do you find a synonym? You can use a *thesaurus*, a book of synonyms. Word Processing gives you an online thesaurus of over 44,000 words so you can look up synonyms quickly and easily.

A word may have different meanings: for example, the word “space” could mean another short period or an extent, measured or unmeasured, or linear space. Each meaning has a different set of synonyms, so you need to be aware of the meaning you want.

► **To use the Thesaurus:**

1. Choose Thesaurus from the Edit menu. *A dialog box appears:*



2. If you have highlighted a word in your text, its definition and synonym will automatically appear.

OR

Type in the word you want to look up 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 you want 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 definition(s) and synonym(s) for the current word, click 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 to replace the selected word in the text with the current word in the dialog box. *Word Processing replaces the text.*
8. Click on Close to close the dialog box.

Merging Information from Other Applications

When you print a Word Processing document, you have the option to *merge* (combine) information from other applications. Merging allows you to print form letters, envelopes, mailing labels, reports, and other types of documents using data you have already entered; you do not need to type it again in 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 stored in a consistent format. For example, an Addressbook document might contain the names and addresses of your friends, or a Spreadsheet document might contain monthly budget figures.

The information in the data document gets inserted into various places in the merge document. A merge document is a Word Processing document that contains the text, graphics, layout, and formatting that will appear in each printed copy of the document. It also contains *merge fields* that mark where Word Processing puts the data from the data document when you print the document.

The easiest way to use Word Processing's merge feature is to follow this general sequence of tasks.

► **To get ready for merging:**

1. Create the merge data in the format you want (in Addressbook or Spreadsheet).
2. Create the Word Processing merge document set up with merge fields. (See page 123.)
3. Copy the information you want to merge from the Addressbook or Spreadsheet data document to the clipboard. (See pages 124, 125.)
4. Merge the information from the clipboard into the Word Processing document. (See page 126)

Setting up the Merge Fields

The Word Processing merge document contains the text, graphics, formatting, and page layout of the information you want to print. It also contains merge fields that correspond to the source data in the clipboard. The field names used in the merge fields must match exactly the field names used in the source data document. These fields are case-sensitive; that is, they must match uppercase and lowercase exactly. For example, a merge field with the name "HomeAddress" will not match "Home Address", "Home_Address", or "homeAddress."

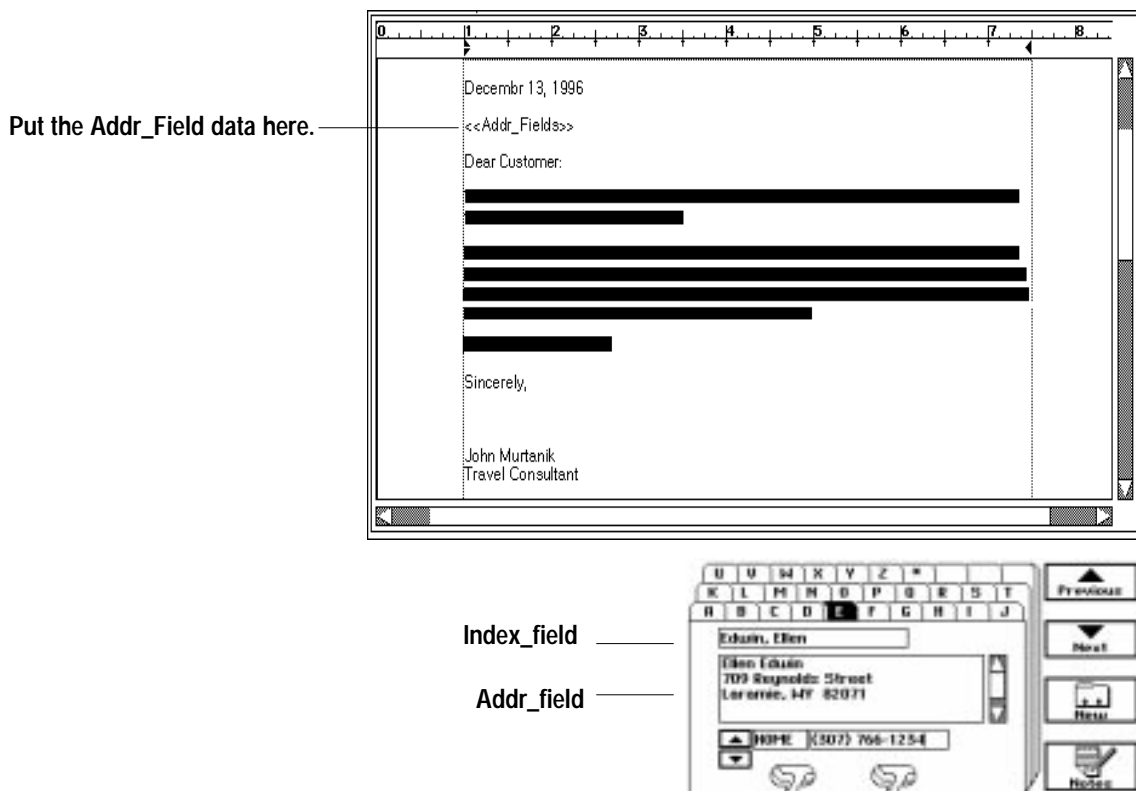
If appropriate, consider using these field names in Spreadsheet. That way, you can copy merge data easily between both applications.

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. Position the cursor where you want the merge field to appear. (It can appear on a line by itself or embedded in other text.)
2. Press **CODE + 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 above.
4. Press **CODE + MENU + SHIFT + **. A double-right bracket appears (>>). (This identifies the end of the merge field.)
5. If you want, specify the character formatting (such as style, size, tone, and so on) for the field.



Merging Addressbook Information

You can use Addressbook to store the information you will merge into your Word Processing document. You can maintain the names, addresses, and phone numbers for just about anyone — friends, associates, colleagues, customers, vendors, and so on. 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 documents. For example, you might want to keep friends in one file and business associates in another. That way, you can merge and print a personal letter to all your friends without involving business associates.

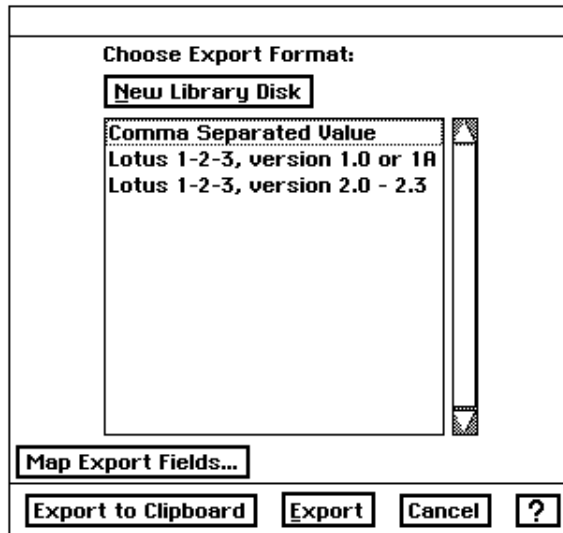
Addressbook uses standardized field names. The merge fields in your Word Processing merge document must match these field names exactly.

► **To copy a single record to the clipboard:**

1. Display the record you want to copy.
2. Choose Copy Record from the Edit menu. *Addressbook copies the current record to the clipboard.*

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

1. Choose Other from the File menu. *A submenu appears.*
2. Choose Export Document from the submenu. *A dialog box appears.*
3. Insert Diskette 2.



4. Choose Comma Separated Values format.
5. Click Export to Clipboard. *Addressbook exports all the records to the clipboard and prepares the data for merging.*

Merging Spreadsheet Information

You can use Spreadsheet to store the information you will merge into your Word Processing document. To do so, you must 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.

Field name							
	A	B	C	D	E	F	G
1	First Name	Last Name	Street Address	City	State	Zip Code	Phone Number
2	Elizabeth	Adams	224 Main Street	Oaktown	ND	85164	602-538-4891
3	Audrey	Blake	18946 California Street	Stockton	CA	24398	901-767-1237
4	Luke	Chin	45 college Street #125	Palo Alto	CA	94389	508-378-4873
5	Frank	Goodman	3867 Shamrock Avenue	Riverton	WY	51875	205-478-2873
6	Sarah	Lawson	3755 Flagstaff Drive	Laramie	WY	38958	303-578-2976
7	Barbara	Leonard	775 Mountain Drive	Sheridian	MT	57861	905-986-0987
8	Phillip	Mitchell	1759 Holloway Street	Pine Bluff	AR	81254	602-564-3762
9	Andrea	Newton	13689 22nd Avenue	Casper	WY	60195	708-884-9785
10	Bill	O'Brine	35 Crown Avenue	Evanston	UT	86295	512-337-8733
11	William	Powell	544 Third Avenue	Rock River	CO	83659	806-868-8976
12	Carol	Sanders	358 Tidewater Drive	Lander	SD	95458	207-875-5578
13	Donna	Thornton	158390 Dear Trail Way	Jackson Hole	NE	56395	402-685-9783
14	Edward	Towers	385 Airport Circle #125	Thermopolis	ID	38502	208-995-3028
15	Merle	Windam	386 Hirless Avenue	Red Bluff	WY	83950	615-308-0835
16							
17							
18							

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

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.

► **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 proceeding 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.
 - Fields 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 merge data to the clipboard:**

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. Choose Copy from the Edit menu. *Spreadsheet copies the field names and entries to the clipboard and prepares them for merging.*

Do not lock the titles before merging.

Printing the Merge Document

Once you have set up your Word Processing merge document, you can merge and print it.

If you see the <<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. Copy the merge information from the source Addressbook or the Spreadsheet document.
2. In your Word Processing document, choose Print from the File menu. *A dialog box appears.*
3. Select a merge option:
 - **No Merge.** Select this option to prevent merging. If you print a merge document without merging, the Word Processing prints the merge fields instead.
 - **Merge One.** Select this option to merge only the first entry in the clipboard.
 - **Merge All.** Select this option to merge all merge entries in the clipboard.
4. 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, Word Processing prints the merge field instead: the <<field>> text will appear in your document.

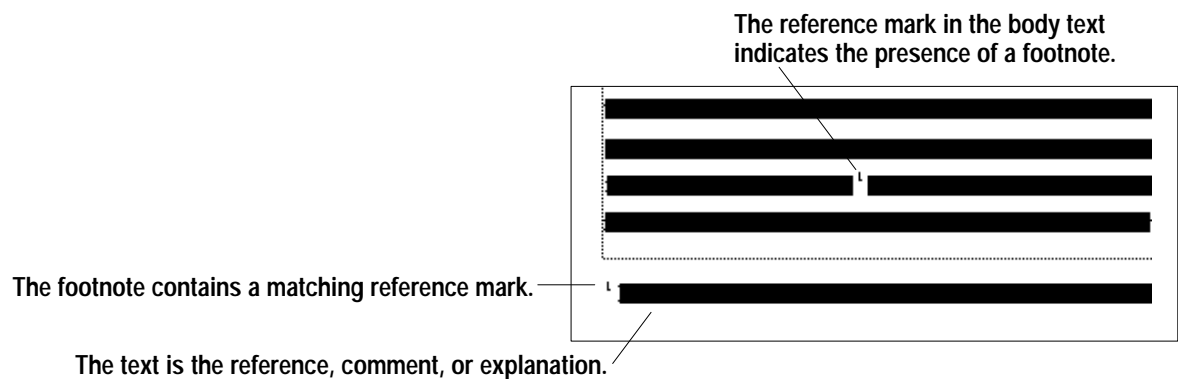
Finishing Your Document

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

Using Footnotes

A *footnote* is a reference, comment, 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, clarifies a point, or offers an aside or digression from the main discussion.

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 as they occur in the document. 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's best to add footnotes (starting from the front of the document) when your document is nearly finished.

► **To create a reference mark:**

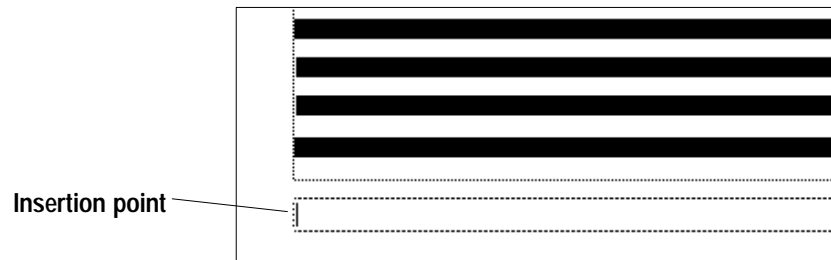
1. Change to the Scale to Fit view, if necessary.
2. Position the insertion point behind the footnote text.
3. Type the symbol or number of the footnote reference.
4. Select the symbol or number of the footnote reference.
5. Choose Styles from the Character menu. *A submenu appears.*
6. Choose Superscript.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



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. From the Options menu, select Show tools; then select Drawing Tools.
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. Press and hold down the left mouse 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 left mouse button. *The text frame appears with the insertion point in the upper-left corner of the frame:*



6. Type and format the reference marker.

OR

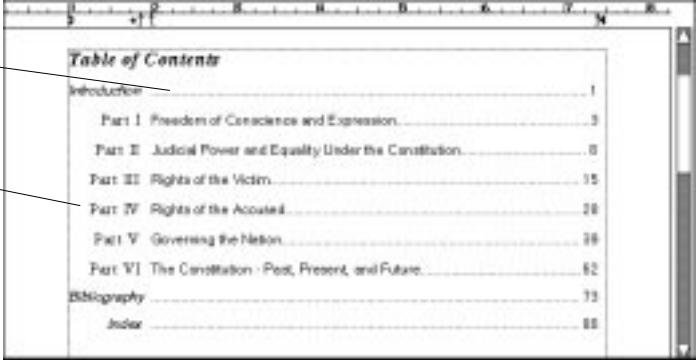
Copy the reference marker from the body text to the clipboard, then paste it here.



7. Type the footnote text.
8. Click on the Word Processing Text tool to resume editing your text.

Creating a Table of Contents

You can create a table of contents for a document. A typical table of contents looks like this:



The screenshot shows a Word document window with a Table of Contents. The table lists sections and their page numbers. Two annotations with arrows point to specific parts of the table:

- Dot tab leader**: Points to the dotted line between the text and the page number.
- Right tab type**: Points to the right-aligned text.

Table of Contents	
Introduction	1
Part I: Freedom of Conscience and Expression	5
Part II: Judicial Power and Equality Under the Constitution	8
Part III: Rights of the Victim	35
Part IV: Rights of the Accused	28
Part V: Governing the Nation	38
Part VI: The Constitution - Past, Present, and Future	62
Bibliography	75
Index	88

You can use the Word Processing styles to create a table of contents easily. For each heading level in your document, create a style with the following characteristics:

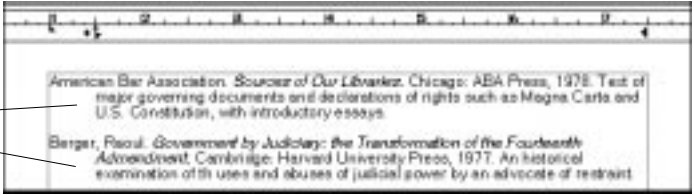
- Right tab type with a dot leader
- Indented paragraphs for each heading level

Once you have created the styles, you can simply enter the heading text, press Tab, enter the page number, then apply the style appropriate to the heading level.

Creating a Bibliography

You can easily use Word Processing styles to create a bibliography. Simply create a style (such as "Biblio") that is an hang indented paragraph. Once you create the style, you can simply type the bibliography entry and apply the style to it.

You can create a bibliography for a document. A typical bibliography looks like this:



The screenshot shows a Word document window with a bibliography. Two annotations with arrows point to the text:

- Hanging indentations**: Points to the indentation of the text.

American Bar Association. *Sources of Our Liberties*. Chicago: ABA Press, 1978. Text of major governing documents and declarations of rights such as Magna Carta and U.S. Constitution, with introductory essays.

Bergan, Rosal. *Government by Judiciary: the Transformation of the Fourteenth Amendment*. Cambridge: Harvard University Press, 1977. An historical examination of the uses and abuses of judicial power by an advocate of restraint.

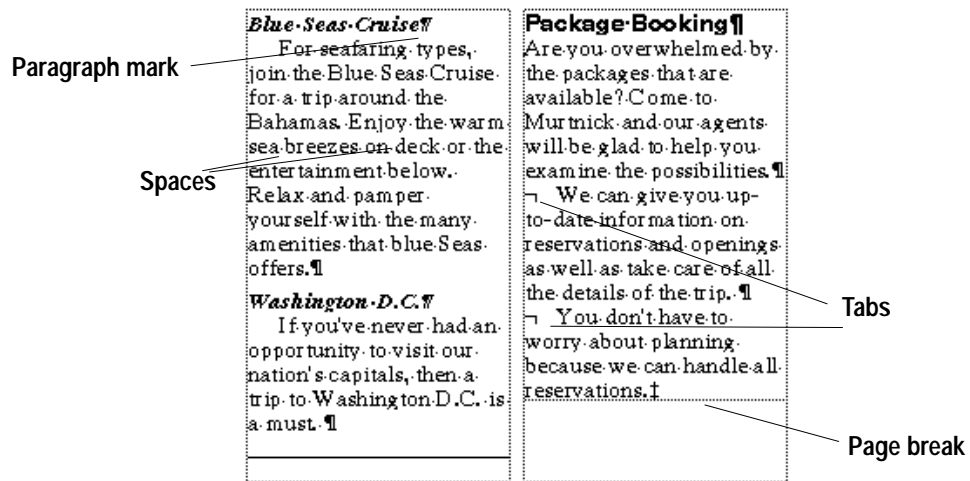
Bibliography entry

Special Effects

Displaying Invisible Characters

You can display invisible characters to see what you've typed and to edit them. For example, you might want to know if you have typed 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:

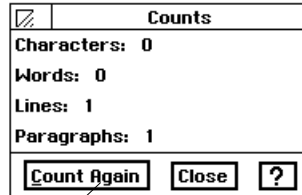
Symbol	Character Represented
¶	Paragraph Mark (carriage return)
⇨	Tab
·	Space
†	Page Break

► To display invisible characters:

1. Choose Other Settings from the Options menu. *A submenu appears.*
2. Select Show Invisibles. *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.



Click to recalculate the counts.

Word Processing counts the number of characters, words, lines, and paragraphs in a document. You can use this information when your document needs to be a minimum or maximum size, such as a report that must be 250 to 300 words long, or an article that cannot exceed 30 lines.

► To view document counts:

1. Choose Counts from the Edit menu. *The dialog box on the left appears.*
2. Click Close to close the dialog box.

► To recalculate document counts:

1. Choose Counts from the Edit menu. *A dialog box appears.*
2. Position the insertion point in the text and make the changes that affect the number of characters, words, lines, or paragraphs in the document.
3. Click on Count Again.
4. Click on Close to close the dialog box.

Using Abbreviated Phrases

Abbreviated Phrase is an easy way to type long phrases into your Word Processing documents. Use the Abbreviated Phrase dialog box to build a list of abbreviations that represent longer phrases. For example, if you commonly use the phrase "Chief Executive Officer," you could put that phrase in the list with the abbreviation "ceo." Then, whenever you want to use the long phrase, you type "ceo" and press **CODE + X**. Your abbreviation will be replaced by the long phrase. Note that the capitalization of the abbreviation in your document must exactly match the capitalization of the abbreviation in the Abbreviated Phrase dialog box.

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

1. Click on Abbreviated Phrase in 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 (e.g., CEO).
4. Type the phrase in the Phrase box (e.g., 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 will automatically be saved as ABBREV on diskette.*

► **To use an abbreviated phrase:**

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

► **To use an existing abbreviated phrase list on another diskette:**

1. Click on Abbreviated Phrase in the Character menu. *The Abbreviated Phrase dialog box appears.*
2. Insert the diskette with the abbreviated phrase file you wish to use. Click on Load.

► **To delete an abbreviation:**

1. Click on Abbreviated Phrase in the Character menu. *The Abbreviated Phrase dialog box appears.*
2. Select the abbreviated phrase you wish to delete and click on Delete.
OR
To delete all, click on Delete All.

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" in this chapter. You can search a document for these special characters. For more information, see "Finding and Replacing Text" on page 97.

Inserting the current date

You can insert the current date in a document. You might do this to put a date at the top of a letter or in a memo. You can specify either of two formats: longhand or numeric. Alternatively, you can insert special date characters to add the current date in a different format. For more information, see "Inserting Special Dates" in this section.

► **To insert the current date:**

1. Position the insertion point where you want to insert the current date.
2. Choose Insert Special from the Edit menu. *A submenu appears.*
3. Select the date format you want from the submenu:
 - **Longhand Date.** This option inserts the current date in a longhand format (such as "Friday, December 31, 1996").
 - **Numeric Date.** This option inserts the current date in a numeric format (such as "12/15/96").

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

Inserting the current time

You can insert the current time in a document. You might do this to “time stamp” a fax or journal entry. The time appears in the HH:MM:SS format (hours: minutes: seconds). Alternatively, you can insert special time characters to add the current time in a different format.

► To insert the current time:

1. Position the insertion point where you want to insert the current time.
2. Choose Insert Special from the Edit menu. *A submenu appears.*
3. Choose 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. It is automatically updated.*

Inserting a number (counter)

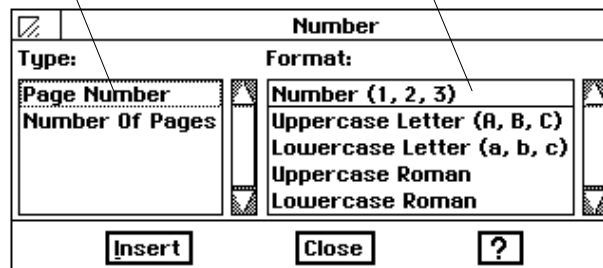
Once you insert special numbers, you cannot change their value; their value depends on internal Word Processing calculations.

Word Processing keeps track of certain information in a document automatically, 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. Position the insertion point where you want to insert the number.
2. Choose Insert Special from the Edit menu. *A submenu appears.*
3. Choose Number from the submenu. *A dialog box appears:*

Select a number type from this list. Select a number format from this list.



4. Select the number type from the Type list:
 - **Page Number.** This special character displays the current page number in the document. You can set the starting page number for a document.
 - **Number of Pages.** This special character 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.*

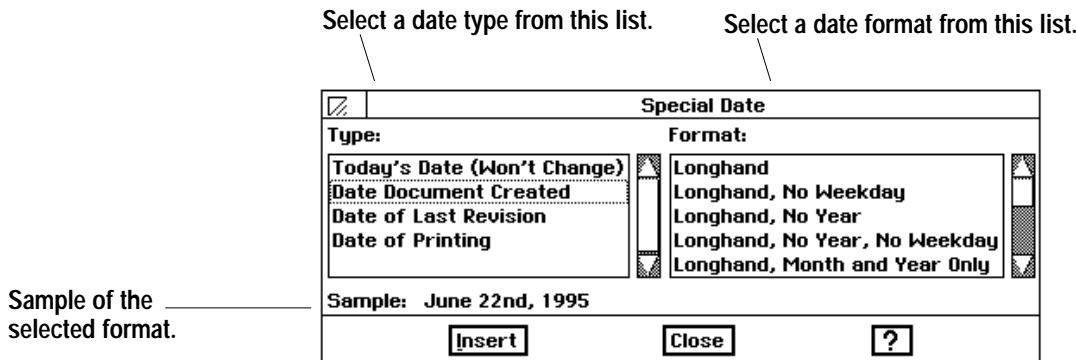
Inserting special dates

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

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

► To insert a special date:

1. Position the insertion point where you want to insert the date.
2. Choose Insert Special from the Edit menu. *A submenu appears.*
3. Choose Special Date from the submenu. *A dialog box appears:*



4. Select the date type from the Type list. The choices include the following:
 - **Today's Date (Won't Change).** This date shows the system date (the date that Ensemble maintains automatically) when you inserted the character. It doesn't change if the system date changes.
 - **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.*

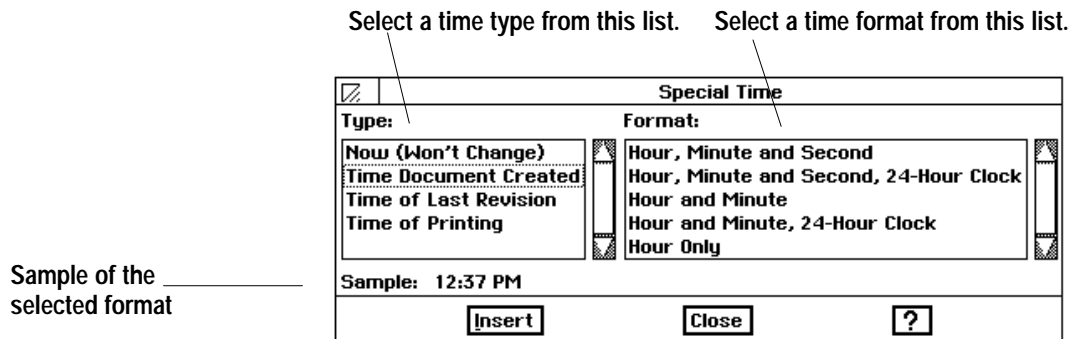
Inserting special times

Word Processing keeps track of certain time information automatically, such as the current time as well as the time a document was created, revised, or printed. To display any of these times, you 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; their 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. Position the insertion point where you want to insert the time.
2. Choose Insert Special from the Edit menu. *A submenu appears.*
3. Choose Special Time from Insert Special menu. *A dialog box appears:*



Sample of the
selected format

4. Select the time type from the Type list. The choices include the following:
 - **Now (Won't Change).** This time shows the system time (the time that Ensemble maintains automatically) when you inserted the character. It doesn't 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.*

Page Breaks

If you have multiple columns in your document, a page break is the same as a column break. A page break in the last (right-most) column on a page starts subsequent text on the next page. A page break in other columns moves text to the next column on the same page.

If Show Invisibles is selected, the page break marker appears as a double-dagger (‡) on screen.

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*. You do this whenever you want to start a new page in a specific location, such as a bibliography page in a report or an index.

► To insert a hard page break:

1. Position the insertion point where you want to insert the page break.
2. Press **CODE** + **ENTER**.

OR

Choose Insert Special from the Edit menu and choose Insert Page Break from the submenu. *Word Processing inserts the page break.*

► To delete a page break:

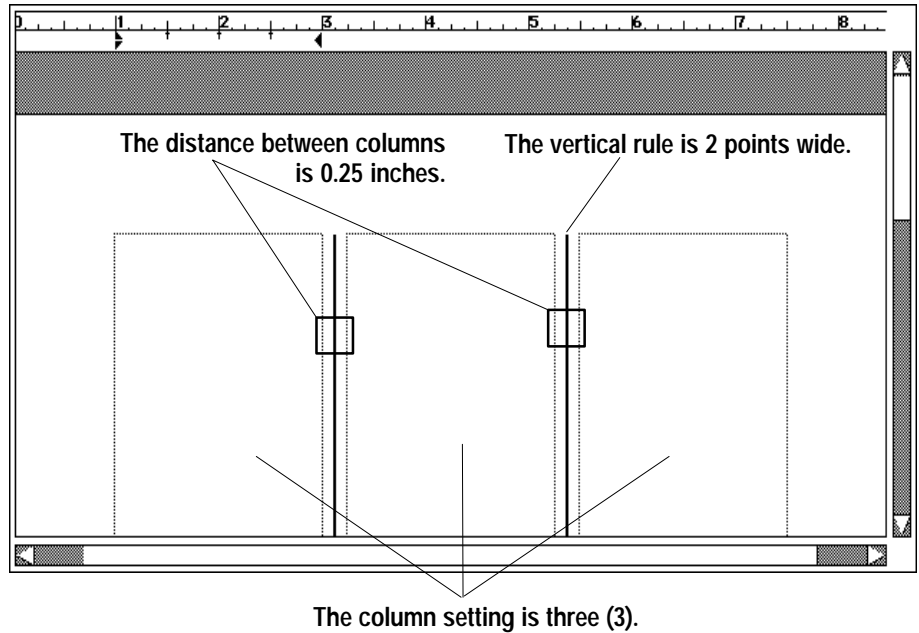
1. Double-click the page break marker (‡) you want to delete.
2. Press **DELETE**. *The insertion point moves to the bottom of the page in front of the page break marker. Word Processing removes the page break, recalculates pagination, and redraws the screen.*

Managing Columns

You can have multiple columns of text in a document, just like those you see in a newspaper or a magazine. Multiple columns can add visual appeal to a document and make the text easier to read. 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 in a snake-like fashion.** In Page display mode, multiple columns appear side-by-side on screen.

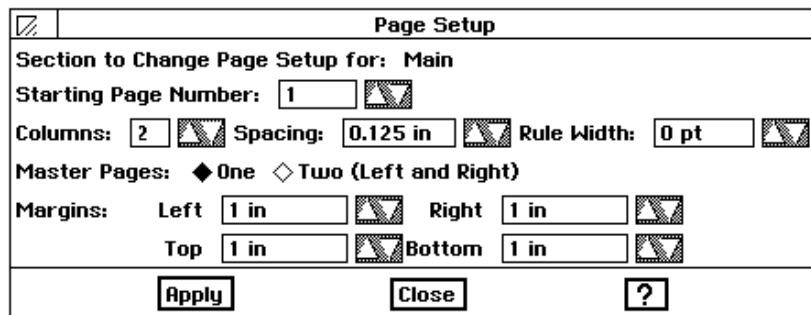
To set up multiple columns, you specify column options in the Page Setup dialog box (from the File menu). When you set multiple columns, you specify the number of columns, the *gutter* (or spacing) between columns, and the width of any vertical rule(s) (the lines in between the columns). Word Processing 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. Choose Page Setup from the File menu. *A dialog box appears:*



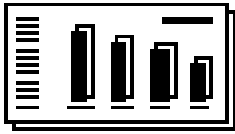
3. Fill in the dialog box, selecting the column options you want:
 - **Columns.** Select the number of columns.
 - **Spacing.** If you have more than one column, select the distance between columns (as well as the relative column width). Spacing is the same between all columns. By default, this setting is 0.125 inches; you can increase this up to 1.0 inch.
 - **Rule Width.** If you have more than one column and you want 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 to apply your changes to the selected section.
5. Click on Close to close the dialog box.

Using column breaks

A column break is the same as a page break.

You can insert a hard page break to force Word Processing to move subsequent text to the top of the next column. Press **CODE + ENTER** to create a new column.

4 Spreadsheet



Spreadsheet makes calculations quickly and efficiently. You can use spreadsheets for keeping track of a budget, creating presentations, and playing “what if” — what if you buy a new stereo before your Aunt Susie sends her usual generous birthday check? What if she does not send it this year and you have already bought the stereo?

► To create a new spreadsheet:

Find the Spreadsheet icon on the Main Menu and click on it.
Spreadsheet opens and shows an empty Spreadsheet document:

Active cell. This is the highlighted cell you are using to input information. In this example, the cell address is A1. This address appears in the Edit Bar.

Edit bar displays the information in the active cell.

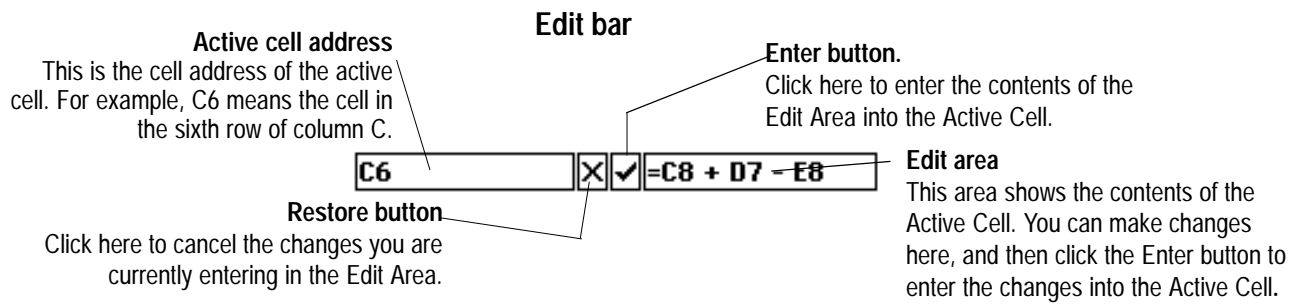
Column headers. Click on these headers to select an entire column.

Cells. Each cell can hold a separate piece of information, such as text, numbers, or formulas. Each cell has an **address**, like a map coordinate giving its position. For example, this cell's address is A12.

Row headers. Click on these headers to select an entire row.

Spreadsheet grid. You enter numbers, text, and formulas into the individual cells in the grid.

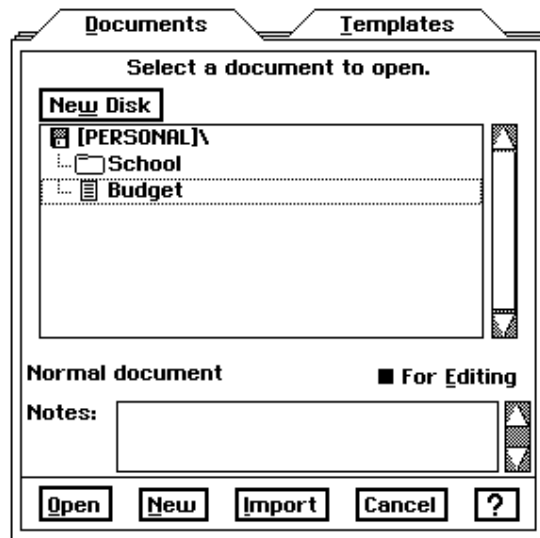
A screenshot of a spreadsheet application window. The window title is "Spreadsheet -Untitled 1". The menu bar includes "File", "Edit", "View", "Options", "Cell", "Formula", "Chart", "Graphics", "Properties", and "Windows". The toolbar contains various icons for file operations and editing. The spreadsheet grid has columns labeled A through I and rows numbered 1 through 19. Cell A1 is highlighted. The status bar at the bottom shows "CSP 1/1/1 1/15" and "Spreadsheet -Untitled 1".



► **To open an existing document or template:**

1. Find the Spreadsheet icon on the Main Menu and click on it. *Spreadsheet opens and shows an empty Spreadsheet document.*
2. Insert a diskette.
3. Click on New/Open from the File menu. *The New/Open dialog box appears:*

You can create a new document from the New/Open dialog box by clicking on the New button.



4. Double-click on the name of the document or the template that you want to open. *Spreadsheet opens your file.*

OR

Select the document or template and click on Open.

For more information about using the New/Open dialog box, see "Creating and Opening Documents" in *Getting Started*.

Moving Around in a Spreadsheet

A spreadsheet can contain as many as 65,536 cells. You can scroll through a spreadsheet in much the same way that you scroll through any document using the scroll bars or the keyboard. The following procedure describes how to scroll with the keyboard. For more information about using the scroll bars, see Getting Started.

► *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.
- **CODE + PAGE UP.** Scrolls the screen left.
- **CODE + PAGE DOWN.** Scrolls the screen right.

Selecting Cells and Ranges

January	February
\$35.98	\$38.24
\$22.47	\$26.40
\$129.82	\$168.93
\$9.36	\$20.45

Highlighted cell

When you want to enter information in a cell or make changes to it, you must first select it to make it the active cell. For example, if you want to type **Expenses for 1996** in cell A4, you must first make A4 the active cell. The active cell appears highlighted with a heavy black border around it, as shown in the illustration on the left:

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

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.

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

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 selected range is B3:D13.

To deselect the selection, simply select something else.

When an area is locked with the Lock Titles command (rows or columns), you cannot change any information or format to the cells which are in the locked area. See page 197 in this chapter.

It is not possible to move the highlighted cell into the locked area once titles have been locked.

When using the arrow keys, the cursor will move no further than the edge of the locked area.

When using the mouse, the cursor turns to the "Not Allowed" cursor over locked areas.

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

► **To select a single cell:**

Click on the cell you want to select.

OR

Use the arrow keys on the keyboard to move the highlighting to the cell you want to select.

OR

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

OR

Choose Go to Cell from the View menu, type the address of the cell you want to select, and then press **ENTER** or 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

Click on the first cell in the range, and then hold down the **SHIFT** key while pressing the arrow keys to extend the selection.

OR

Choose Go to Cell from the View Menu, type the address of the cells you want to select (eg. A1:H10), and then press **ENTER** or click on Go To.

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

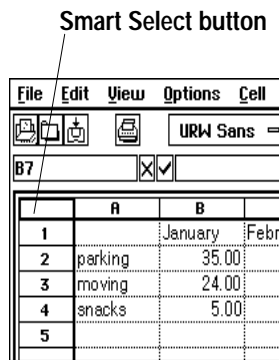
Click on the row or column header.

► **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.*

OR

Click on the first row or column header, hold down the **SHIFT** key, then click the last row or column header. *Spreadsheet highlights the first and last row or column you selected, as well as all in between rows or columns.*



The Select All function selects all the cells that are not locked.

If you want to perform some action that would affect every cell, such as changing the font for all current and future entries, you can select all cells in the spreadsheet.

► **To select a range that includes all cells with entries:**

Press **CODE + SHIFT + / (slash)**.

OR

Click the Smart Select button in the upper-left corner of the spreadsheet.

Spreadsheet selects a range that includes all cells that have entries (and all the empty cells in between).

► **To select every cell in the spreadsheet:**

Choose Select All from the Edit menu or press **CODE + / (slash)**.

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

Use any of the following keystrokes to move the highlighting to the cell you want to select:

- **Arrow keys.** Selects the next cell in the direction of the arrow.
- **HOME.** Selects the first cell in the current row.
- **CODE + HOME.** Selects the first cell in the spreadsheet (A1).
- **END.** Selects the last filled cell in the current row.
- **CODE + END.** Selects the last filled cell in the spreadsheet's active area.
- **CODE + RIGHT ARROW.** 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.
- **CODE + LEFT ARROW.** 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.
- **CODE + UP ARROW.** 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.
- **CODE + DOWN ARROW.** 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 the **SHIFT** key while using one of the keystrokes shown in the table 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 + CODE + HOME** to select the entire range A1:C23.

Working with Values and Labels

You build a spreadsheet by entering *values*, *labels*, and *formulas*.

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

Labels. Labels are the titles or descriptive text you enter to describe the contents of rows and columns—for example, “First Quarter,” “Second Quarter,” “Third Quarter,” and “Fourth Quarter.”

Formulas. Formulas describe the calculations you want to perform—for example, to total 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 149.

Entering Values and Labels

The procedure for entering values and labels is the same. However, some special considerations apply to each; for more information, see the notes following the procedure. If you want to enter dates in a spreadsheet, see “Entering and Changing Dates” on page 147.

► To enter values or labels:

1. Select the cell in which you want the entry to appear.
2. Type the entry (numbers or words) that you want to appear in the cell. If you are using the numeric keypad to enter numbers, be sure the **NUM LOCK** key is on. To turn on NUM, press the **NUM LOCK** key at the bottom right of the keypad or click on the NUM button in the lower left corner of the screen. If you make a typing mistake, press the **BACKSPACE** key to erase characters to the left of the insertion pointer 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.
 - **LEFT** and **RIGHT ARROW.** Move the highlighting one cell in the direction of the arrow.
 - **UP** and **DOWN ARROW.** Move the highlighting one cell in the direction of the arrow.
 - **CODE + ENTER.** Keeps the highlighting in the current cell; the active cell does not change.

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 Minute Final Deadlines		

If you enter a label wider than the cell in which you enter it, the label 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. For more information about changing the column width, see “Changing the Appearance of a Spreadsheet” on page 161.

If you want to enter a number as a label or if you need 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, you type "1993. To enter =**National Average** as a label, you type "=National Average.

Notes on Entering Values

	B	C	D
	The Last Minute Predictions		
	###		

If a cell is not wide enough for a numeric value you enter (or for the result of a formula), you see the symbol ### in the cell, as shown in the illustration to the left. The value *is* stored in the cell, but you will not be able to see it unless you make the column wider. For more information about changing the column width, see “Changing the Appearance of a Spreadsheet” on page 161.

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 when you enter values, although you can specify a format that adds commas automatically. (See “Changing the Number Format for Values” on page 146.)

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**.

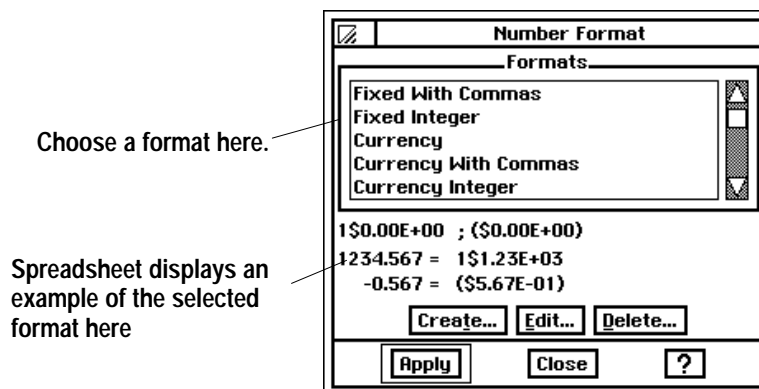
Changing the Number Format for Values

Each value in a spreadsheet appears in a particular format. 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 number formats.

FORMAT	YOU ENTER...	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. Choose 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

There are two ways to enter dates in your spreadsheet. You can enter them as labels, or you can enter them as formulas.

► **To enter a date as a label:**

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

- Jan 15, 1996
- January 15, 1996
- 1/15/96
- 96-01-15

Entering dates as formulas

You can also enter a date as a formula, using a special date function. When you do this, Spreadsheet stores the date as a serial number 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, and you can 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, you first enter your date as a formula using the built-in DATE function.

You can also enter time values (hours, minutes, and seconds) using a similar technique. Instead of the DATE function, you use the TIME function; instead of entering the year, month and day, you enter the hours, minutes, and seconds.

► **To enter a date 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.
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. For example, the entire entry for February 17, 1993 is as follows:

=DATE(1993,2,17)

4. Click on the Enter button or press **ENTER**. *The serial number for the date appears in the cell. For example, if you specify February 17, 1993, 34016 appears.*

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

Format Formulas

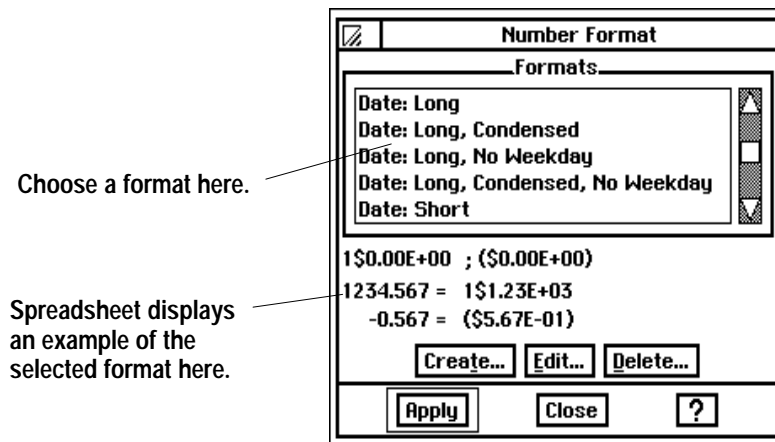
When you enter a date or time value as a formula, Spreadsheet initially displays a number; however, you can change the format to suit your needs. The following table shows the available date and time formats.

FORMAT	EXAMPLE
Date : Long	23456 = Saturday, March 21st, 1964
Date : Long, Condensed	23456 = Sat, Mar 21, 1964
Date : Long, No Weekday	23456 = March 21st, 1964
Date : Long, Condensed, No Weekday	23456 = Mar 21, 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 = 2:36 PM
Time : Hour	1234.567 = 2 PM
Time : Min Sec	1234.567 = 36:29

You use the same procedure to change date formats that you use to change number formats.

► To change the format for dates:

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



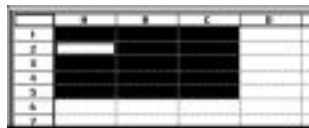
3. Select the format you want from the Formats list. *An example of the format appears in the dialog box.*
4. Click on Apply. *Spreadsheet changes the format of the selected cell(s).*
5. Click on Close. *The dialog box disappears.*

Entering Information in a Selected Range

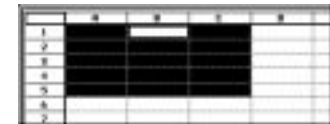
You can save time by selecting the range of cells in which you want to enter data before you start.

1. Press **ENTER** in the bottom row of the selection. *The active cell automatically moves to the top of the next column in the selection.*
2. Press **TAB** in the rightmost column of the selection. *The active cell automatically moves to the beginning of the next column in the selection.*

Moving through the selected range using the ENTER key



Moving through the selected range using the TAB key



Working with Formulas

Spreadsheet uses **floating point math**. While floating point calculations have benefits such as speed, they are inherently inaccurate. All spreadsheets based on floating point math produce 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.

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 .25
- **Built-in functions** like DATE, SUM, and AVG

This section explains how to combine these elements in a formula that performs a calculation. (If you require precision beyond the 17th significant digit, please see sidenote.)

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			

You begin a formula by typing = (an equal sign). Next, you 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 the expenses for an evening on the town.

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

This formula tells Spreadsheet to add the values in cells B1, B2, and B3 and to 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. For more information about built-in functions, see "Using Built-in Functions in Formulas" on page 153.

► **To enter a formula using the keyboard alone:**

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. Type the reference for the first cell you want to use in the calculation.
4. Type the operator you want to use. For example, type + for addition.
5. Type the reference for the next cell you want to use.
6. Continue typing operators and cell addresses until the formula in the Edit Bar appears as you want it.
7. Press the **ENTER** key. *The result of the formula appears in the cell.*

► **To enter a formula using the keyboard and the mouse:**

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.
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 or press **ENTER**. *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

Relative references look just like cell addresses. The following are examples of relative references: B4, D8, A1, B2:F8.

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 get to your house from theirs: "go three blocks east and then four blocks south."

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		=OR(A7, \$B\$3!2, 60)	
	A	B	C
1			
2			
3	Interest Rate:	0.08	
4			
5	Principal	5 Years	10 Years
6	5000.00	101.38	
7	10000.00	202.76	
8	15000.00		
9			

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 example, if you are calculating loan payments, you might want to refer to a cell containing the interest rate used in the PMT function. In the example on the left, when you want to copy the formula, the reference to 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 B3, you enter the absolute reference **\$B\$3**.

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. You can 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

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&"%

The exponentiation operator can be reached through the On-screen Keyboard. Clicking on the SYM button will make the On-screen Keyboard appear.

Notice that percentage is a form of multiplication.

When you use more than one operator in a formula, Spreadsheet performs the calculations in the order shown in the table — % 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

You can alter 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. You use them in formulas to simplify your work. For example, the SUM function totals a group of numbers; the AVG function computes the average of a group of numbers; and the NPV function computes the net present value of an investment.

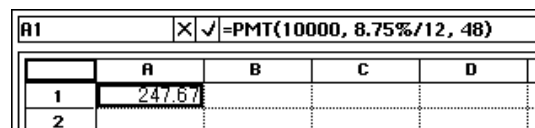
Spreadsheet provides functions you can use to perform the following types of calculations:

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

This section gives the general procedures for using built-in functions. Descriptions of each of the built-in functions are included in the Appendix.

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 data that functions use in a calculation, such as the numbers you want to total. An argument can be a value, text string, reference, function, or formula. The arguments determine the result of the function.



The image shows a spreadsheet interface. At the top, a formula bar displays the formula `=PMT(10000, 8.75%/12, 48)`. Below the formula bar, a grid of cells is visible. Cell A1 contains the formula, and cell B1 contains the calculated result, 247.67. The grid shows columns A, B, C, and D, and rows 1 and 2.

	A	B	C	D
1	=PMT(10000, 8.75%/12, 48)	247.67		
2				

For example, the financial function PMT calculates the payment required for a loan. The arguments for the PMT function are the principal amount, interest rate, and term of the loan. The illustration at the left shows how you might use the PMT function to compute a loan payment.

Cell A1 contains the following formula: `=PMT(10000,8.75%/12,48)`.

This formula uses the PMT function to tell Spreadsheet to compute the monthly loan payment for a 48-month loan of \$10,000 at an interest rate of 8.75% per year.

Placeholder arguments

When you insert a function in a cell, you can automatically insert placeholders for the arguments. For example, when you insert the PMT function, the placeholders remind you to enter the principal amount, interest rate, and term of the loan, as shown in the illustration below.

A1					X	✓	=PMT(principal, interest, terms)
	A	B	C	D			
1	246.48						
2							
3							

Since each function has different arguments, the placeholders can help you remember what arguments to enter for a particular function. After inserting the function, you replace the placeholders with the actual arguments you want to use, as shown in the illustration below.

A1					X	✓	=PMT(10000, 8.75%/12, 48)
	A	B	C	D			
1	247.67						
2							

If you are pasting a function into the Edit Area, you must replace the placeholder arguments with the values or cell addresses you want to use in the calculation. If you want to use a fixed value—for example term, the length of the loan in months—you replace **TERM** with the value for the term of the loan, for example 48 (the number of monthly payments in 4 years).

It is important to enter the arguments in a specific order—the order shown in the dialog box and in Appendix A of this manual. Inserting placeholders will help you to remember the order in which to enter arguments.

Entering built-in functions

To include a built-in function in a formula, you can either type the function and all of its arguments, or you can insert the function using the Insert Function choice on the Formula menu. When you use the Insert Function choice, 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. Choose Insert Function from the Formula menu. *A dialog box appears.*
3. Select the function you want to use 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 the Paste Arguments option (the default) if you want to insert placeholder arguments with the Function.

For specific information about each argument, see Appendix A.

5. Click on Paste. *The function appears in the Edit Area. If you selected Paste Arguments, the arguments also appear in the Edit Area.*
6. Click on Close to close the dialog box.
7. In the Edit Area, double-click 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. Click on the Enter button or 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 to close the dialog box.

► **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.
4. Type the arguments, enclosed in parentheses. Be sure to include commas between arguments.
5. Click on the Enter button or 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))**.

When you embed one function within another, it is easy to lose track of where the parentheses belong. If you insert the function with placeholder arguments, Spreadsheet inserts the parentheses accurately.

► **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. Click on the Enter button or press **ENTER**.

Editing the Spreadsheet

After you have created a spreadsheet, you may want to make some changes. You may want to delete some obsolete information or to insert rows or columns to make room for new information. You may want to copy or move some information to a new location. Or you may simply need to correct an error you made.

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

Typically, you will need to modify entries you make in a spreadsheet, whether to correct an error you have made or to update the spreadsheet to reflect new information. If it is a simple change, you can 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:**

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, click on Enter or press **ENTER**.

OR

To cancel the changes, click the Restore button (see page 140) or press **ESC**.

► **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

Choose Delete from the Edit menu. *The contents of the cell or range are permanently deleted.*

OR

Choose Cut from the Edit menu 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.*

You can also press **CODE+SPACEBAR** to begin editing the selected cell.

Occasionally, you may want to delete the contents of one or more cells. You can delete information permanently, or you can transfer it to the clipboard so you can then move it to another location.

If you accidentally delete the wrong information using the **DELETE** key or the Delete choice on the Edit menu, you cannot restore the deleted information. You may want to delete information using the Cut choice on the Edit menu; that way, if you accidentally delete the wrong information, you can paste it back in place.

Copying and Moving Information

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

- You can use the Fill choices on the Cell menu to copy the contents of the active cell across a row or down a column.
- You can use the Cut, Copy, and Paste choices on the Edit menu to copy or move information to any other location in a spreadsheet. Or, you can click the tools on the Advanced Functions tool bar, if displayed.
- You can use the **CUT**, **COPY**, and **PASTE** keys to copy or move information to any other location in a spreadsheet.

In either case, the result depends on what kind of information you are copying or moving. 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 about relative and absolute references, see “Using References in Formulas” on page 151.

Copying to adjacent cells

The Fill Right and Fill Down choices provide a handy shortcut when you want to copy the contents of the active cell across a row or down a column. This is particularly useful when you copy formulas. In a budget spreadsheet, for example, you can enter a formula to calculate the total for the January column, and then copy the formula to the columns for February through December, as shown in the following illustration.

The screenshot shows a spreadsheet with columns A through H and rows 1 through 13. The formula bar at the top shows the formula in cell B11: `=SUM(B4:B9)`. An arrow points from the text "You enter the formula in this cell." to cell B11. Another arrow points from the text "Then, you copy the formula to these cells." to the range of cells B11:H11.

	A	B	C	D	E	F	G	H
1		January	February	March	April	May	June	
2	Income	1600.00	1600.00	1600.00	1600.00	1600.00	1600.00	
3	Expenses							
4	Rent	545.00	545.00	545.00	545.00	545.00	545.00	
5	Car	250.00	250.00	250.00	250.00	250.00	250.00	
6	Food	375.00	375.00	375.00	375.00	375.00	375.00	
7	Entertainment	80.00	80.00	80.00	80.00	80.00	80.00	
8	Utilities	115.00	115.00	115.00	115.00	115.00	115.00	
9	Miscellaneous	50.00	50.00	50.00	50.00	50.00	50.00	
10								
11	Total Expenses	1415.00	1415.00	1415.00	1415.00	1415.00	1415.00	
12								
13								

When you copy the formula, Spreadsheet automatically adjusts the relative references so that the total is correct for each month.

► To copy a formula to adjacent cells:

1. Select a range of cells starting with the cell containing the formula you want to copy and ending with the last cell to which you want to copy the formula, as shown in the following example:

The screenshot shows the same spreadsheet as before, but now the formula has been copied to the range B11:H11. An arrow points from the text "Result of Formula" to cell B11. Another arrow points from the text "You can copy the formula from cell B11 to the range to the right." to the range of cells B11:H11.

	A	B	C	D	E	F	G	H
1		January	February	March	April	May	June	
2	Income	1600.00	1600.00	1600.00	1600.00	1600.00	1600.00	
3	Expenses							
4	Rent	545.00	545.00	545.00	545.00	545.00	545.00	
5	Car	250.00	250.00	250.00	250.00	250.00	250.00	
6	Food	375.00	375.00	375.00	375.00	375.00	375.00	
7	Entertainment	80.00	80.00	80.00	80.00	80.00	80.00	
8	Utilities	115.00	115.00	115.00	115.00	115.00	115.00	
9	Miscellaneous	50.00	50.00	50.00	50.00	50.00	50.00	
10								
11	Total Expenses	1415.00	1415.00	1415.00	1415.00	1415.00	1415.00	
12								
13								

- Choose Fill Down from the Cell menu to copy the formula to the selected cells beneath it.

OR

Choose Fill Right from Cell menu to copy the formula to the selected cells to its right.

The formula appears in the new locations.

	A	B	C	D
1		January	February	March
2	Income	1600.00	1600.00	1600.00
3	Expenses			
4	Rent	545.00	545.00	545.00
5	Car	250.00	250.00	250.00
6	Food	375.00	375.00	375.00
7	Entertainment	80.00	80.00	80.00
8	Utilities	115.00	115.00	115.00
9	Miscellaneous	50.00	50.00	50.00
10				
11	Total Expenses	=SUM(B4:B9)	=SUM(C4:C9)	=SUM(D4:D9)

Copied formulas

Using Cut, Copy, and Paste

For more information about the clipboard or using these menu choices, see "Selecting and Editing" in Getting Started.

Using these menu choices, 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 applications. 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:

- Select the cell, range, row(s), or column(s) you want to copy or move.
- To copy the selection, choose Copy from the Edit menu or press **COPY**; to move it, choose Cut from the Edit menu or press **CUT**.
- Select the first cell where you want to copy or move the information.
- Choose Paste from the Edit menu or press **PASTE**. The values and formulas appear in the new location with the first cell of the copied selection appearing in the destination cell.

Using Drag and Drop

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

You can 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 applications. 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:

- Select the cell, range, row(s), or column(s) you want to move or copy.
- Move the mouse pointer over the selected range; then press and hold down the right mouse 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 mouse button. *The information is moved or copied, depending on whether you dragged within the same document or from one document to another.*

As you position the drag and drop pointer, the small square at the end of the pointer changes to indicate whether this will be a move or a copy.

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.

For multiple additions or deletions, repeat this procedure as needed. You can add and delete multiple rows and columns.



Inserting and deleting cannot take place for rows, columns, and cells which are entirely within a locked area.



► **To insert a row or column:**

1. Select a cell where you want the insertion to occur. Rows are inserted *above* the active cell, columns to the *left* of the active cell.
2. Choose Insert Row/Column from the Edit menu. *A dialog box appears.*
3. Select either Row or Column in the dialog box.
4. Click on Insert.

► **To quickly insert a row or column:**

1. Select a cell where you want the insertion to occur.
2. Click the Insert Row tool on the Basic Functions tool bar.

OR

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

► **To delete a row or column:**

1. Select a cell in the row or column you want to delete.
2. Choose Delete Row/Column from the Edit menu. *A dialog box appears.*
3. Select either Row or Column in the dialog box.
4. Click on Delete.

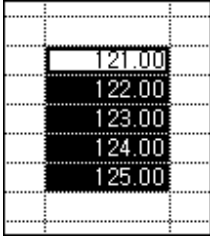
► **To quickly delete a row or column:**

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.

Filling a Range of Cells with Incremental Values



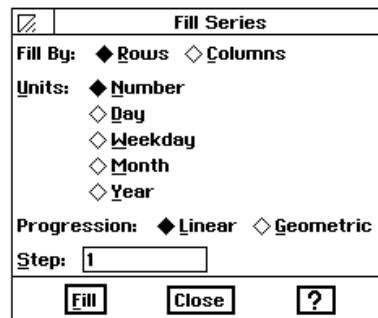
		121.00		
		122.00		
		123.00		
		124.00		
		125.00		

Using the Fill Series choice on the Cell menu, you can automatically fill a range of cells with a series of incremental values. You 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. Choose Fill Series from the Cell menu. *A dialog box appears.*



Fill Series	
Fill By:	<input checked="" type="radio"/> Rows <input type="radio"/> Columns
Units:	<input checked="" type="radio"/> Number <input type="radio"/> Day <input type="radio"/> Weekday <input type="radio"/> Month <input type="radio"/> Year
Progression:	<input checked="" type="radio"/> Linear <input type="radio"/> Geometric
Step:	<input type="text" value="1"/>
<input type="button" value="Fill"/> <input type="button" value="Close"/> <input type="button" value="?"/>	

If you select Day, Weekday, Month, or Year in the Fill Series dialog box, Spreadsheet creates the series differently depending on how you originally entered the date. If you entered the date as a label, Spreadsheet creates additional dates as labels.

If you entered the date as a series 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. For numbers such as a year value, to fill in a progressive series of years, enter the year as a text value ("1990), not a number. For more information, see "Entering and Changing Dates" on page 147.

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 to close the dialog box.

Changing the Appearance of a Spreadsheet

When placing the mouse pointer over the column border, the column resize tool is displayed. Resizing in this manner is not affected by locked titles, except in the case of the borders of columns which are entirely locked. These cannot be resized in this method as the pointer will not drag a change line.

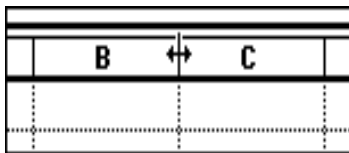
You may want to change the appearance of a spreadsheet to improve its presentation. For example, you might want to emphasize certain aspects with a different text style or alignment.

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 appears as ### because the column is not wide enough. You can change the column width using the mouse or the choices on the Cell menu.



You can adjust column width and row height when titles are locked using the menu choices, and the areas of data in the locked area are changed also. However, it is not possible to change either attribute for entire rows or columns which are locked.

To set the column width exactly, see the next section, "Formatting Spreadsheets" on page 163.

► 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. Drag the column divider on the right side of the column until the column is the width you want.

OR

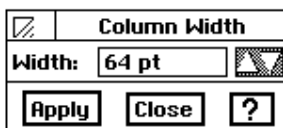
Double-click the column divider on the right side of the column to set the column width just wider than the longest entry in the column. This is the same effect you get if you choose Best Fit from the Cell menu.

► 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.

► To set a column width exactly:

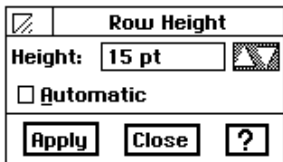
1. Select the column for which you want to set the width. To do so, you can either click the column header or select a cell in the column.
2. Choose Column Width from the Cell menu. *The dialog box at the left appears.*
3. Enter the number of points you want to use for the column width.



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

- Click on Apply to apply your changes. *The dialog box remains on the screen until you close it, so that you can keep adjusting the width.*
- Click on Close to close the dialog box.

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



► **To set a row height manually:**

- 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.
- Choose Row Height from the Cell menu. *The dialog box at the left appears.*
- Click on the Automatic check box to turn off, and click inside the Height value selector.
- Enter the number of points you want to use for the row height.
- Click on Apply to apply your changes.

The dialog box remains on the screen until you close it, so that you can keep adjusting the height.

- Click on Close to close the dialog box when you are done adjusting the row height.

Changing Alignment

Usually, you want labels to line up at the left edge of a cell, and you want values to line up at the right edge. In other words, you want labels to be *left-aligned*, and you want values *right-aligned*. When you enter something in a cell, Spreadsheet automatically aligns it in this way.

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.
- Choose Alignment from the Properties menu:
 - Left makes the entry left-aligned in the cell (**CODE + L**).
 - Center centers the entry in the cell (**CODE + E**).
 - Right makes the entry right-aligned in the cell (**CODE + R**).
 - General makes labels left-aligned and values right-aligned (**CODE + J**).

You can change justification by clicking a button on the Advanced Functions tool bar.

Using Different Text Styles

Using different text styles can help to 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.
 - 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)

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

When you select either superscript or subscript, the contents of the cell will be either all superscript or all subscript. You cannot make a portion of the cell's contents superscript or subscript.

The styles Plain, Bold, Italic, and Underline also can be selected by clicking on an icon in the Basic Function tool bar.

Formatting Spreadsheets

You can use a number of options to change the appearance of your spreadsheet. These options do not affect calculations; they simply make the spreadsheet more attractive and allow you to highlight information to show its importance. You will find these visual enhancements particularly helpful if you want to make presentations.

This chapter 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 the grid lines. The default setting for grid lines is to display them; however, you can create interesting effects by turning off the grid lines and adding cell borders as described in the next section.

You can print grid lines whether they are visible on screen or not. To do so, however, you must use Page Setup on the File menu to specify printing grid lines. For more information, see "Setting Page Setup Options" on page 191.

► **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

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

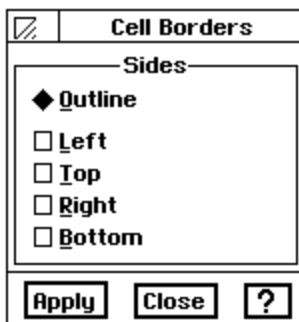
Showing Cell Borders

To create an interesting visual display of your numeric information you can display borders for cells in various configurations, such as in this example:

BUS SCHEDULE					
<i>Morning Schedule</i>					
Street	G Bus	H Bus	R Bus	V Bus	Y Bus
12th Street	8:30	8:45	8:25	8:35	8:40
23rd Street	8:40	----	8:35	8:45	8:50
West Avenue	9:12	----	9:07	----	9:22
Washington Square	9:45	9:30	9:40	----	9:55
Adison Avenue	10:05	9:50	10:00	10:08	10:15
Marian Plaza	10:30	----	10:25	10:33	10:40
Seaside Drive	10:35	----	10:30	10:38	10:45
Main Street	10:42	10:20	10:37	----	10:52
103rd Street	11:00	10:38	10:56	----	11:10
205th Street	11:08	10:46	11:03	11:10	11:18
Turner Place	11:20	----	11:15	11:22	11:30
Willinger Avenue	11:56	10:15	11:51	11:56	12:06

► **To display cell borders:**

1. Select the cells for which you want borders.
2. Choose Cell Borders from the Properties menu. *The dialog box at the left 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 to apply your changes. *The dialog box remains on the screen until you close it, so that you can make changes if you want.*
5. Click on Close to close the dialog box.



Using Headers and Footers

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

- 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

It is a good idea to enter the text for headers and footers in cells that are not part of the main information in your spreadsheet. Then, when you print the spreadsheet, select a print range that excludes the cells containing the header and footer text.

You can specify that Spreadsheet use text you have entered in a cell as the header or footer of the spreadsheet when it is printed. The text appears in the cell and as the header or footer.

► **To create a header or footer:**

1. Enter the header text or footer in a cell or range of cells.
2. Select the cell or range.
3. Choose Header/Footer from the Cell menu. A submenu appears.
4. Choose 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.*

You may also create page numbers that automatically number themselves by typing in the page number function formula. See page 369 for the page numbering function. Be sure to choose the “=” to start your page formula.

► **To number pages consecutively:**

1. Select the footer cell that you created above.
2. Under the Formula menu, choose Insert Function.
3. Select Print from the box on the left, and Page in 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. You may want to choose a number format for your page number.*

Using Tones

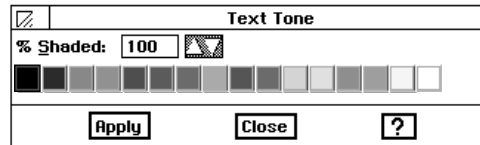
You can use tones or shades of gray to add interest to your spreadsheet presentation. You can use tones for the following elements in a spreadsheet:

- Text
- Background
- Cell borders

Tones also can be used with graphics and charts in Spreadsheet. See page 179 and page 182 for information on using tones with charts. See Drawing, Chapter 5, for information on using tones with graphics.

► **To change the text tones:**

1. Select the cells which contain the text to which you want to apply different tones.
2. Choose Text Tone from the Properties menu. *A dialog box appears.*

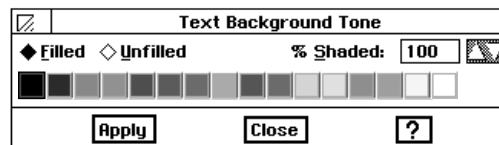


3. Fill in the dialog box, selecting the options you want:
 - **% Shaded.** Select the percent shading for the text tone. The lower the number, the more faded the tone. By default, this setting is 100. If Unfilled is selected, this attribute is set to zero (0).
 - **Tone Tools.** Select the text tone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

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

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.

1. Select the cells for which you want to change the background tone.
2. Choose Text Background Tone from the Properties menu. *A dialog box appears.*

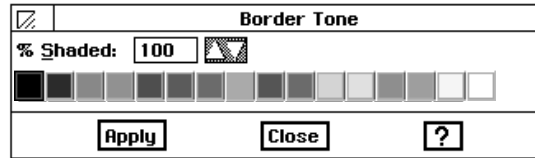


3. Fill in the dialog box, selecting the options you want:
 - **Filled or Unfilled.** Select Filled to set other options in this dialog box. By default, the text background tone is unfilled.
 - **% Shaded.** Select the percent shading for the text background tone. The lower the number, the more faded 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 to apply your changes. *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. Choose Border Tone from the Properties menu. *A dialog box appears.*



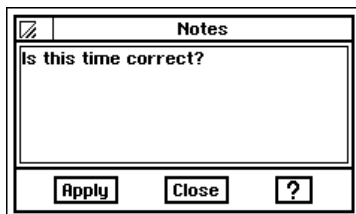
3. Fill in the dialog box, selecting the options you want:
 - **% Shaded.** Select the percent shading for the text tone. The lower the number, the more faded the tone. By default, this setting is 100. If Unfilled is selected, this attribute is set to zero (0).
 - **Tone Tools.** Select the text tone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

Creating Notes

You can add notes that provide additional information about the contents of your spreadsheet. They can be a reminder to check a reference, a note about the logic you used for a formula, or a message to a reviewer of the spreadsheet information.

For example, if you want to check a value that seems incorrect, you can attach a note to the cell containing the questionable value. The cell displays a special Note Indicator so that you know there is a note attached.

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. Choose Notes from the Cell menu. *The dialog box at the left appears.*
3. Type the note in the dialog box.
4. Click Apply to apply your changes. *A Note Indicator, a small square, appears to indicate that a note is attached.*
5. Click Close to close the dialog box.

Marian Plaza	10:30
Seaside Drive	11:35

Note Indicator

You can turn on and off the display of the little indicators in the upper right corner of cells with attached notes.

When you print the spreadsheet, you can also print the attached notes.

► **To show or hide the Note Indicators:**

1. Choose 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. Choose Print from the File menu. *The Print dialog box appears.*

The image shows a 'Print' dialog box with three main sections: 'Printer Options', 'Document Options', and 'SpreadSheet Options'. At the bottom are 'Print', 'Cancel', and '?' buttons.

Print		
Printer Options		
Medium: <input checked="" type="radio"/> Paper	<input type="radio"/> Transparency	
Width: 0 in	Height: 0 in	<input type="button" value="Options..."/>
Document Options		
Print Quality: <input checked="" type="radio"/> High	<input type="radio"/> Medium	<input type="radio"/> Low (Fast)
Number of Copies: <input type="text" value="1"/>	<input type="checkbox"/>	
SpreadSheet Options		
Print Range: <input type="text" value="A1:A1"/>		
<input checked="" type="checkbox"/> Print Spreadsheet	<input checked="" type="checkbox"/> Print Graphics	<input type="checkbox"/> Print Cell Notes
<input type="button" value="Print"/>	<input type="button" value="Cancel"/>	<input type="button" value="?"/>

2. Select Print Cell Notes.
3. Click on Print. *Spreadsheet prints the spreadsheet with the notes attached.*

Using Advanced Spreadsheet Formulas

This section assumes you are familiar with the information covered in Getting Started.

This section describes how to create formulas and use functions to make complex formulas easy. This section explains how to do the following:

- Show and hide formulas
- Assign names to cells and ranges so you can use the names in formulas
- Turn automatic recalculation on and off
- Use circular references and iteration in calculations
- Use advanced functions

Showing and Hiding Formulas

SALES	
Equipment	3,000.00
Services	2,500.00
Products	1,800.00
Total	=SUM(J8:J10)
Tax	=J12*0.0725
Grand Total	=J12 + J13

In order to see a formula for a single cell, you can 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, formulas 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 normally include references to the cells and ranges you want to use in the calculation. While you can refer to cells and ranges by their addresses, you can also name a cell or a range and then use the name in formulas. This 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**

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, such as: "go two rows up and one column to the right."

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. Cells names are case insensitive; for example, to Spreadsheet, the name "Expenses" is the same as "EXPENSES" and "expenses."

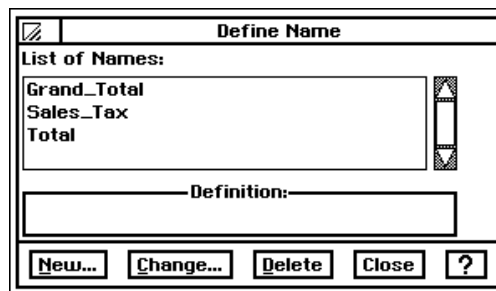
You define a name that refers to a specific cell or range. For example, you might define RATE as A3; then, when entering formulas, you can type RATE instead of typing A3.

To help you remember the location or definition of the cells you want to name, you may want to select it first so that the location appears in the Edit Bar.

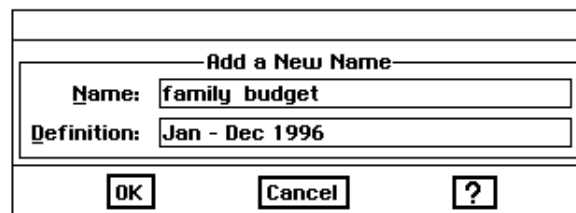
You can use both absolute and relative references when you define a name. For example, if you have name \$C1 = Income when defined in row 1, but when Income is pasted into row 6, the reference becomes \$C6. The reference to column C remains constant (absolute) regardless of where you paste the named cell.

► **To define a name:**

1. Choose Define Name from the Formulas menu. *The dialog box below appears, listing any names you have previously defined.*



2. Click on New. *Another dialog box appears.*

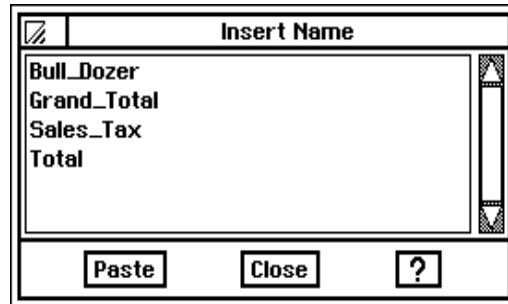


3. Fill in the dialog box, specifying the name and reference you want to use:
 - **Name.** Enter the name for the cell or range of cells. Use absolute cell addresses unless you want the named range to reflect a relative position.
 - **Definition.** Enter the reference for the cell or range you want to name. You can use relative and absolute references.
4. Click on OK. *The name appears in the list in the Define Name dialog box.*
5. Click on Close. *The dialog box disappears.*

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

► **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, choose Insert Name from the Formulas menu. *The Insert Name dialog box appears.*



3. Select the name you want to insert.
4. Click on Paste. *The name appears in the Edit Bar.*
5. Click on Close. *The dialog box disappears.*

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.

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

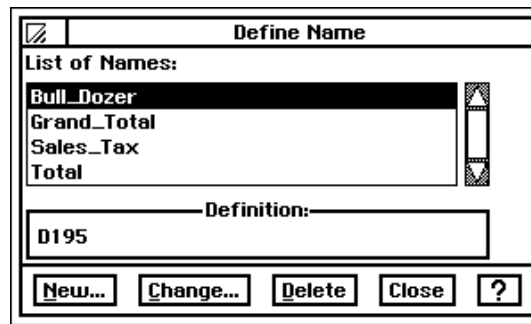
1. Choose Define Name from the Formulas menu. *A dialog box appears.*
2. Select the name you want to change.
3. Click on Change. *A dialog box appears.*
4. Type the new name in the Name box.
5. Click on OK. *All formulas referring to the old name are updated to the new name.*
6. Click on Close. *The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

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

1. Choose Define Name from the Formulas menu. *A dialog box appears with a listing of 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 except 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. *The dialog box disappears.*

► **To delete a name:**

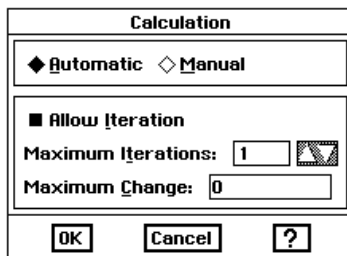
1. Choose Define Name from the Formulas menu. *This dialog box appears.*



2. Select the name you want to delete.
3. Click on Delete. *A confirmation message appears asking you to whether you want to delete the name.*
4. Click on Yes to delete the selected name. *Spreadsheet deletes the name and, for formulas using the deleted name, replaces the name with the cell or range address it referenced.*

Controlling Automatic Recalculation

Spreadsheet normally recalculates every formula in your spreadsheet every time 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 calculation off. When automatic recalculation is off, you recalculate the spreadsheet manually whenever you want to.



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

1. Choose Calculation from the Options menu. *The dialog box at the left appears.*
2. Select Automatic or Manual to specify the type of calculation you want.
3. Click on Apply to apply your changes.
4. Click on Close. *The dialog box disappears.*

► **To recalculate manually:**

Click on Calculate on the Basic Functions tool bar.

OR

Choose Calculate Now from the Options menu.



Using Iteration and Circular References

	I	J
17	Income	1500.00
18	Fixed Expenses	750.00
19	Commissions	=J21*0.33
20	Total Expenses	=J18 + J19
21	Profit	=J17 - J20

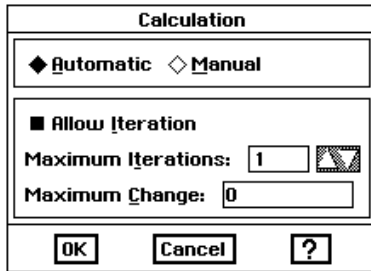
Occasionally, you may want to create a formula in which the calculation uses the result of the calculation. This is called a *circular reference*. Consider the example on the left where to calculate gross profit, you subtract expenses from income. If one of the expenses is based on a percentage of the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

If you calculate this formula in B5 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*, and the difference in the result of each successive calculation is no longer significant. The table below shows the results of a simple iterative calculation so that you can see when the recalculation converges.

ITERATION	B3	B4	B5
Step	=B4+B5	=.5*B3	=100
1	0	0	100
2	100	50	100
3	150	75	100
4	175	87.5	100
5	187.5	93.75	100
6	193.75	96.875	100
7	196.875	98.4375	100
8	198.4375	99.21875	100
9	199.21875	99.609375	100
10	199.609375	99.8046875	100

Note in the table above how the value in B3 approaches 200 and the value in B4 approaches 100. Spreadsheet stops the iteration when the results of a circular reference converge on a single value. If convergence does not happen within the number of recalculations you specify in the Calculations dialog box, Spreadsheet automatically stops the iteration. You can specify the limit for the convergence with Maximum Change in the dialog box. If you specify zero for the maximum change, iteration will not stop until it converges (or reaches the maximum number of iterations).

Before using circular references, you must turn on iteration using the Calculation choice on the Options menu. If you enter a formula with a circular reference but have not specified that you want to use iteration, the result of the formula appears as **#CIRC#**.



► To use iteration:

1. Choose 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.
3. Click on Apply.
4. Click on Close. *The dialog box disappears.*
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.*

Advanced Functions

This section describes how to use more complex functions that involve the following capabilities:

- Conditional statements
- Text strings
- Arrays
- Lookup

See the Appendix for brief descriptions of the functions organized by function type and an alphabetical listing of functions with a complete description and syntax for each.

Spreadsheet includes the following types of functions: strings, time and date, financial, math, statistical, trigonometric, information, logical, and print.

Named cells and ranges are particularly useful as arguments for functions. For more information on how to name ranges, see "Naming Cells and Ranges" on page 169.

You can use a list of values, separated by commas and enclosed in parentheses as arguments for many functions. If the function uses a list for its arguments, each item in the list is evaluated. For example, the following two functions are equivalent:

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

Working with strings

See the Appendix for a list of string functions.

String functions let you perform operations on text in spreadsheet cells. The text in a spreadsheet cell is called a text string. At least one argument in each string function is a text string.

String functions extract text (including numbers) or return values based on the text. For example, you can use RIGHT to extract the last four digits of a stock number that might identify the manufacturer of a product.

When you enter a string as an argument to a function, you must 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.

Working with times and dates

See the Appendix for a list of time and date functions.

The time and date functions enable you to enter times and dates in serial form — the 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.

Working with numbers

See the Appendix for a list of financial, math, trigonometric, and statistical functions.

You can use financial, math, trigonometric, and statistical functions. The result of these calculations is always a value that can be used in a math formula.

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 certain to specify the same units for the term and the interest. If the interest is monthly, the term is also monthly.

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.

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

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 address of cells that contain values.

Using logical functions

See the Appendix for a list of logical functions.

A logical function says, “If this is true then do that.” For example, “If the value in B12 is larger than 10,000 then display 50 in this cell.” To create conditional statements, you use the IF function.

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 condition.

IF statements consist of the following three components:

- The condition you want to test
- The result you want if the condition is true
- The result you want if the condition is false

BONUS =
IF(SALES<10000,.02*SALES,.04*SALES)

For example, you might want to 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%. For sales over \$10,000, the bonus is 4%. The formula for such an IF statement shown in the box at the left is =IF(C4<10,000, 0.2 * C4, 04*C4) where the sales figure is located in cell C4.

BONUS = .02*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.

Using Logical Operators

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
(CODE + MENU + >)	Greater than or equal to	A14≥B12
(CODE + MENU + <)	Less than or equal to	A14≤B12
(CODE + MENU + =)	Not equal	A14≠B12

Using the AND and OR Functions

See Appendix for list of AND and OR 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 Lookup Functions

Lookup functions create a table within a spreadsheet that acts like a database. You can enter values in the table and then extract information from the table depending on your specifications.

The index entries must be sorted in ascending order. For HLOOKUP, the index is the first row in the selection. For VLOOKUP, the index is the first column. You select HLOOKUP and VLOOKUP functions from the Information box in the Insert Function dialog box. The Insert Function dialog box is found by selecting the Insert Function command from the Formula menu.

Lookup tables are good for discounts, tax rates, and commission percentages. The multiplication table below is an example of a simple lookup table.

	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%.

In this example, the HLOOKUP function returns the value in the second row of the fourth column in the range B3:F4.

You can extract values horizontally (from rows) with HLOOKUP and vertically (from columns) with VLOOKUP.

Using Information and Print Functions

See Appendix for list of information functions, page 365, and print functions, page 369.

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

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 used in headers and footers for numbering pages.

Charting in Spreadsheet

Spreadsheet lets you use data to create a variety of charts that visually 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 applications like Drawing or Word Processing.

Do not plot more than 12 items per chart.

This chapter describes the basic types of charts you can create and explains how to do the following:

- Create new charts
- Change the type of chart
- Add titles, legends, axis marks and grid marks to your charts

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.

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 you must first define the data that is to appear in the chart. You can select a portion of an existing spreadsheet, or use a blank spreadsheet in which you enter just the data you wish to chart.

For example, the data in the sample line chart that appears earlier in this chapter is one row of data from a larger budget spreadsheet. The spreadsheet shown in the procedure below was developed specifically to create a chart.

When entering labels for the chart title, series name, or category name, the label must begin with a non-numeric character. After the first character, you may then use numbers in your label.

Perhaps, you may want to use a number in the first position of one of these labels such as the year, 1996. You must convert the first numeric character to a non-numeric character. Do this by first typing an apostrophe (') and then the numeric characters.

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					

Do not use numbers for the chart title, series names, or category names. For example, instead of naming categories 1, 2, and 3, use something like **Day 1**, **Day 2** and **Day 3**. If you must use a number, like 1993 and 1994, 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.

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

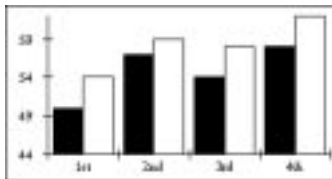
Types of Charts

All but the High/Low chart offer variations you can choose once you have created the chart. Each of the seven standard charts is illustrated in the following sections.

Spreadsheet lets you create the following types of charts:

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

Column chart

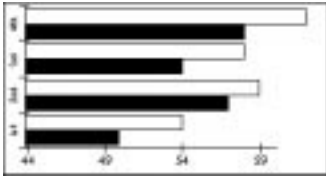


A *column chart* (or a vertical bar chart) plots each category in a series as a vertical bar. The height of the bar corresponds to the value of that category. The illustration at the left shows a typical column chart. *Use bar charts for comparing amounts for fixed time intervals.*

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

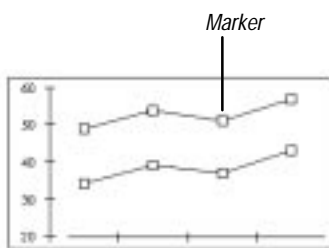


A **bar chart** is like a column chart with the bars plotted horizontally rather than vertically. Use bar charts for comparing amounts for fixed time intervals.

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

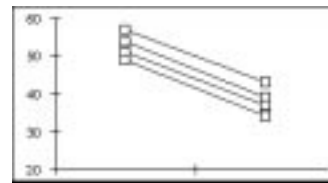
Line chart

Do not plot more than 12 labels on the vertical axis.



49	54	51	57
34	39	37	43

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. The one on the right shows the result when the data is entered vertically. Use line charts for trends.



49	34
54	39
51	37
57	43

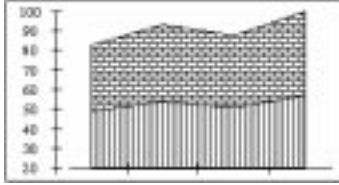
This chart can only be plotted using rows. Each of the data points on a horizontal row will be plotted on the same line.

Variations on the standard line chart include the following:

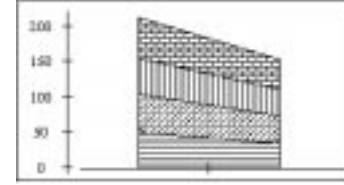
- **Lines Only.** Draws only the lines connecting the points in each series; does not draw the markers for each point.
- **Markers Only.** Draws only the markers for each point; does not connect the markers with lines.
- **Drop Lines.** Draws the markers for each point, and then connects the points in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

Area chart

This chart can only be plotted using rows. Each of the data points on a horizontal row will be plotted on the same line.



49	54	51	57
34	39	37	43



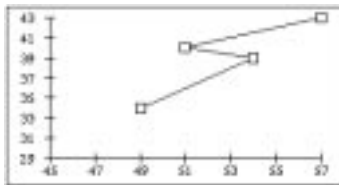
49	34
54	39
51	37
57	43

Variations on the standard area chart include the following:

- **Stacked Percentage.** Like the column 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

Do not plot more than 12 items per chart.



49	54	51	57
34	39	40	43

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 180), 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. Remember X-Y plots compare two or more categories. Use X-Y plots to show cause and effect.

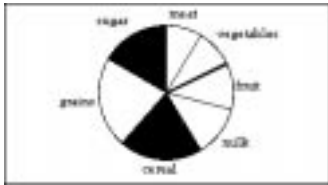
Another difference between X-Y plot charts and line charts is that on an X-Y plot chart, the tick marks along each axis (X is the horizontal axis, Y the vertical) are spaced according to their value, which may not always be at regular intervals because of the potentially random nature of the data. On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

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 where the different data is grouping. For instance, the age of most of your group will be apparent if you use a scatter plot since the markers will congregate in one area primarily.

This type of chart can only be plotted using rows. Each of the data points on a horizontal row will be plotted together.

Pie Chart

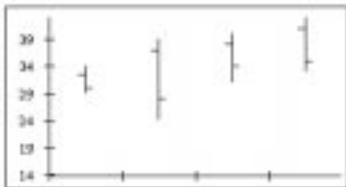


A *pie chart* is a round chart in which the size of each “slice” is proportional to its percentage of the whole. Pie charts are unique in that they only draw one category of data. The illustration on the left shows a typical pie chart. *Remember that a pie chart can only represent one category. Use pie charts for percentages.*

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 are 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.

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. *Remember high/low charts require from two to four categories of data.*

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

This type of chart can only be plotted using rows. Each of the data points on a horizontal row will be plotted together.

Creating Charts

Once your labels and data are in place on the spreadsheet, you create charts using either the Charts menu or the charting buttons on the Advanced Functions tool bar.

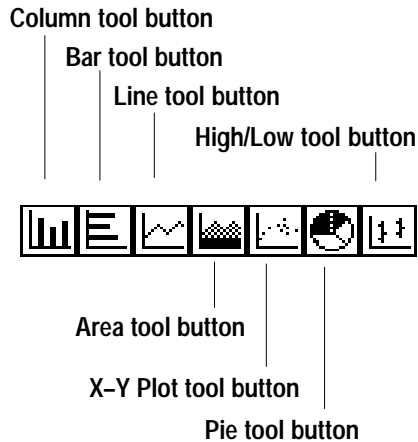
► To create a chart:

1. Open the spreadsheet that contains the data you want to chart.

OR

Open a new spreadsheet and enter the data you want to chart.

2. Select the cells that contain the data you want to chart.



	A	B	C
1	Quarterly Sales (000s)	1991	1992
2	1st	50	54
3	2nd	57	60
4	3rd	54	58
5	4th	59	62
6	Total	220	234
7			

When you select cells, Spreadsheet starts the Chart menu and Chart buttons on the Advanced Functions tool bar.

3. Decide which type of chart will best depict the data. Remember that a pie chart can only represent one category, X-Y plots compare two or more categories, high/low charts require from two to four categories of data. Use pie charts for percentages, line charts for trends, bar charts for comparing amounts for fixed time intervals, and X-Y plots to show cause and effect.

4. Select the desired type of chart on the Advanced Functions tool bar.

OR

Open the Chart menu and select the basic type of chart 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 184.)

Changing the Type of Chart

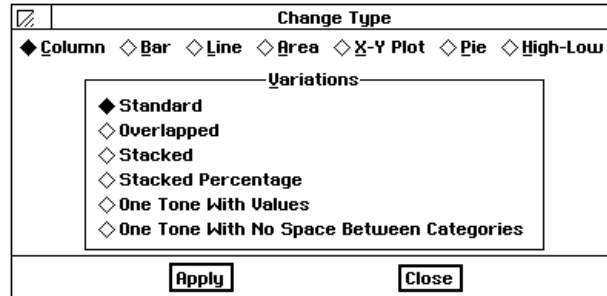
You can choose a different type of chart to get a different view of your information. To do so, simply click the appropriate chart button.

Once you have created a chart, you can use the Change Type choice on the Chart menu or use the Chart buttons on the Advanced Functions tool bar to change the basic chart type (such as pie or bar chart). Or, you can change the chart to one of its type variations (such as stacked or stacked percentage).

► 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. Spreadsheet changes the chart. If you wish, you can make further changes and click on Apply to see the effects.

If the dialog box covers all or part of the chart, simply move it out of the way.
The dialog box remains on the screen until you close it.



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 *Drawing, Chapter 5*.

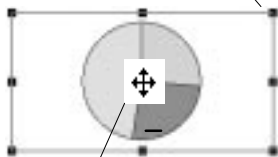
When you create a chart, it appears with small filled boxes around the perimeter, and a diamond shaped spot in the center. These *handles* indicate the chart is the currently selected object.

You can use the handles to manipulate your chart just as you would manipulate a graphic object. The diamond shaped handle in the center is the *move handle*. You use move handle to move the chart, and you use the other handles to resize it.

Resizing and Moving a Chart

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

Resize handles
(the handles around the edges)



Move handle
(the handle in the center)

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

► To resize a chart:

Place the pointer over one of the handles that surrounds the chart, click, hold, and drag the mouse. 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 the edge of the chart to select it. *Handles appear around the chart frame and the move handle appears in the center.*
2. Place the pointer over the move handle in the center of the chart. When the pointer changes to a pair of crossed arrows, click and hold the left mouse button to grab the chart.
3. Holding the mouse button, drag the mouse to move the chart to the position you want.
4. Release the mouse. *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.

You can select multiple text items by holding **CODE** as you click. You cannot move any labels that the chart has generated, though you can edit text labels using the Text tool.

► 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. Choose the text property you wish to change—font, style, size, or tone—from the Properties menu or the Basic Functions tool bar. *Spreadsheet applies the change to the selected text.*

► 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, though you can edit text labels using the Text tool.
3. Choose the attribute you wish to change from the Graphics menu.
4. Click on Apply to apply your changes.
5. Click on Close to close the dialog box.

Deleting a Chart

► To delete a chart:

1. If the chart is not selected, click the edge of the chart to select it. *Handles appear around the chart frame and the move handle appears in the center.*
2. Press **DELETE**.
OR
Choose Delete from the Edit menu.

Using a Chart in Another Application

You can copy a chart to a document you create with another application. For example, you may want to use a chart in a report you have created in Word Processing, or in an illustration you have created in Drawing.

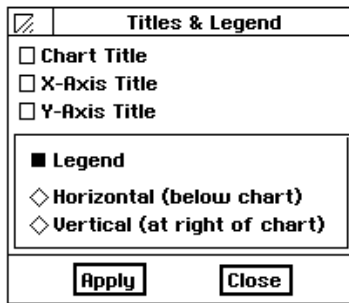
► To copy a chart to another application:

1. Select the chart you want to copy by clicking on it. *Handles appear around the chart.*
2. Choose Copy from the Edit menu.
3. Close the Spreadsheet application. *The chart is pasted onto the clipboard.*
4. Open the other application and choose Paste from the Edit menu. *The chart appears.*

Adding Titles and a Legend



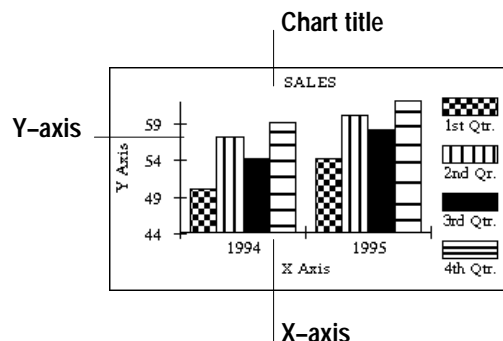
A picture is worth a thousand words, but sometimes you need to add a few words of explanation — especially for a chart.



When entering labels for the chart title, series name, or category name, the label must begin with a non-numeric character. After the first character, you may then use numbers in your label. Perhaps, you may want to use a number in the first position of one of these labels such as the year, 1996. You must convert the first numeric character to a non-numeric character. Do this by first typing an apostrophe (') and then the numeric characters.

► To add titles and legend to a chart:

1. Select the chart with the pointer tool.
2. Choose Titles & Legend from the Chart menu. *The dialog box at the left 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 to apply your changes. *Spreadsheet adds the items you selected to your chart, as shown in the following example:*



5. Click on Close to close the dialog box.

► To change text in the Chart Title or Axis Titles:

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. Use **BACKSPACE** and **DELETE** to remove text you do not want, or highlight the unwanted text and choose Delete from the Edit menu.
4. Enter the new text.
5. When you are finished with the Text tool, select the Arrow pointer from the Drawing tool bar and click on an empty area of the chart to remove the outline around the text (so that further changes are not accidentally made to the text).



You can apply a variety of style features to the text. For more information about using text features, see "Selecting and Editing" in *Getting Started*. For more information about using text in graphics, see *Drawing*.

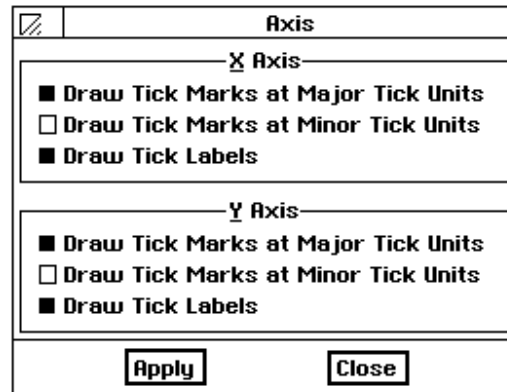
Changing Markings

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.

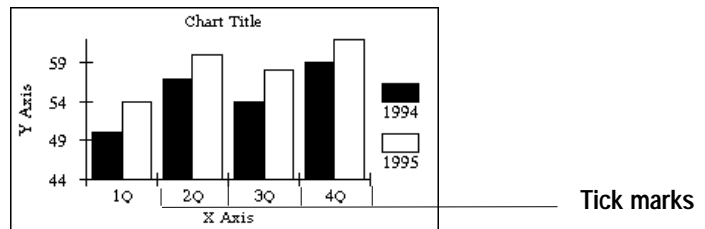
Axis markings and *grid markings* are useful visual aids that can help people understand your chart. Axis markings are the tick marks that divide the axis lines. Grid markings are vertical and horizontal lines that can cover the chart area between the axes.

► To add axis markings to a chart:

1. Choose Axis from the Chart menu. *The Axis dialog box appears.*



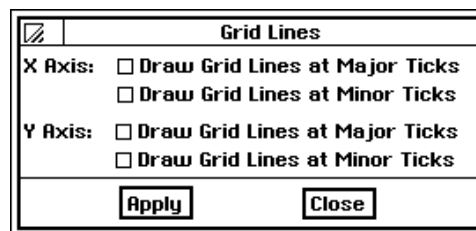
2. Select the type of axis markings you want, and click on Apply. *The markings appear in your chart.* The following illustration shows a chart with tick marks along the X-Axis:



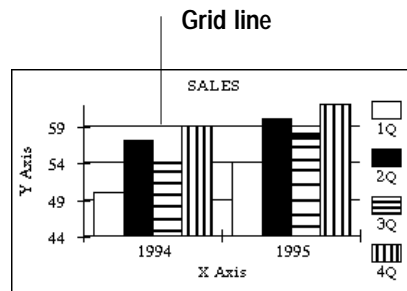
3. Click on Close to close the dialog box.

► To add grid lines to a chart:

1. Choose Grid Lines from the Chart menu. *The Grid Lines dialog box appears.*



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



3. Click on Close to close the dialog box.

Changing Marker Shapes

Markers are the points in line on X-Y plot charts. They are found only on X-Y plot and line charts. Changing the shape of the markers in one or more categories 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. Open the Charts menu and choose Marker Shape. *The Marker Shape dialog box shown at the left appears.*
3. Click on the marker shape you want and click on Apply. *The selected markers change shape as specified. The dialog box remains on the screen until you close it.*



Using Additional Spreadsheet Features

Spreadsheet has many additional features to help you create accurate and attractive spreadsheets. You can sort your spreadsheet, create custom number and date formats, add graphics, and print. This section describes how to do the following:

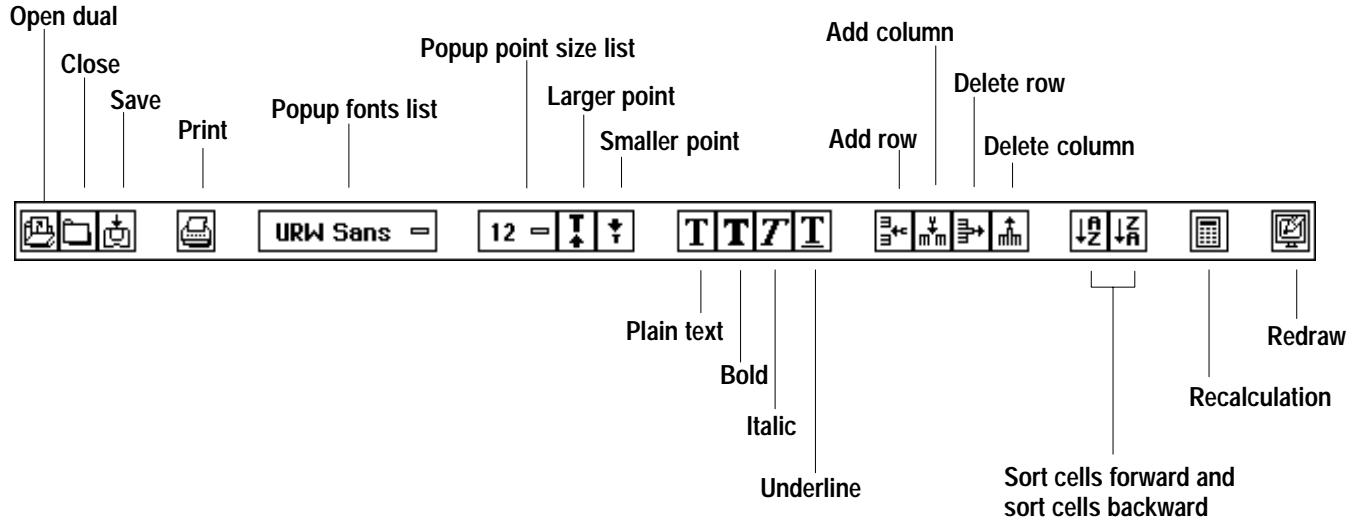
- Use the Basic and Advanced Functions tool bars
- Print spreadsheets
- Sort rows or columns of information
- Create custom number and date formats
- Add graphics to a spreadsheet
- Use Spreadsheet with other applications

Using the Functions Tool Bars

The Basic Functions tool bar








The Basic Functions tool bar contains tools for performing file functions like opening, closing, and saving files, as well as tools for editing and for zooming in and out. You must display these tools before you can use them; for more information, see "Using the Tool Bars" in Getting Started.

The Basic Functions tool bar also contains tools that are unique to Spreadsheet, as shown below:



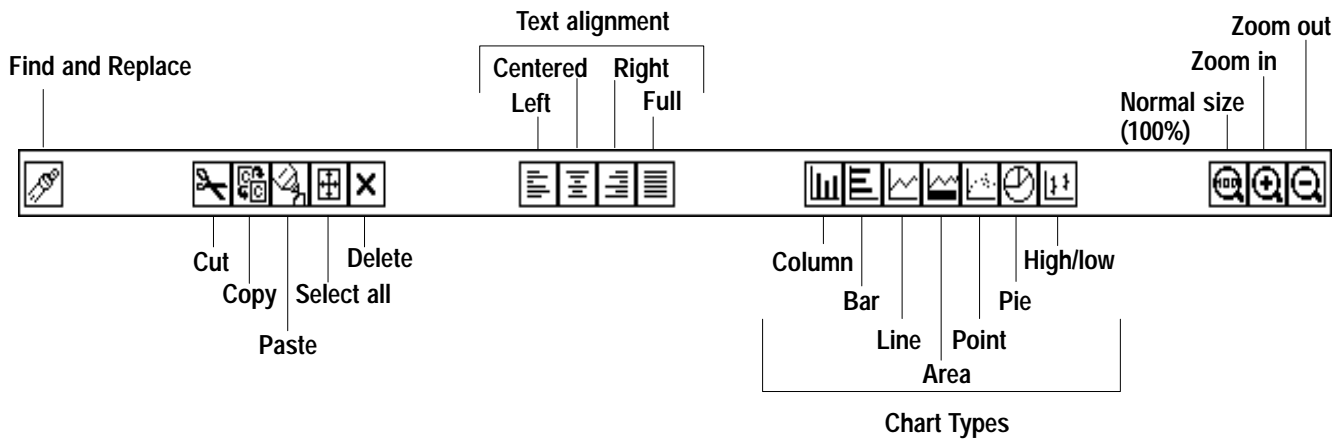
For more information on manipulating rows and columns, see page 159. For more information about sorting cells, see page 193. For more information on recalculating formulas, see page 172.








The following tools are unique to Spreadsheet:

BUTTON	TOOL NAME	DESCRIPTION
	Insert Row	Adds one row above the current row. If you have selected multiple rows, Add 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, Add Column adds the same number of columns to the left of the selection.
	Delete Column	Delete 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 this button to make Spreadsheet calculate all formulas in the spreadsheet.

The Advanced Functions tool bar

The Advanced Functions tool bar allows you to change the text format of values and labels. In addition, you can use the tools on the Advanced Functions tool bar to create charts from the 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 chart showing stock market data: high, low, and close.

Printing

Printing a Spreadsheet document is much like printing any other document. For general information about printing, see "Printing Documents" in Getting Started.

Printing spreadsheets

You can set various printing options using the Page Setup choice on the File menu. For more information, see the next section, "Setting Page Setup Options." After setting printing options, you are ready to print your spreadsheet.

► **To print from within Spreadsheet:**

1. Choose Print from the File menu.

OR

Click on the Print button on the Basic Functions tool bar. *A dialog box appears so that you can specify printer options. For more information about this dialog box, see "Printing Documents" in Chapter 1.*

2. Select your printing options and click on Print. *Your spreadsheet prints. If you have created a chart and selected Print Graphics, the chart is printed as part of the spreadsheet, just as you see it on the screen.*

You can specify manual calculation. If you have specified manual calculation, be sure to recalculate your spreadsheet before printing it.

► **To calculate the spreadsheet before printing:**

Choose Calculate Now from the Options menu.

OR

Click the Calculate button on the Basic Functions tool bar.

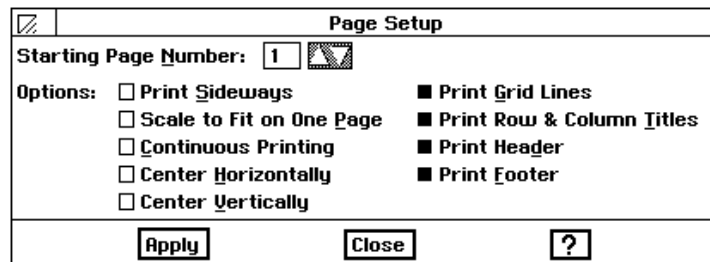


Setting page setup options

Before you print, you can set print options with the Page Setup choice on the File menu.

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

1. Choose Page Setup from the File menu. *A dialog box appears:*



The screenshot shows the "Page Setup" dialog box with the following options:

Starting Page Number: 1	
<input type="checkbox"/> Print Sideways	<input checked="" type="checkbox"/> Print Grid Lines
<input type="checkbox"/> Scale to Fit on One Page	<input checked="" type="checkbox"/> Print Row & Column Titles
<input type="checkbox"/> Continuous Printing	<input checked="" type="checkbox"/> Print Header
<input type="checkbox"/> Center Horizontally	<input checked="" type="checkbox"/> Print Footer
<input type="checkbox"/> Center Vertically	
Apply	Close
	?

2. Fill in the dialog box, changing the options you want:

- **Starting Page Number.** The default starting number is 1, but you can specify a different starting number for your spreadsheet. Either click the up and down arrows or type a new number. The page number appears when you use the PAGE() function 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).
- **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 with and without grid lines, choose Draw Grid lines from the Options menu. Grid lines are on by default.)
- **Print Row & Column Titles.** Use this option if you want the row and column references to be printed 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 the Header/Footer choice on 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 the Header/Footer choice on 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.

3. Click on Apply. *Spreadsheet records the settings you selected.*

4. Click on Close to close the dialog box.

Sorting

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.

For example, you may be keeping track of the payments of a group of piano students. As shown in the illustration below, you can alphabetize the list of names *and* the payments. Select the range of cells containing all the names and payment information, being certain that the list you want to alphabetize is the leftmost column in the selection. Then, when you sort the list alphabetically, the names (and the payments for that student) are shown in alphabetical order.

Be sure to save your work before you perform a sort. Then, if the results of the sort are not what you expected, you can choose Other from the File menu and then choose Discard Changes from the Other submenu.

Unsorted

Susie Jones	\$25.00	No Payment
Izuki Iwamai	No Payment	\$25.00
Sean O'Gara	\$25.00	\$25.00

Sorted

Izuki Iwamai	No Payment	\$25.00
Susie Jones	\$25.00	No Payment
Sean O'Gara	\$25.00	\$25.00

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

► 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:
 - **RETURN.** Moves the active cell down one row.
 - **SHIFT + RETURN.** 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. Choose Sort from the Edit menu. *A dialog box appears:*

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

Sort		
Sort By	Sort Order	Sort Options
<input checked="" type="radio"/> Rows <input type="radio"/> Columns	<input checked="" type="radio"/> Ascending <input type="radio"/> Descending	<input type="checkbox"/> Ignore Case/Accents <input type="checkbox"/> Ignore Spaces/Punctuation
Sort	Close	?

4. Fill in the dialog box, specifying the sort criteria you want to use:
 - **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.** You can specify the following sort options:

Ignore Case/Accents. You can have the sort ignore any differences in upper and lower case and ignore accents on letters in alphabetical sorts.

Ignore Spaces/Punctuation. You can have the sort ignore spaces between words and punctuation marks (such as period in Mr.) in alphabetical sorts, such as in a phone book.

5. Click on Sort. *Spreadsheet sorts the selected cells.*

You can use the sort tools on the Basic Functions tool bar if it is displayed.



► **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.

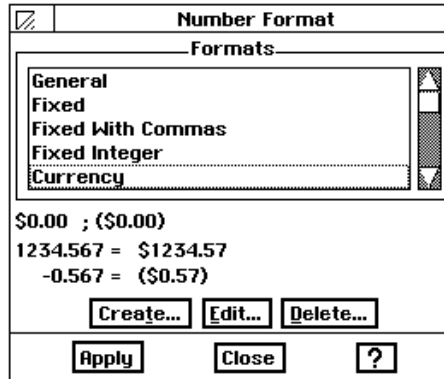
Creating Number and Date Formats

You can edit existing formats by clicking the Edit button.

Spreadsheet offers a wide variety of standard number and date formats. However, you can create additional number and date formats to suit your needs. For example, if you want to show values with 6 decimal places, you can create a special format.

► To create a number or date format:

1. Choose 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 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 set your specifications.
 - **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 header 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; 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; 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.*

Using Rulers

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

See Getting Started for more information about displaying rulers.

In Spreadsheet, you can choose the same types of rulers that are available in other applications: Inches, Centimeters, Points, Picas, and Spreadsheet. The spreadsheet ruler is the row and column titles. 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. Choose Rulers from the Options menu.
2. Choose the type of ruler you want from the submenu.

Adding Graphics

You can include charts and drawings in the spreadsheets you create. Charting lets you build graphs and pie charts based on data you enter in a spreadsheet. In addition to charts, you can use the Drawing tool bar and the Graphics tool bar to create drawings right in your spreadsheet. If you prefer, you can also create drawings in Spreadsheet and then paste them into a Spreadsheet document.

For more information about working with fill patterns, see Drawing, Chapter 5.

Graphics you add to a Spreadsheet document actually 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.

If you are already familiar with Drawing, you already know how to create drawings in your spreadsheet. If not, you may want to read the Drawing chapter where you will find complete information about the Graphics menu and the Drawing, Bitmap, and Graphics tool bars.

If you are using Spreadsheet information for a report or presentation, you can create the visual effects right in Spreadsheet using the drawing tools, charting capabilities, and cell borders.

Locking Titles

The Lock Titles command in the View Menu locks specific rows and/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 image. For the locked areas, you must click on the Redraw button in order to see what it looks like after the move.

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. If you wish to move the chart or image, then you will have to unlock the area, move the chart or image, and then lock the area again.

Once titles are locked, the Lock Titles menu item changes to an Unlock Titles menu item. Choosing this item releases any locked rows and/or columns.

1. Scroll the spreadsheet so the column(s) or row(s) wanted as titles are visible at the upper left 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. Choose 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. The following graphic shows the result when locking both rows and columns. Locked titles are displayed above and to the left of black lines drawn on the cell borders.

	A	B	C	D	E	F	G	H	I
1		Income	Expenses						
2	January	12508.00	14610.00						
3	February	18604.00	15143.00						
4	March	18876.00	13486.00						
5	April	12348.00	13215.00						
6	May	13482.00	13105.00						
7	June	15431.00	14124.00						
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									

Using Spreadsheet with Other Applications

You can use information from your spreadsheet in other applications. 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.

For more information about working with multiple applications, see Getting Started.

Information you paste into other applications is not automatically updated if you make changes to your original spreadsheet. 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.

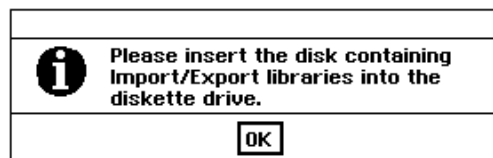
► **To use spreadsheet data in another application:**

1. Create the spreadsheet data you want to use.
2. Select the range that you want to paste into another application.
3. Choose Copy from the Edit menu to copy the selection. *The selection is copied to the clipboard.*
4. Save your document and close Spreadsheet.
5. Open the application 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. Choose Paste from the Edit menu. *The information is pasted into your document with tabs inserted between the columns and with each row starting a new line.*

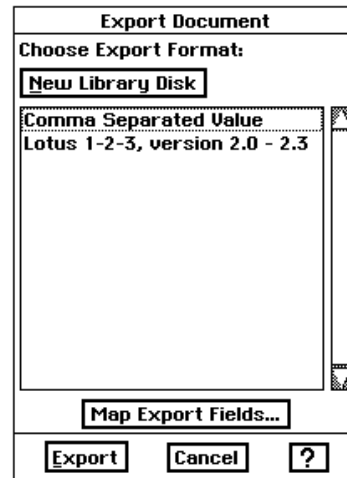
Importing and Exporting Spreadsheet Information

► **To export a spreadsheet:**

1. Choose Other from the File menu.
2. Choose Export Document from the Other submenu. *A dialog box appears that will ask for the Import/Export libraries diskette:*



3. Take out the document diskette and insert Diskette 2. Then click on OK. *The Export Document dialog box appears.*



4. Select the export options to suit your needs and click on Export. *A message appears asking you to insert your document diskette.*
 - **Formats.** Choose Lotus 1-2-3® or Comma Separated Values to export information.
5. Insert your document diskette and click on OK.
6. Select the folder where you want to save the exported file.
 - **New File Name.** 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.
7. Click on Export. *Spreadsheet creates a file using the specified format.*

For more information about DOS file names, see "Naming a Document" in Getting Started.

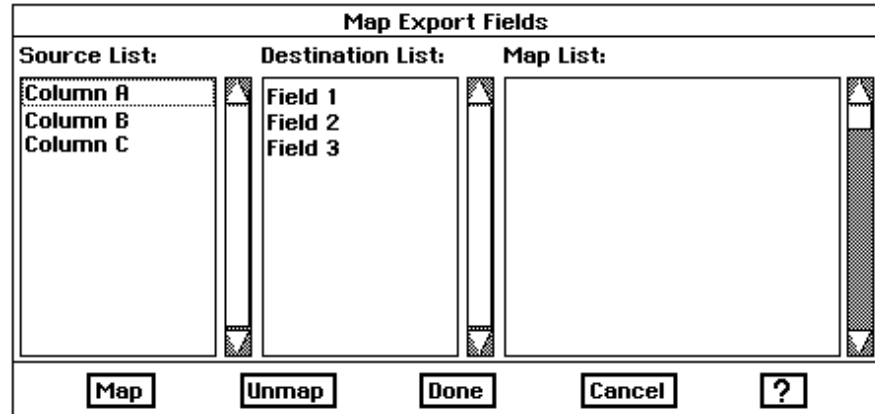
When you export in CSV format, Spreadsheet creates field names (Field1, Field2, Field3, etc.). You can map the information you are exporting to change the order.

If you prefer, you can rearrange the columns in your spreadsheet so they appear in the order you want. If there are a small number of columns, this may be faster than mapping the information you are exporting.

► **To change the order of columns when exporting:**

1. Create the spreadsheet as usual.
2. Choose Other from the File menu.
3. Choose Export Document from the Other submenu. *The Export Document dialog box appears.*
4. Fill in the dialog box, selecting Comma Separated Value (CSV) from the Formats list. *The Map Export Fields button is activated.*

- 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.

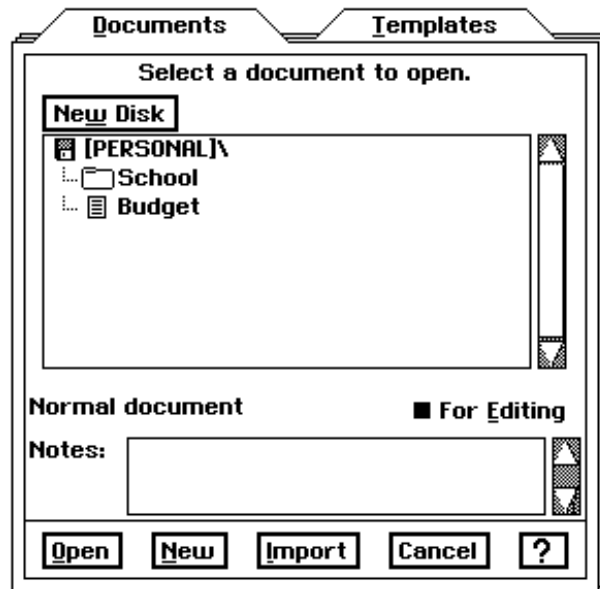


- Click on Field 1 in the Destination List. If the lists in the dialog box are empty, make sure the spreadsheet contains data.
- Click on the column in the Source List that you want to be Field 1 in the export database. The selected name will be the field name associated with Field 1.
- Click on Map. The field pair appears in the Map List. (To break the link between a mapped pair of fields, you can select the pair in the Map list and then click Unmap.)
- Continue designating pairs until you have specified all the fields you want to map. If you leave any source field unpaired, that field will not be exported.
- Click on Done. The dialog box disappears.
- Click on Export. Spreadsheet exports your spreadsheet information in the format you specified.

► **To import data in Lotus 1–2–3®, or Comma Separated Value format:**

You can import information from files in Lotus 1–2–3®, or Comma Separated Value (CSV) format. Many applications can export information in these formats, so you do not necessarily have to be using Lotus 1–2–3® in order to import information into Spreadsheet. When you import CSV files, you can change the order of the columns when you import.

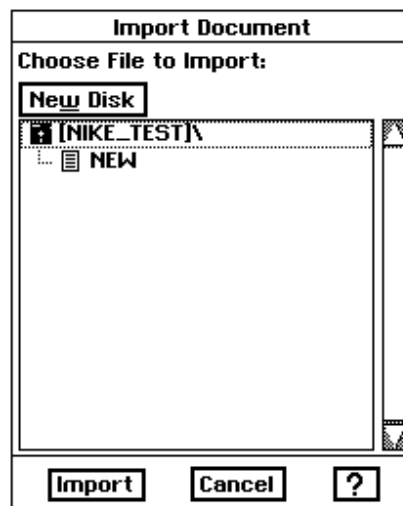
1. Choose New/Open from the File menu. *The New/Open dialog box appears:*



Once you begin importing a file, you cannot interrupt the operation. You might need to wait when importing a very large file. Make sure you select the correct file to import.

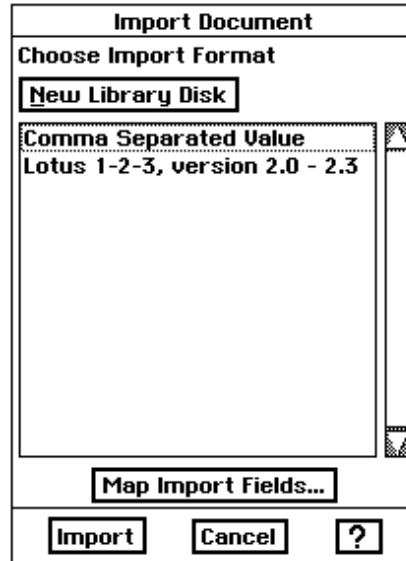
.csv = Comma Separated Values
.wk1 = Lotus 1–2–3® Ver.2.0–2.3

2. Click on Import. *The Import Document dialog box appears and lists the document files on the diskette. You should select only those file names that end in .csv or .wk1. Other documents will not import into Spreadsheet.*



3. Select the file you want to import and click on Import. *A dialog box that asks you to insert the disk containing the Import/export libraries appears on top of the Import Document dialog box. The Import/export libraries are on Diskette 2.*
4. Insert Diskette 2 into the disk drive, and click on OK. *A dialog box that asks you to insert the disk containing your document appears over the Import Document dialog box.*

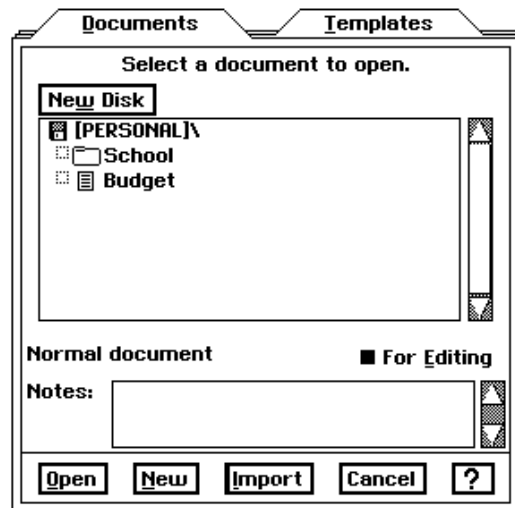
5. Insert your document diskette into the drive and press **ENTER**. *The Import Document dialog box displays the file formats you can import into Spreadsheet.*



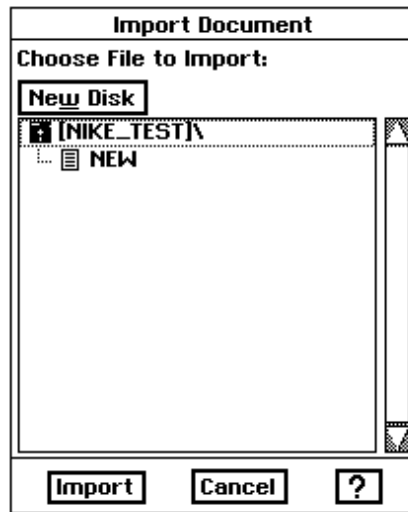
6. Select the file format of the file you are importing, and click on Import. *A dialog box that asks you to insert the library diskette, Diskette 2, appears.*
7. Insert Diskette 2 into the drive and click on OK. *A dialog box that asks you to insert the disk containing your document appears*
8. Insert the document diskette, and press **ENTER**. *The information from the import file appears in a Spreadsheet window.*

► **To change the order of columns when importing:**

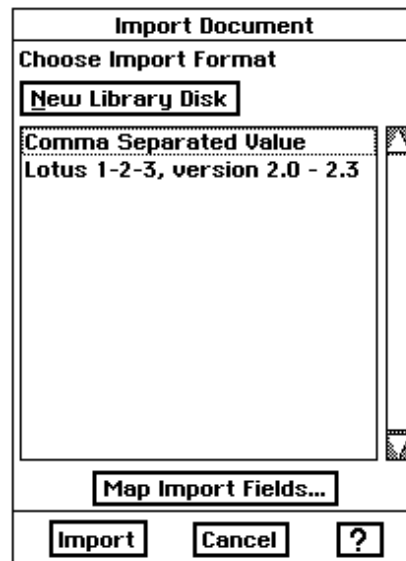
1. Choose New/Open from the File menu. *The following dialog box appears:*



2. Click on Import. *The following dialog box appears:*

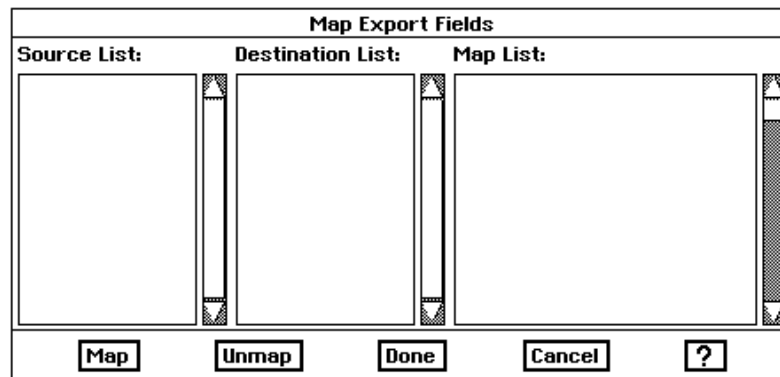


3. From the Formats list, select the application from which you are importing.



4. Select the file you want to import.

5. Click Map Import Fields. *The following dialog box appears:*



If the lists in the dialog box are empty, make sure you selected a file in step 4.

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 field name 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 Done. *The dialog box disappears.*
11. Click on Export. *The information appears in a Spreadsheet window in the order you specified.*

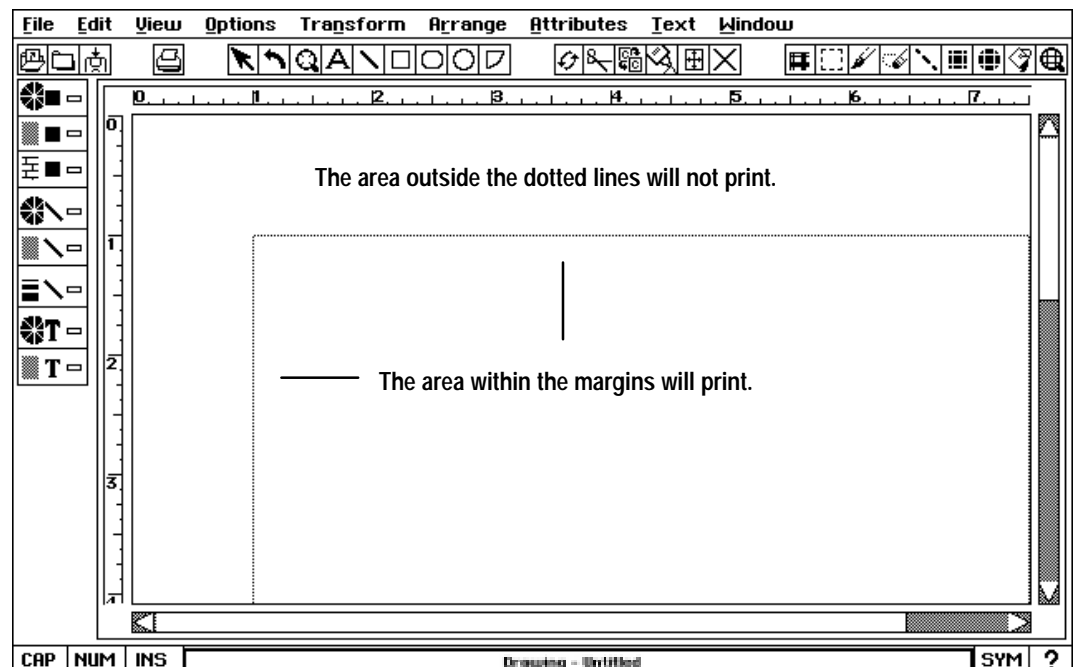
5 Drawing



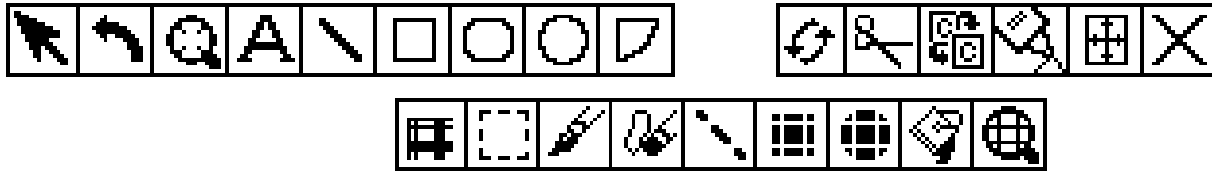
Drawing allows you to use Ensemble to create many types of designs, pictures, and illustrations. After you create a drawing, you can copy it into a Word Processing or Spreadsheet document. For instance, you can copy a picture you have created in Drawing to a report you created in Word Processing; or you could copy it to a spreadsheet you have created in Spreadsheet. You can also import files from other graphics applications into Drawing.

► **To open Drawing:**

Click on the Drawing icon on the Main Menu. *A new document appears:*



Using the Tools



When you choose a tool from the Tool Bar, it's a little like picking up a pencil or pen. Select a drawing tool by clicking on it. When you move the pointer into the drawing area, the pointer changes to indicate the type of tool you are using.



- **Pointer tool.** Selects, moves, and resizes objects. The arrow pointer is automatically selected when you start Drawing.



- **Turn 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.** Create 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.** Chooses 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 with the mouse.



- **Eraser tool.** Removes lines and drawings with the mouse.



- **Bitmap Line tool.** Draws a straight line in a bitmap. A bitmap uses tiny dots to form an image.



- **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.

Pointer

You can choose a drawing tool by clicking on it in the tool bar. When you move the pointer into the drawing area, the pointer changes shape. This shape depends on the tool you are using and the pointer's location.



- **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 images (drawings) composed of one or more *objects*. An object can be a shape, a line, or a block of text. One of the big advantages of using Drawing over pencil and pen drawing is that you can easily select, edit, and manipulate individual objects separately from the other objects in the image. You can change the *fill* (tone or pattern) and change the *line* (outline).

Drawing offers you two ways to create objects. You can use the Create choice on the Edit menu to quickly create a shape, or you can use the drawing tools.

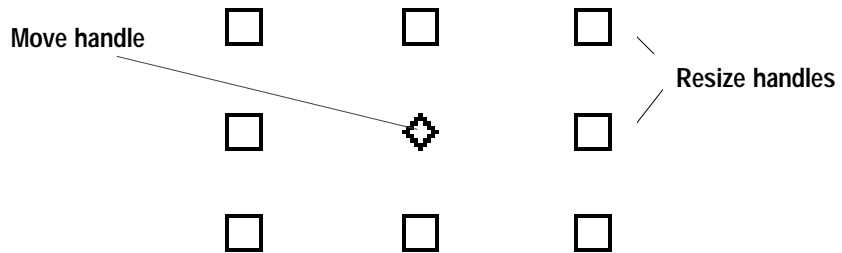
► **To draw a rectangle or ellipse with the drawing tools:**

1. Move the pointer to the tool bar and click either the rectangle or ellipse. These tools function similarly. *The tool button is selected.*
2. Move the 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 left mouse button, and drag the mouse diagonally until the shape is the size you want, as indicated by the outlines that appear in the drawing area.
5. Release the mouse button. *The object appears as a solid shape.*

After you create an object, resize handles appear around the object, and a move handle appears in the center of the object. You can 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. Place the pointer over the resize handles or the move handle, hold down the left mouse button, and move the mouse. *The object changes size or location.*



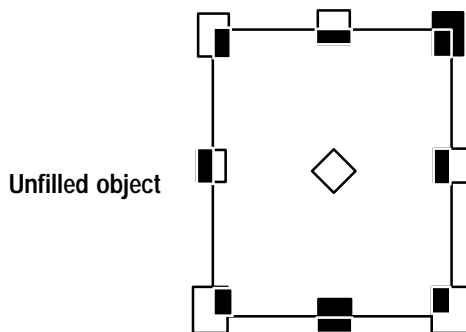
2. Click somewhere else in the drawing area that is not occupied by an object to remove the handles from the object.

► **To create a perfect square or circle:**

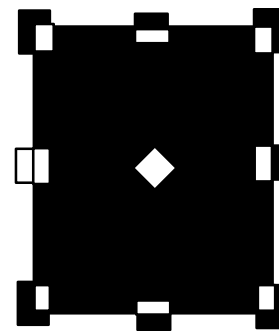
Hold down **SHIFT** while drawing either a rectangle or an ellipse. *The object will maintain a perfect shape no matter what size you draw it.*

► **To create an unfilled object:**

Press **CODE** while you click and drag to create a shape. *When you release the mouse button, the unfilled object appears:*



Unfilled object



Filled object



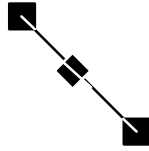
► **To draw a line:**

Hold down **SHIFT** while drawing a line to constrain the line to horizontal, vertical, or 45 degrees in between.

1. Select the Line tool from the 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 left mouse button, and while holding it down, drag the mouse until the line is as long and in the direction you want.



4. Release the mouse 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 and click on one end of the line.
3. 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. Drag the line to a new location.

► **To add an arrowhead at the end of a line:**

Press the **CODE** key while drawing a line. *When you release the mouse button, 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 have selected an object or objects, any changes you make affect that object. You can tell which object is selected because handles appear around it.

To select an unfilled object, you must click on a line or curve on the object.

► **To select an object:**

Using one of the drawing tools, click on the object you want to select. *Handles appear around the object.*

► **To deselect an object:**

Click in any part of the drawing area where there is no object. *Handles in the drawing disappear.*

Mouse selection is useful when you want to move or change the tone of several objects that are next to each other. You must use the mouse to accomplish this procedure.

You can deselect individual objects in the group by holding down the **CODE** key and clicking on them again.

To select all but a couple of objects in your drawing, choose **Select All** from the Edit menu, then press the **CODE** key and click only those objects you want to deselect.

Resizing Objects

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 select several objects:

1. Click on the pointer tool.
2. Move the arrow pointer above and to one side of the objects you want to select. Hold down the left mouse button and drag the mouse 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. *As you enclose objects, their handles appear, indicating that they are selected.*
4. When all the objects you want to select fall completely within the selection box, release the mouse button. *The box disappears, and the object or objects within the area remain selected.*

► To select several objects that are not next to each other:

1. Using any of the drawing tools, place the pointer or crosshairs on the first object you want to select. Hold down **CODE** and click. *Handles appear around the object.*
2. Continue to hold down **CODE** while you click each of the other objects you want to select, one by one. *Handles appear around each object.*

► To select all objects:

Choose **Select All** from the Edit menu. *Handles appear around all the objects in the drawing.*

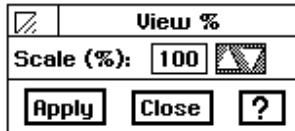
OR

Using the keyboard, press **CODE + I**. *Handles appear around all the objects in the drawing.*

► To change the size of an object:

1. Select the object you want to resize. *Resize handles appear around the object.*
2. 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 mouse. *The object appears in place.*

The Zoom tool brings you closer to a portion of your drawing so that you can focus on the fine details. When you select the Zoom tool, the pointer changes to a magnifying glass. You can also use this tool to select and move objects, just as you would with the arrow pointer.



The drawing area has scroll bars that you can use to scroll the drawing area vertically and horizontally. You can hide the vertical and horizontal scroll bars to increase the size of the drawing area when you do not need to scroll. This might happen when, for example, you zoom out (using the Zoom tool) or change view percentage and can see the entire drawing.

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.

Deleting Objects

► 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. Position 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. Choose 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.
3. Click on Apply. *The display changes using the scale percentage you selected.*
4. Click on Close to close the dialog box.

► To return to normal size:

In the View menu, click on Normal Size. *The drawing is shown at 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.

► 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.*

► To delete objects:

1. Select the object(s) you want to delete. *Handles appear around the object(s).*
2. Choose Delete from the Edit menu.

OR

Press **DELETE**.

OR

Press **BACKSPACE**. *The object disappears.*

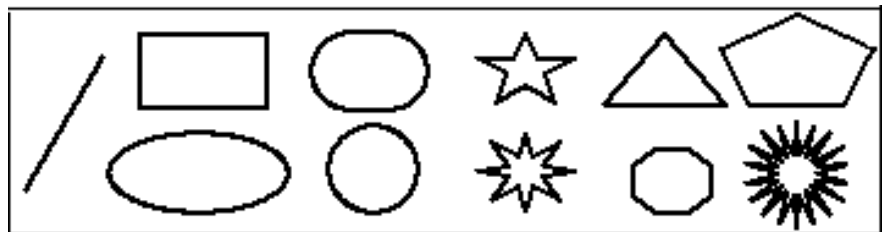
Advanced Work with Objects

In Drawing, you have a lot of control over the objects you create. You can change the appearance of these objects in many ways. You can:

- Draw lines, arcs, and complex objects with the Create submenu.
- Set attributes to change the appearance of each object.
- Change draw modes.

Drawing Objects, Arcs, and Straight Lines

Using the Create choice on the Edit menu, you can quickly create simple shapes like triangles or more complex shapes like polygons with up to 100 sides, 8-pointed stars. These are some examples of drawing objects, polygons and stars:



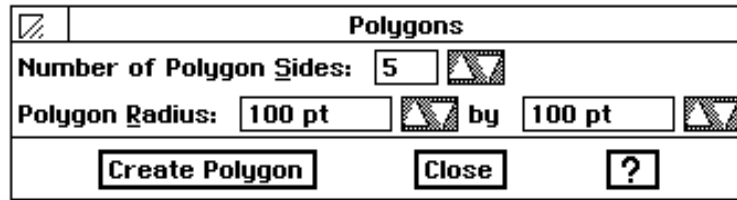
► ***To draw simple objects, arcs, and lines with the Create submenu:***

1. Choose 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 choose attributes such as tone (see page 216) or scale it with the Transform menu. *The object's appearance changes according to the choices you make.*

Remember that you can create shapes "free-hand" using the tool bar.

► **To create a polygon:**

1. Choose Create from the Edit menu.
2. Choose Polygons from the Create submenu. *The following dialog box appears:*

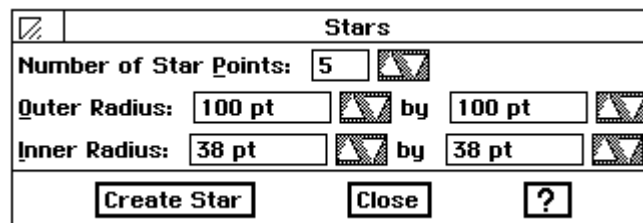


When you create a polygon, you can specify the number of sides and the object's horizontal radius and vertical radius in points. The radii for a polygon represent the horizontal and vertical radii of an ellipse in which the polygon can be inscribed.

3. Enter the number of sides you would like your polygon to have and the radius (half the distance across) measured in points (72 pts. in an inch).
 - **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. *The dialog box disappears.*

► **To create a star:**

1. Choose Create from the Edit menu.
2. Choose Stars from the Create submenu. *A dialog box appears:*



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. Enter the number of points you would like your star to have and the radius (half the distance across) measured in points (72 pts. in an inch).
 - **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. Star points are the points of the star, not the point increments of measure that you use to specify width and height.
 - **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. *The dialog box disappears.*

Setting Attributes

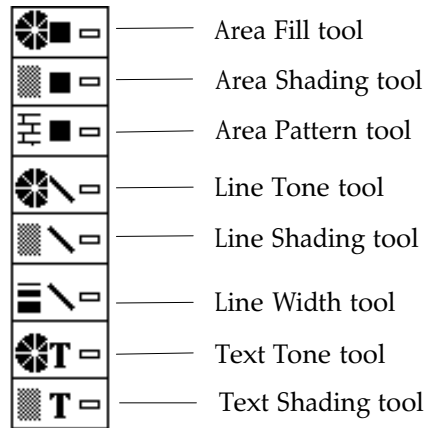
This section describes how to set the attributes for a graphic object—a line, rectangle, rounded rectangle, ellipse, arc, or star.

- **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 image. 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). You can fill the space inside with tone or patterns, or you can leave it empty (unfilled).

Using the Attributes tool bar

The Attributes tool bar is located vertically along the left-hand side of your draw window. You can use tools on the Attributes tool bar to set the attributes for a graphic object:



Using these tools, you can change the attributes of selected objects and, if no object is selected, you can set the attributes of future objects you draw.

Setting area attributes

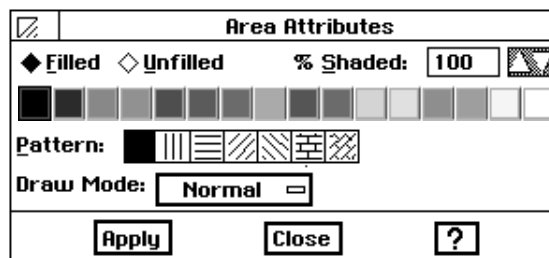
Area attributes apply to the area inside ellipses, rectangles, rounded rectangles, and arcs. You can set any of the following area attributes:

- Fill tone
- Tone shading
- Pattern
- Draw mode

You can set all of these attributes using the Area Attributes choice on the Attributes menu. As a shortcut, you can set many attributes more quickly 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. Choose Area Attributes from the Attributes menu. *A dialog box appears:*



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.

3. Fill in the dialog box, changing the attributes you want:
 - **Filled or Unfilled.** Select Filled to fill the enclosed area of the graphic object and, optionally, to set other options in this dialog box. By default, the area of the graphic object 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. A transparent fill pattern is also available on this palette.
 - **Drawing Mode.** Select the draw mode (Normal or Inverse) to set the prevailing display tone for overlapping objects. For more information, see “Using Drawing Modes” in this section.
4. Click on Apply to apply your changes to selected graphic objects. Continue to make changes as desired until you are satisfied with how the graphic object looks.
5. Click on Close to close the dialog box.

Changing the tone of objects and their background



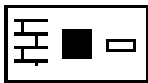
► To change the tone of an object with the Area Fill tool:

1. Select one or more graphic objects you want 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 you selected to the selected graphic objects.*



► To use the Area Shading tool:

1. Select one or more graphic objects you want to shade.
2. Click on the Area Shading tool. *A horizontal pop-up menu appears. The option furthest to the left is 100% shading, while the option furthest to the right is 0%, the same as an unfilled object.*
3. Select the shading you want. *Drawing applies the area shading you selected to the selected graphic objects.*

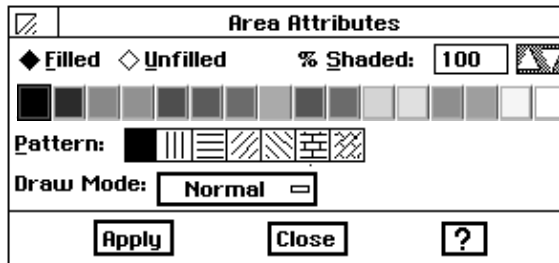


► To use the Area Pattern tool:

1. Select one or more graphic objects you want to fill with a pattern.
2. Click the Area Pattern tool. *A horizontal pop-up menu appears.*
3. Select the pattern you want. *Drawing applies the area pattern you selected to the selected graphic objects.*

► **To change an object's tone using the Attributes menu:**

1. Select the object(s) you want to apply a tone. *Handles appear around the object(s).*
2. Choose Area Attributes from the Attributes menu. *The following dialog box appears:*

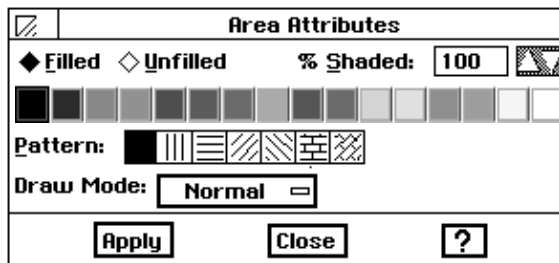


When you apply a pattern or shading in the Area Attributes, the background tone shows through. You can think of the Area Attributes as the top layer and the background as the bottom layer.

3. From the tone palette in the dialog box, select the tone or pattern you want to use.
4. Click on Apply. *The selected object changes to that tone.*
5. Click on Close. *The dialog box disappears.*

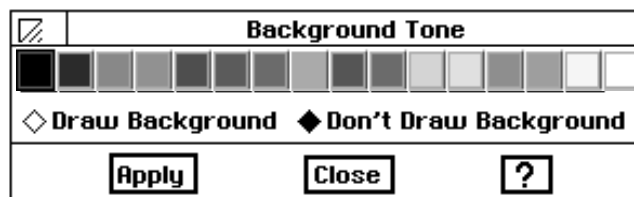
► **To use a background tone:**

1. Click on the graphic. *Handles appear around the graphic.*
2. Choose Area Attributes from the Attributes menu. *A dialog box appears.*



Use background tone when you want to use tone under your pattern or shaded tone. It will show through. You may want the pattern to be one tone and the background another tone. Picture the pattern and background like lace covering a dress. The lace pattern may be one tone; the dress underneath the background is another tone.

3. Click on a pattern or shade (%) of a tone.
4. Click on Apply. *The pattern or shade appears in your graphic.*
5. In Area Attributes dialog box, select a tone for the pattern. If you do not want a tone for the pattern click on Close.
6. Click on Apply. *The pattern changes tone.*
7. Click on Close.
8. To select a background tone, choose Background Tone from the Attributes menu. *The following dialog box appears.*



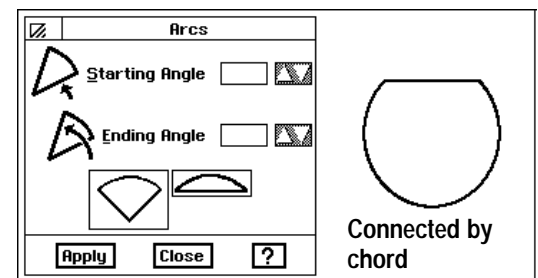
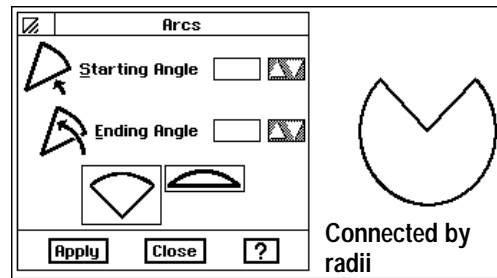
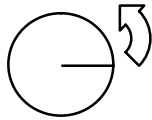
9. Select the tone of the background.
10. Click on Draw Background.
11. Click on Apply. *The background changes tone and will show underneath the area attribute shade or pattern.*

Changing arc attributes

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.

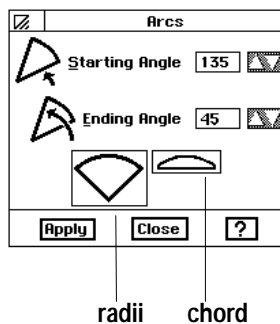
You can set the precise size (in degrees) of the starting angle and ending angle of any arc. You can also specify whether you would like your arc's end points connected by radii or by a chord. The following illustration shows angle conventions used in Drawing and what radii and a chord connected arcs look like.

All angles are measured from this position :



► To change arc attributes:

1. Select one or more arcs that you want to change.
2. Choose 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 to apply your changes.
5. Click on Close to close the dialog box.



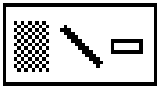
Modifying a line

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, or you can use the Line Attributes dialog box.



► To use the Line Tone tool:

1. Select one or more graphic objects that you want to change.
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 the selected graphic objects.*



► **To use the Line Shading tool:**

1. Select one or more graphic objects that you want to shade.
2. Click on the Line Shading tool. *A horizontal pop-up menu appears. The option furthest to the left is 100% shading, while the option furthest to the right is 0%.*
3. Select the shading you want. *Drawing applies the line shading to the selected graphic objects.*

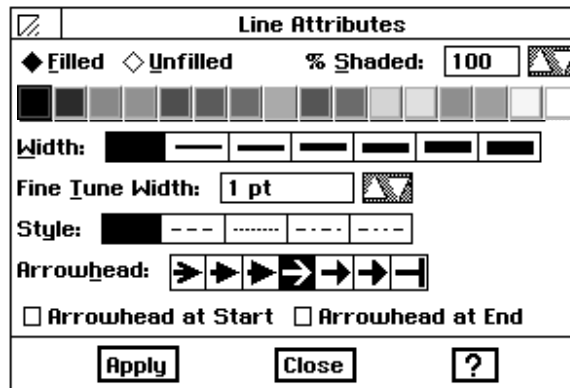


► **To use the Line Width tool:**

1. Select one or more graphic objects that you want to change.
2. Click the Line Width tool. *A horizontal pop-up menu appears.*
3. Select the width you want. *Drawing applies the line width to the selected graphic objects.*

► **To modify a line using the Line Attributes dialog box:**

1. Select one or more graphic objects that you want to change.
2. Choose Line Attributes from the Graphics menu. *A dialog box appears:*



3. Fill in the dialog box, changing the attributes you want:

- **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).

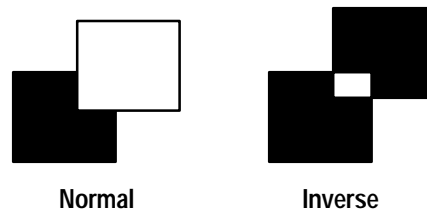
You can set these attributes using the Line Attributes choice on the Attributes menu. You can also set many of them more quickly using the tools on the Attributes tool bar.

4. Click on Apply to apply your changes to selected graphic objects.
5. Click on Close to close the dialog box.

Using Drawing Modes

The *draw mode* controls the prevailing display tone for overlapping objects or objects on the white page. This is an advanced feature that you can experiment with for special graphic effects. You can set the draw mode in the Area Attributes dialog box.

In the normal draw mode, this overlapping white square does not change according to what it covers.



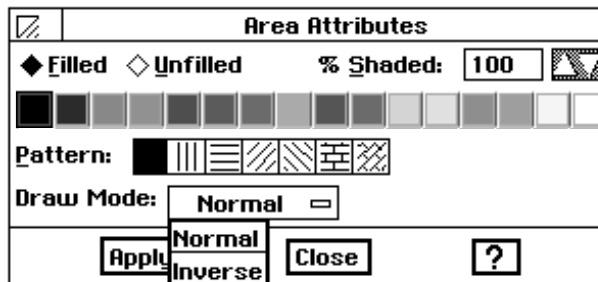
In the inverse draw mode, the white square changes to black over the white page, and white over the black square behind it.

► To use the draw modes control:

1. Select the top object or objects you would like to change the tone of.
2. Choose Area Attributes from the Attributes menu.
3. Choose a Drawing Mode from the drop down list and select a mode.
 - **Normal** displays the top object in its selected fill tone.
 - **Inverse** changes the tone of the selected object to the inverse color of the object or the white page behind it.

Drawing uses the draw mode to calculate, on a pixel-by-pixel basis, the tone that appears.

The inverse of a tone is its opposite. The inverse of black is white; the inverse of orange is blue.



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 you make.

Flipping Objects

You can also use the Transform menu to turn objects over, or “flip” them 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 some text that has been flipped:

FLIPPED LEFT TO RIGHT
THQIR OT TFEJ DEPIJF

FLIPPED TOP TO BOTTOM
EPIBEB IOB IO BOLLW

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.

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.

► To flip an object:

1. Select the object(s) you want to flip. *Handles appear around the object(s).*
2. From the Transform menu, choose Flip Left to Right or Flip Top to Bottom. *The objects flip in the direction you choose.*

► To scale objects:

1. Select the object.
2. Choose 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 to apply your changes. *Drawing redraws selected objects using the custom scale settings you specified.*
5. Click on Close to close the dialog box.

Rotating Objects

You can rotate a selected object using the Rotate tool or by choosing Rotate from the Transform menu. You can choose the precise amount you want to rotate the object.

The selected object rotates around its center point. You can also select multiple objects, and they will also rotate around their respective center points. If you want multiple objects to rotate around a common center point, you must first group them.

If you selected multiple objects, each object rotates around its own center point.

► To rotate an object with the menu:

1. Select the object(s) you want to rotate.
2. From the Transform menu, choose Rotate.
3. Enter in the amount of rotation you want from -359° to $+359^\circ$.
4. Click on Rotate. *The selected object rotates around its center point. If you selected multiple objects, Drawing rotates each around its center point.*

► To rotate an object with the Rotate tool:

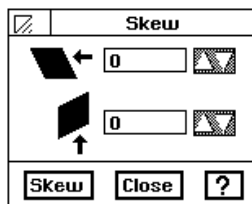
*Using the Rotate tool, you drag an object around its center point until it appears in the position you want. To rotate the selected object in 45° increments, hold the **SHIFT** key down while dragging the object.*

*You can also use keyboard shortcuts to rotate objects. To rotate the selected object counter-clockwise 15° , press [, or for 1° press **SHIFT+[**. To rotate it clockwise 15° , press], or for 1° , press **SHIFT+]**.*

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 left mouse button. *The handles disappear.*
5. Continuing to hold down the mouse button, move the Rotate tool 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 mouse button. *The object appears in its new position with handles around it.*

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. Choose 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.** Select the degrees to skew the selected objects horizontally. 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.** Select the skew degrees to skew the selected objects vertically. A positive value skews the object upwards, and a negative value skews it downwards. You can set skew angles from minus 89 to 89 degrees.

4. Click on Skew. *Drawing redraws the selected objects using the skew settings you specified.* You can continue to click on Skew to apply the skewing repeatedly until you achieve the result you want.
5. Click on Close to close the dialog box.

Untransforming Objects

You can remove any skewing, scaling, or rotations you have made to an object and revert to its original drawn state. You might want to do this, for example, if you were experimenting with different transformations and wanted to reverse everything you have done, return to the object's original state, and start over.

Untransforming removes all transformations you have applied to an object. To abandon individual transformations, choose 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. Choose 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. For example, if you are drawing a floor plan that shows the layout of six desks, you can save time by drawing the first desk and then duplicating it five times.

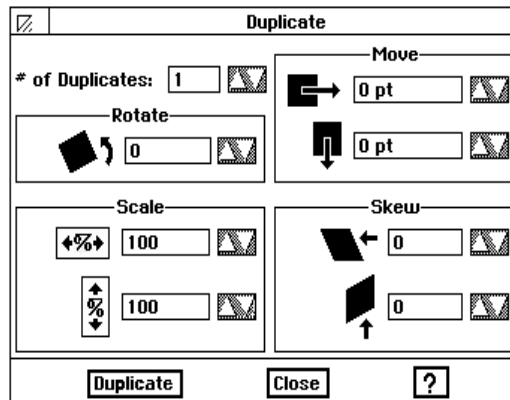
► **To duplicate an object:**

1. Select the object you want to duplicate. *Handles appear around the object.*
2. Choose Duplicate from the Edit menu. *The copied object appears with handles around it in the center of the screen. You can use the move handle on the duplicate to move the object to the position you want.*

*Shortcut: Press **D** to duplicate the selected object(s); press **P** to duplicate the selected object(s) in place.*

► **To custom duplicate an object:**

1. Select one or more objects that you want to custom duplicate.
2. Choose Duplicate from the Edit menu. *A dialog box appears.*

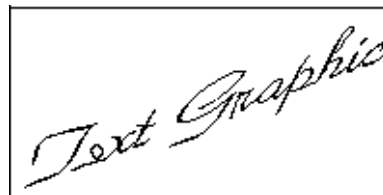


3. Fill in the dialog box, changing the options you want:
 - **# of Duplicates.** Select the number of duplicates you want to make of the original.
 - **Rotate.** Select the number of degrees by which you want to incrementally rotate each duplicate.
 - **Scale.** Select the scale percentage by which you want to incrementally resize each duplicate.
 - **Move.** Select the vertical and horizontal distance by which you want to incrementally move each duplicate.
 - **Skew.** Select the number of left/right and upward/downward degrees by which you want to skew each duplicate.
4. Click on Duplicate. *Drawing duplicates the selected objects using the options you specified.*
5. Click on Close to close the dialog box.

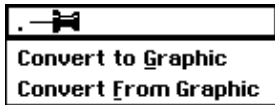
Converting to a Graphic

You can also group graphic objects and transform them.

Converting to a Graphic is helpful when you want to manipulate a text object or a graphic object to create special visual effects. For example, you could convert a text object with your name 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” in this chapter.



You can reverse this conversion process to break a single graphic object down to its component parts so that you can edit them individually.

► **To convert objects to a graphic object:**

1. Select one or more objects that you want to convert.
2. Choose Convert from the Transform menu. *A submenu appears.*
3. Choose Convert to Graphic. *Drawing converts selected objects to a single object.*

► **To convert from a graphic:**

1. Select one or more graphic objects which you want to convert from graphic.
2. Choose Convert from the Transform menu. *A submenu appears.*
3. Choose 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

You can also use keyboard shortcuts to move selected objects to the front or back. Open the Arrange menu and press **F** (as in “Front”) to bring the selected object to the front; press **B** (as in “Back”) to move the selected object to the back. To **Pull Forward**, press **SHIFT + F**. To **Push Back**, press **SHIFT + B**.

This technique is useful when you cannot see objects in the layers of a stack of objects. You can select an object that is visible and move it back one layer at a time, each time revealing the object that was immediately behind it.

Whenever two or more objects overlap, you can choose to send one of the objects all the way to the back of the others or to bring it to the front.

► **To move an object to the front or back:**

1. Select the object you want to move to the front or back.
2. From the Arrange menu, choose either Bring to Front or Send to Back. *The objects are rearranged accordingly.*

► **To “pull” an object forward or “push” it back one layer:**

1. Select the object you want to pull forward or push back.
2. From the Arrange menu, choose either Pull Forward or Push Back. *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, they are not attached to the spot where you create them. You can move them around your drawing as you like. This section describes how to move objects in a drawing.

Use the rulers along the top and left side of the drawing area to help you gauge the position of your objects relative to the total drawing area. The default page size is 8.5" by 11", including the area outside the print border.

► To move an object:

1. Select the object you want 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 left mouse button to grab the object.
3. Drag the object to the position you want. *As you move the mouse, an outline of the object follows your motion, indicating where the object will be placed when you release the mouse button.*
4. Release the mouse button. *The object appears in its new position.*

Moving one object moves all the selected objects. As you move the mouse, an outline of the objects follows your motion, indicating where the object will be placed when you release the mouse button.

► To move several objects:

1. Select the objects you want to move. *Handles appear around the objects.*
2. Move the pointer over the move handle for one of the objects, hold down the left mouse button and hold it down. *All selected objects move.*

OR

Hold down the right mouse button.

3. Move the arrow pointer where you want the object to be placed. *If you are dragging, the pointer should look like the arrow at the left.*
4. Release the mouse button. *The object appears in the new location.*

This method is known as the "drag and drop" method of moving objects.

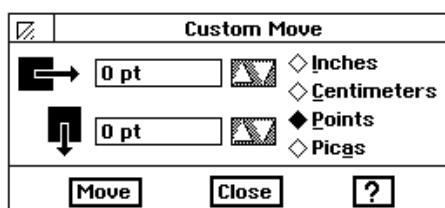
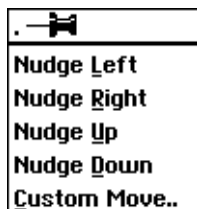


Custom Moving Objects

You can move objects vertically and horizontally using precise distances.

► To custom move objects:

1. Select one or more objects that you want to move.
2. Choose Move from the Arrange menu. *A submenu appears.*
3. Choose Custom Move from the submenu. *The dialog box at the left appears.*



4. Fill in the dialog box, changing the options you want:
 - **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 to apply your changes.
6. Click on Close to close the dialog box.

“Nudging” means moving an object just a tiny bit. When you nudge objects, you move them up, down, left, or right one pixel at a time or ten pixels at a time. Pixels are the small dots that make up the images you see on the screen.

► **To “nudge” objects:**

1. Select the object or objects you want to nudge.
2. To nudge the selected object(s) ten pixels at a time, press one of the arrow keys.

OR

To nudge the selected object(s) only a **slight** distance at a time, hold down the **SHIFT** key while pressing one of the arrow keys.

OR

1. Select the object or objects you want to nudge.
2. From the Arrange menu, choose Nudge Left, Nudge Right, Nudge Up, or Nudge Down. *The object moves one pixel in the direction you choose.*

Grouping and Ungrouping Objects

You can *group* objects together so that you can 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.

After you have made the changes you want to the group, you can ungroup it to make each component a separate object again.

A group can contain any object, including another group.

► **To group objects:**

1. Select the graphic objects you want to group. *A set of handles appears around each object.*
2. Choose Group from the Arrange menu. *Drawing groups the selected objects together as a single graphic object. A single set of handles appears around the group.*

► **To ungroup objects:**

1. Select the group you want to ungroup.
2. Choose Ungroup from the Arrange menu. Drawing separates the components of the group into individual graphic objects. *Handles appear around the individual objects.*

Pasting Inside

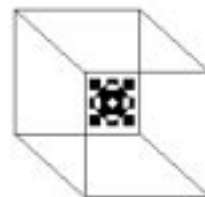
When you paste an object inside another object, Drawing combines them into a single object that you can manipulate as you would any other Drawing object.

The boundaries of the outside object become the boundaries of the inside object. The following procedure uses an example that shows how you can paste one object inside another.

If the two objects do not overlap, you cannot paste inside.

► **To 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, but you can save time by setting the precise position in this step.

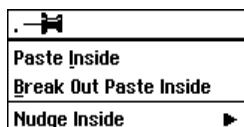
2. Select the inside object.
3. Press **CUT** or click on the Cut icon.

OR

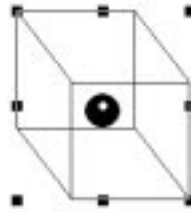
Choose Cut from the Edit menu.

Either way, Drawing places the object on the clipboard.

4. Select the outside object.
5. Choose Paste Inside from the Edit menu. *The submenu at the left appears.*



6. Choose Paste Inside. *Drawing pastes the inside object in the outside object:*

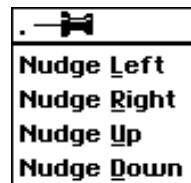
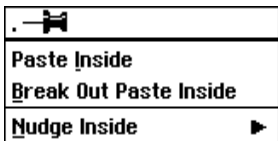


Nudging Inside

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.

► To nudge inside:

1. Select the object that contains the object or objects you want to nudge inside.
2. Choose Paste Inside from the Edit menu. *The submenu at the left appears.*
3. Choose 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.

Breaking Out Paste Inside

Once you have pasted one object inside another, you can break the object into its component objects using the Break Out Paste Inside command. That way, you can manipulate the individual objects.

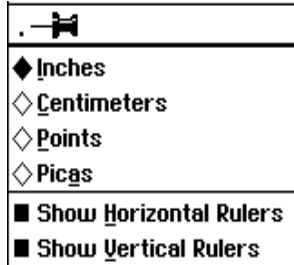
► To break out paste inside:

1. Select the object you want to break out.
2. Choose Paste Inside from the Edit menu. *A submenu appears.*
3. Choose Break Out Paste Inside. *Drawing splits the component objects into separate objects.*

Using Rulers

The *rulers* help you measure the vertical or horizontal distance between objects or between an object and the boundaries of the drawing area. Rulers help you position, align, and resize objects. You can show rulers along the left and top borders of the drawing area.

You can show the rulers to help you draw objects, or you can hide them to give you more drawing space. By default, Drawing shows rulers. You can hide the vertical ruler, the horizontal ruler, or both.



► To show or hide rulers:

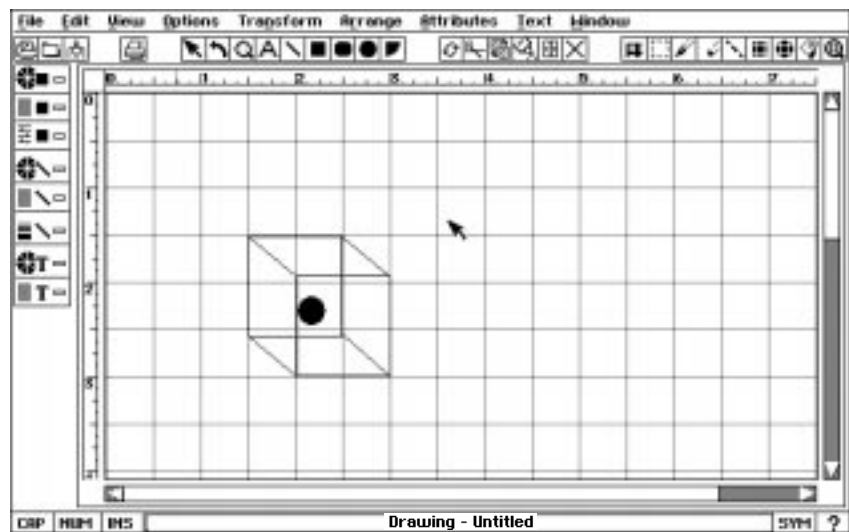
1. Choose Rulers from the Options menu. *The submenu at the left appears.*
2. Select the ruler you want to show (vertical or horizontal).

OR

Deselect the ruler by clicking on the selected button of the ruler you want to hide.

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:

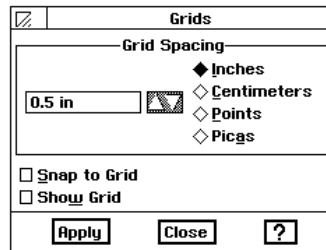


The grid helps you set objects in the basic positions where you want them, relative to each other.

Drawing can align objects to the grid even if the grid is hidden.

► **To show or hide the grid:**

1. Choose Grids from the Options menu. *The following dialog box appears:*



If you select the Snap to Grid option is selected, Drawing aligns objects to the grid automatically.

2. Select Show Grid to show the grid.

OR

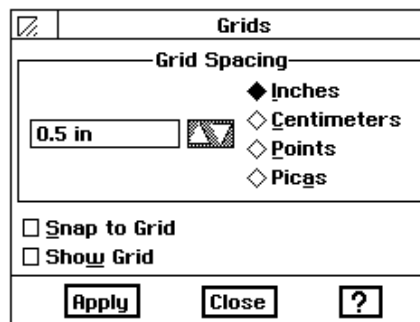
Deselect Show Grid to hide the grid.

3. Click on Apply. *Drawing applies your changes.*
4. Click on Close to close the dialog box.

You can also set the distance between grid lines. Decreasing the size increments gives you finer control when you snap objects to the grid.

► **To set the grid spacing:**

1. Choose Grids from the Options menu. *The following 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 to apply your changes. *Drawing changes the grid spacing to the setting you specified.*
5. Click on Close to close the dialog box.

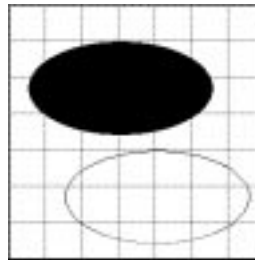
You can set the grid spacing from zero to 455 inches.

Snapping Objects to the Grid

Drawing includes a feature that automatically *snaps* (or positions) objects along grid lines when you create them. If you activate this feature, when you draw or resize a graphic object, Drawing automatically snaps the corners of the object to the closest intersection of the grid lines.

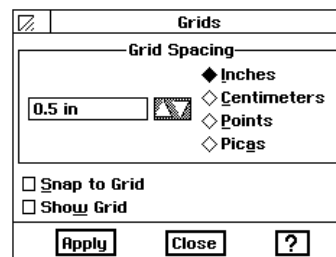
Snapping objects to the grid is often faster and more accurate than positioning them manually with the mouse. If you create an object while the snapping feature is inactive, you can still align it to the grid.

When you move an object, Drawing keeps its former distance from the grid lines. For example, if an ellipse starts 1/4 inch from a vertical grid line and you move it horizontally, Drawing puts it 1/4 inch from the closest vertical grid line in its new location, as shown in the following illustration:



► To snap objects to the grid or guidelines:

1. Choose Grids from the Options menu. *A dialog box appears.*



Press **X** or period (.) to turn grid snapping on or off only for the next create, move, or resize operation.

2. Select Snap to Grids.
3. Click on Apply to apply your changes. *While Snap to Grids is selected, Drawing will snap corners to grids when you draw, move, or resize an object.*
4. Click on Close to close the dialog box.

Using Text in Drawings

In Drawing, you enter text in *text objects*. Each text object can contain as little or as much text as you like — from a single letter to multiple paragraphs. To create text objects, you use the Text tool. You can move, delete, and resize text objects just as you would any other object (a line, rectangle, or ellipse). You use the Text tool to place text in your drawing, and you use the Text menu to change the way text appears. You can edit and 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:

To quickly create a standard-size text object, select the Text Tool, and then click where you want to begin entering text. Drawing automatically creates a text object six inches across and one line deep. As you type, the text object automatically grows vertically to accommodate new lines of text. You can resize the object later if you like.

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. Position the I-beams where you want your text to begin; click and drag diagonally to outline the area in which you want the text to appear. *A dotted line shows the borders of the text object.*
3. Release the mouse 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 use **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 applications, including **BACKSPACE** and **DELETE** keys, and the Undo, Cut, Copy, and Paste choices on the Edit menu.

► To create text in different sizes:

1. Select the Text tool from the tool bar.
2. Position the crossed I-beam pointer where you want to begin typing.
3. Hold down **CODE**; then press the left mouse button and drag the mouse diagonally to create your text object. *The size of your type will be the depth of the object you create.*

4. Release the mouse button. *The blinking vertical line cursor 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.*

► **To move, resize, or delete a text object:**

Use the arrow pointer to move, resize, or delete a text object just as you would any rectangular object. If you make a text object too small, you may not be able to read the text.

If you create a text object but do not enter any text, you may leave an empty text object in your drawing. When a text object does not contain text and is not selected, the object becomes invisible. If you leave many empty text objects in your drawing, they can obscure portions of other objects. However, you can easily locate and delete these empty text objects.

► **To delete empty text objects:**

1. Move the text pointer over the empty text object. *The pointer changes to a single vertical I-beam.*
2. Click on the text object to select it. *Handles appear around the text object.*
3. Choose Delete from the Edit menu.

OR

Press **DELETE** or **BACKSPACE**. *The object disappears.*

Changing Type Style, Size

Type *Style* refers to the way the type in each font appears:

- Plain type
- **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 Type.*

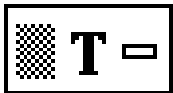
Type *Size* refers to the height of the type measured in points. There are 72 points to an inch, so 72 point text has capital letters that are one inch high, 36 point text has capital letters that are one-half inch high, and 18 point text is one-quarter inch high. The default type size is 12 point.

You can use the Size menu to change the size of selected text, or text in selected objects. The point sizes available from the menu are: 9, 10, 12, 14, 18, 24, 36, 54, and 72. You can create text in many other sizes using the **CODE**-drag technique described earlier in this chapter or by using Custom Size from the Text menu, Size 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.

Although Drawing and Word Processing have similar text attributes, you access them in different ways.



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, choose 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 you want to change.

OR

To change all the text in a text object, use the pointer to select one or more text objects you want to change.

2. Click on the Text Shading tool. *A horizontal pop-up menu appears. The option furthest to the left is 100% shading, while the option furthest 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 set text in justified (flush left *and* right as in a newspaper column). When you create a text object, Ensemble sets the alignment to left, but you can change it to suit your needs.

► **To change text alignment:**

1. Select the text object whose alignment you want to change.
2. From the Text menu, choose the alignment you want. *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 choosing Text Tone from the Text menu. The text tone palette consists of the same 16 tones that appear on the tool bar.



► **To change text tone using the tone palette:**

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 tool to select the text object you want to change.

2. Select the tone you want from the tone palette on the Tool Bar. *The text tone changes.*

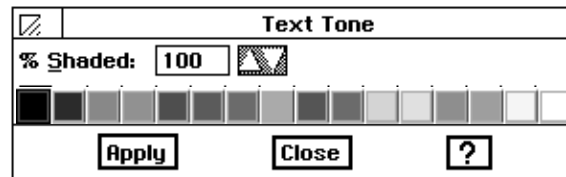
► **To change text tone using the Text Tone choice in the Text menu:**

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 tool to select the text object you want to change.

2. Choose Text Tone from the Text menu. *The following dialog box appears:*



3. Select the tone you want to use by clicking on it.
4. Click on Apply. *The tone you selected is applied to the selected text. 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.

Importing and Exporting Graphics

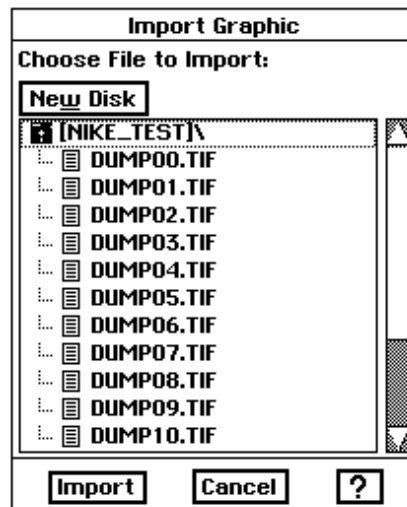
You can import graphics into Drawing that were created with other drawing applications or are stored in other file formats. You can also export drawings you have created in Drawing for use in other applications.

Graphics files are usually stored as *bitmaps*. Bitmaps consist of a series of dots that together make up a graphic image. With Drawing, you can import and export graphics in the following bitmap formats:

- **Bitmap (BMP)**. This is the standard “device independent bitmap” format that many Windows, and OS/2 applications can create.
- **PC Paintbrush (PCX)** This is a popular format for exchanging bitmap graphics between applications.
- **Tag Image File Format (TIFF)**. This is a standard format for storing bitmap graphic images. TIFF files can be used by applications on many different kinds of computers.

► To import a graphics file:

1. Open the Drawing document into which you want to import a graphics file.
2. Choose Import Graphic from the File menu. A dialog box appears:



3. Select the file you want to import and click on Import. A message appears asking you to insert the Import/export libraries diskette.
4. Insert Diskette 2 and click on OK. A dialog box appears.
5. Click on the format of the file you want to import and click Import. The Ensemble clip art is TIFF. The screen asks for the document diskette.

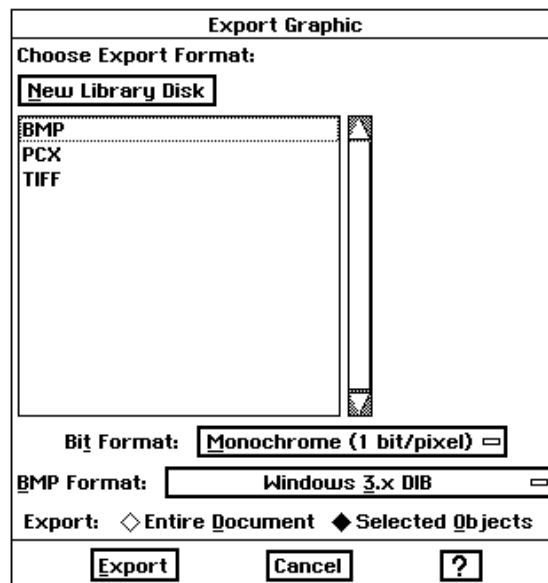
Drawing places the bitmap file you imported into the center of the window. The image will not respond like a graphic object, but rather like a bitmap object. With bitmap objects, the pixels enlarge and shrink as you resize, and you must edit them with the Bitmap tools.

6. Insert the document diskette and click on Import. *The dialog box disappears, and a status box appears while the graphic is being imported.*
7. Follow the messages on the screen, switching diskettes as many times as Ensemble requests you to do so.

► **To export graphics:**

When you export from Drawing, you can either export the entire drawing or only selected objects.

1. Open the Drawing document that you want to export.
2. Select all or part of the drawing. *Handles appear around any selected objects.*
3. Choose Export Graphic from the File menu. *A dialog box appears. The screen asks for the Import/Export libraries diskette.*
4. Take out the document diskette and insert Diskette 2. Click on OK. *A dialog box appears.*



5. Fill in the dialog box, changing the options you want:
 - **Formats.** Choose the format for the exported file in the Formats box.
 - **Bit Format** This field signifies whether the export file is tone or black and white. You can choose from the following options:
 - Monochrome* is for black-and-white images.
 - Four Bit* is for tone images with a maximum of 16 tones.

- **BMP Format.** These options appear only when you select BMP from the Formats list. If you are exporting a bitmap format file, you must indicate the type of application you are exporting to so that the export file is prepared in a way that the application will be able to read it. You can choose from the following options:

Choose *OS/2 Device Independent Bitmap* if you plan to use the exported file in an OS/2 application.

Choose *Windows 2.x Device Dependent Bitmap* if you plan to use the exported file in a Windows application with a version of Microsoft Windows earlier than 3.0.

Choose *Windows 3.x DIB* if you plan to use the exported file in an application running with Microsoft Windows 3.0 or higher.

Choose *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. You can choose from the following options:

Choose *Uncompressed* to export without compression.

Choose *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. Click on Export. *A message appears asking you to insert the document diskette.*

7. Insert the document diskette and click on OK. *A dialog box appears.*

- **Select Folder and Format for Export.** Using the scroll bars, find and open the folder where you want to save the exported file.
- **New File Name.** 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 with an optional three letter extension. For more information about DOS file names, see "Saving Documents" in Chapter 1.

8. Make your selections and click on Export. *Drawing converts the image.*

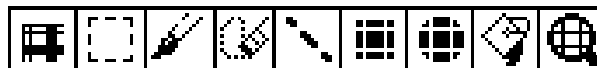
Working with Bitmap Objects

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.

A *bitmap* is an object made up of *pixels*, which are individual dots that make up an image, like the dots on a television screen. Bitmaps give you the ability to create freehand images. Because bitmaps have special properties, Drawing provides a set of tools you can use to manipulate pixels in a bitmap.

The Bitmap tools appear on the right side of the horizontal tool bar:



This section describes how to use the bitmap tools to manipulate pixels in a bitmap. Once created, you can move, resize, and transform a bitmap as you would any other object in a drawing.

Like their counterparts on the 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, not of a graphic object.

Creating a Bitmap Frame

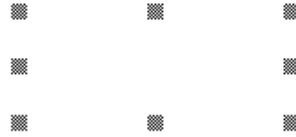
A *bitmap frame* defines the outer bounds of a bitmap. You can create a bitmap frame by using the Frame tool or by drawing a bitmap shape using other bitmap tools. You can use the bitmap tools to change pixels in the object, and you can manipulate the bitmap like other objects, moving, resizing, or transforming 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, you can 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—you can stretch, move, and rotate it. 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 choose Undo from the Edit menu.

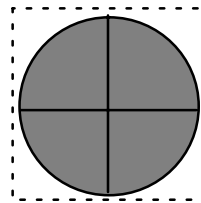
► **To draw a bitmap frame:**

1. Select the Frame tool on the far left of the Bitmap tools. *The pointer changes to crosshairs when you move it over the drawing area.*
2. Move the pointer to where you want to anchor the first point of the frame, then click and drag the frame until it becomes the size you want.
3. Release the left mouse 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 simply by drawing 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 image 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 underlying objects.

You can use the Bitmap tools to draw the following bitmap shapes:

- Straight lines
- Rectangles
- Ellipses
- Freehand shapes

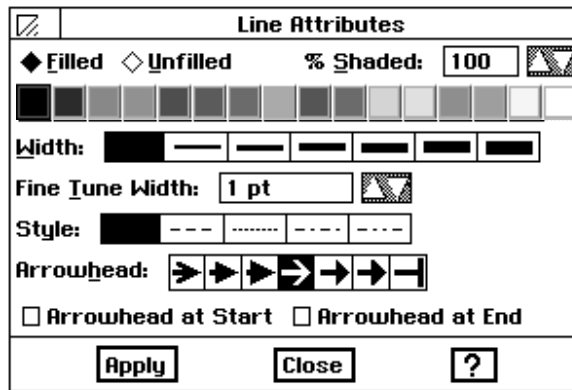
Once you draw a bitmap shape, it becomes part of the bitmap frame. You cannot change a bitmap shape as you would a draw object. For example, you cannot move, resize a bitmap ellipse directly; you can only draw another ellipse in the new location or size you want. For this reason, it is helpful to choose Undo from the Edit menu to correct any mistakes you make.

You normally select the attributes of a bitmap shape before you draw it, including the tone, shading, line weight, and so on. You can also change these attributes after you have drawn the shape.

The default background tone for a bitmap is white. You can 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.

► **To draw a straight line:**

1. Choose Line Attributes from the Attributes menu. *The Line Attributes dialog box appears.*



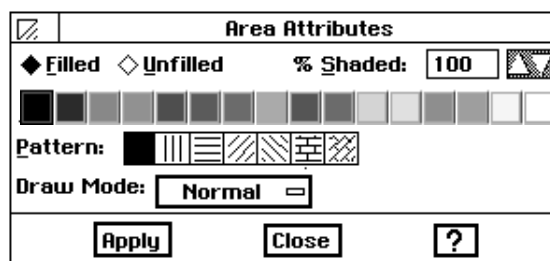
Pressing **SHIFT** while drawing a line constrains the line to horizontal, vertical, or 45 degrees off of horizontal or vertical.

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 pointer to where you want to anchor the first point of the line, then click and drag the line to where you want it to end.
5. Release the left mouse button. *A straight line appears with the attributes you selected.*

► **To draw a rectangle:**

Pressing **SHIFT** while drawing a rectangle creates a square.

1. Choose 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 pointer to where you want to anchor one corner of the rectangle, and then click and drag until the rectangle is the size you want.
5. Release the left mouse button. *A rectangle appears with the attributes you selected.*

Pressing **SHIFT** while drawing an ellipse creates a circle.



Pressing **SHIFT** while drawing freehand constrains the line to horizontal or vertical.

► **To draw an ellipse (circle):**

1. Choose 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 pointer to where you want to start the ellipse, and then click and drag until the ellipse is the shape and size you want.
5. Release the left mouse 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.

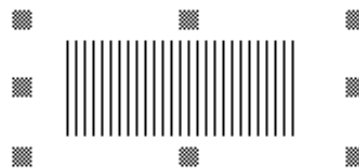
OR

Move the pointer to where you want to start the freehand shape, press and drag the pointer to draw the shape you want, and then release the left mouse button.

Editing Bitmap Images

Once you have created a bitmap, you can use the Bitmap tools to change pixels in the object, erase portions of the image you do not want, and to select all or part of the image for cut, copy, and paste operations.

Whenever you use a bitmap tool in a bitmap image, the bitmap image 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 image:**

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, and then click and drag the mouse until the selection region is the size you want.
3. Release the left mouse 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. Choose the Bitmap Selection tool from the Bitmap tools. Click inside the bitmap. *A dotted outline appears indicating that the bitmap is selected.*
2. Choose Select All from the Edit menu.

OR

Press **CODE + 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 choose 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, you can use the Selection tool and the Cut or Delete choices on the Edit menu.

You can use the Eraser tool to erase all or part of a bitmap. 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 image you want to erase.

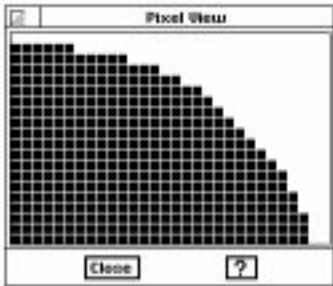
Using the Pixel View Tool

You can use the Pixel View tool (on the far right) to change individual pixels in the Pixel View. The Pixel View tool enlarges your drawing and displays a grid of pixels that you can change individually.

Once an image 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, you can select a line tone, select the Brush tool, and then click the pixels you want to change. Similarly, to change a rectangular region of pixels, you can 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 pointer to where you want to change pixels, and then click. *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 a pixel in the Pixel View window. *This pixel becomes centered in the pixel view window.*

OR

Click in the bitmap image View outside the Pixel View window.

Changing the Bitmap Color and Resolution

You can change the *color format* (monochrome or color) and *resolution* (the number of dots, or pixels, per inch) of a bitmap.



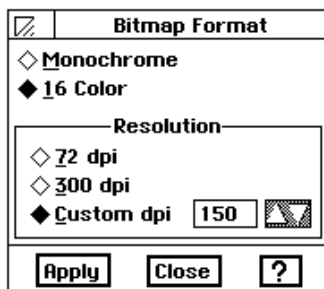
CAUTION:
Increasing the resolution of the bitmap or the number of colors in the bitmap may overload Ensemble's memory. If this happens, you may lose data and be forced to restart the system.

For example, you might want to change a 16-color image to a monochrome image if your hardware does not support color or if you want to reduce the storage and memory size of the image. Similarly, you might want to change a monochrome image to a 16-color image so that you can add color.

You can also change the resolution of a bitmap. For example, you might want to reduce the resolution from 300 dpi to 72 dpi or to reduce the storage and memory size of the image. Similarly, you might want to increase the resolution from 72 dpi to 300 dpi for greater granularity so that you can edit the pixels at a finer level of detail. A higher resolution shows greater detail in a picture.

► **To change the format of a bitmap:**

1. Select the bitmap you want to format.
2. Choose Bitmap Format from the Attributes menu. *The dialog box at the left appears:*
3. Fill in the dialog box, changing the options you want.
 - **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 to apply your changes.
5. Click on Close to close the dialog box.



6 Scrapbook



Scrapbook

When you open Scrapbook for the first time, you see a message telling you that there is no default document. This means that Ensemble is looking for a Scrapbook document on your diskette and cannot find one. Therefore, click on New. If you receive this message again, and you have already started a scrapbook, you may want to insert the diskette with the saved scrapbook.

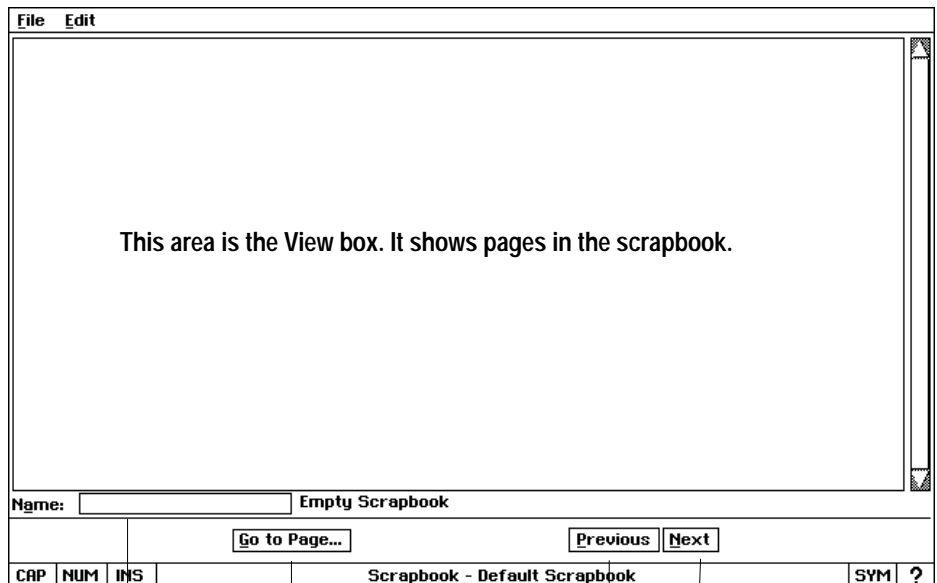
When you click on New, you see another screen message telling you that you cannot combine (merge) two scrapbooks. Ensemble is warning you that you are creating another scrapbook and losing the ability to combine this scrapbook with an existing scrapbook, except by pasting individual scraps on the clipboard and then pasting them into the other scrapbook.

Scrapbook gives you a place to store graphics and bits of text so that they are available at a moment's notice. *Scrapbook*, like its real world counterpart, is a document that has pages where you paste scraps. *Scraps* are notes, pictures, and other items that you store in the scrapbook.

The advantage of this scrapbook over a real scrapbook is that you can quickly copy items from the Scrapbook to other documents. Simply open the appropriate scrapbook, go to the page where the scrap is stored, and copy the item to the clipboard. From there, you can paste it into the document.

► To start Scrapbook:

Locate the Scrapbook icon on the Main Menu and click on it. *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 the Default Scrapbook

Default Scrapbook is the document that opens when you initially start the Scrapbook application. If you have not copied any scraps into the default scrapbook, the document is empty. If you have already entered scraps, the contents of the first page are displayed in the View box.

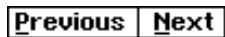
Do not name your Default Scrapbook. After placing the first scrap in the Default Scrapbook, save it without renaming it. This is important if you want the Default Scrapbook to open each time you open Scrapbook.

You use the Default Scrapbook in the same way you use any scrapbook document. You can flip through the scrapbook pages, and you can cut and paste items to and from its pages. If you want to start storing scraps now, you can use the Default Scrapbook.

Paging Through a Scrapbook

You can quickly 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:

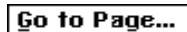


Click on Next to go to the next page. If you are on the last page, the Next button takes you to the first page.

► 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:

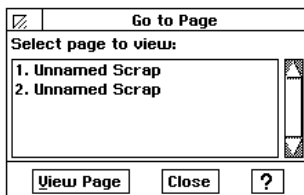


1. Click on Go to Page. *The dialog box at the left appears.*
2. Click on the page number or page name that you want to view. Then click on View Page to display the page in the Scrapbook window.

OR

Double-click on the page number or page name to display the page in the Scrapbook window.

3. Click on Close when you are finished. (You can also drag the dialog box to the corner of the screen so you can refer to it later.)



Working with Scraps

You can copy scraps of images and text from Word Processing, Drawing, and Spreadsheet to your scrapbook. For example, you can use Drawing to design a letterhead, then copy it to Scrapbook so that it is easily available when you want to use it in Word Processing. You can also import scraps from DOS applications. For more information about importing, see "Importing a Scrap from a DOS Application" on page 251 in this chapter.

Scrapbook can import the following word processing formats:

- ASCII
- Lotus 1-2-3 as text
- Microsoft Word (DOS version)
- WordPerfect

Scrapbook can import the following graphic bitmap formats:

- BMP
- PCX
- TIFF

When you paste an item from another application into your scrapbook, you automatically add a new page to the scrapbook.

If you want to insert the scrap on another page, click on Previous or Next to go to the page that you want to follow the new scrap. For example, if you want to add a scrap to page 3 of the scrapbook, go to page 3. When you paste in the scrap, the new page becomes page 3 and the old page becomes page 4.

► **To add a page to a scrapbook:**

1. Within an application, select the item and choose Copy from the Edit menu or press **COPY**. *It is now temporarily stored on the clipboard.* (For more information about how to copy items, see Chapter 1.)
2. Close the application.
3. Open Scrapbook.
4. Choose Paste from the Edit menu or press **PASTE**. *The scrap appears on a new page in front of the current page. This pushes all subsequent scraps back one page.*

► **To add a page to the end of a scrapbook:**

1. Copy the scrap to the clipboard.
2. Click on the Scrapbook window to make it active.
3. Choose Paste at End from the Edit menu. *The scrap is pasted on the last page of the scrapbook.*

► **To copy from Scrapbook to other applications:**

1. Go to the scrapbook page that has the scrap you want to cut or copy.
2. Choose Cut or Copy from the Edit menu or use the **CUT** or **COPY** function keys.
 - **CUT** places the scrap on the clipboard and deletes it from the scrapbook.
 - **COPY** copies the scrap to the clipboard and leaves a copy of it in the scrapbook.
3. Open the document in the application to which you are copying the scrap.
4. Place the insertion point where you want to paste the scrap on the page.
5. Press **PASTE** or click on Paste from the application's Edit menu. *The scrap is pasted into the document.*

You can easily delete a page that you no longer need. A deleted page is not stored on the Clipboard, but you can retrieve it.

► **To delete a page from a scrapbook:**

1. Go to the page that you want to delete.
2. Choose Delete from the Edit menu or press **DELETE**. *The page is deleted from the scrapbook.*

This retrieval method restores the document to the way it was when you last saved the scrapbook document. In other words, all changes made during the current work session are cleared. For this reason, you should only perform this procedure if it is very important to retrieve the deleted page.

► **To retrieve a deleted page:**

1. Choose Other from the File menu. *A submenu appears.*
2. Choose Discard Changes from the submenu. *A message appears.*
3. Click on Yes. *The scrapbook is restored to the previously saved version.*

You can assign a name to each page in a scrapbook. Page names are used to 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. Locate the page that you want to name.
2. Click in the Name box, and then type a descriptive name for the page.

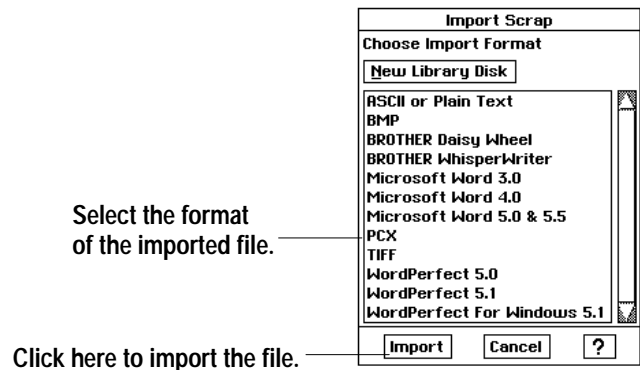
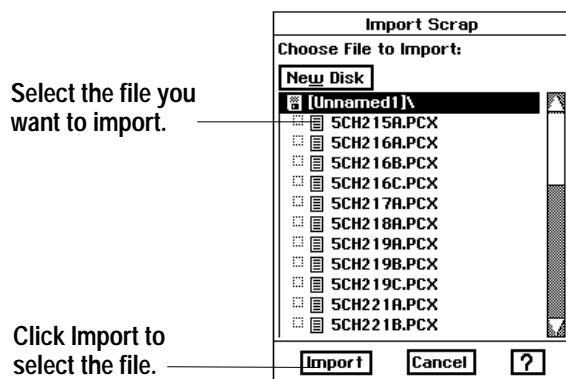
Importing a Scrap from a DOS Application

When you import from WordPerfect 5.0 into Scrapbook, the font size changes from 12 pt. to 8 pt.

You can import images from other DOS applications to a scrapbook. An item is *imported* when it is transferred from another application into an Ensemble application. For example, you can import text or images that are in TIFF, PCX, or WordPerfect formats to your scrapbook.

► To import an item from another application:

1. Open the scrapbook in which you want to place the image.
2. Locate the page that you want to follow the imported page.
3. Choose Import Scrap from the File menu. *The Import Scrap dialog box appears and shows a list of filenames. Your system will ask for the diskette containing the import libraries.*



Look at the last three letters of the file name to determine what type of file format it has. This will tell you which format to choose from the Import Scrap dialog box.

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

4. Select the name of the file you want to import, and click on Import.
5. Insert Diskette 2, which contains the Import/Export libraries. *The Import Scrap dialog box reappears with a list of the file formats you can import.*
6. Select the format (TIFF, PCX, WordPerfect, or other) of the image you are importing.
7. Click on Import and click on OK. *A message asks you to insert the diskette with the file you wish to import. It may take several seconds for the image or text to be imported and placed in the scrapbook.*
8. Insert the diskette with the file you wish to import and click on OK.

Saving and Exiting from Scrapbook

If you have made changes or additions to your Default Scrapbook and want to make the changes permanent, you can do this by saving your document without renaming it.

When you are finished using Scrapbook, you should exit. You should save your document before exiting, but if you forget, Scrapbook gives you one last chance to save your changes.

For more information about saving changes, see “Saving Documents” in *Getting Started*.

Scrapbook automatically safeguards your scrapbook document while you are working on it. In the event of a power failure or other problem, your work is probably safe even if you have not used the Save menu choice. By adjusting the Document Safeguarding Time in the Look & Feel section of Preferences, you can control how frequently this safeguarding takes place.

► **To save changes to your document:**

Choose Save from the File menu. *Scrapbook saves your changes and returns you to the document.*

► **To exit Scrapbook:**

Choose Exit from the File menu. *The Scrapbook window closes and the application exits. If you have unsaved changes in your document, Scrapbook asks if you want to save those changes.*

Working with Scrapbook Documents

Scrapbook provides a standard document called “Default Scrapbook.” Whenever you start Scrapbook, this document opens automatically, making it easy to keep several scraps in one place. You may find it easier to keep your scraps organized by project or by subject matter.

It is easy to create a new Scrapbook document from within Scrapbook.

Before you create a new scrapbook document you must first save and close the current one.

► **To create a new scrapbook document:**

1. Choose 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. Choose Save from the File menu. *A dialog box appears.*
5. Select the folder in which you would like to save the new document. To select your folder, click on the icon of the folder.
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 Scrapbook with that document open.*

7 Addressbook



When you open Addressbook for the first time, you see a message telling you that there is no default document. This means that Ensemble is looking for a "First Addressbook" document on your diskette and cannot find one. Therefore, click on New. If you receive this message again, and you have started an addressbook, you may want to insert the diskette with the saved addressbook. When you click on New, you see another message telling you that you cannot combine (merge) two addressbooks. Ensemble is warning you that you are creating another addressbook and losing the ability to combine this addressbook with an existing addressbook.

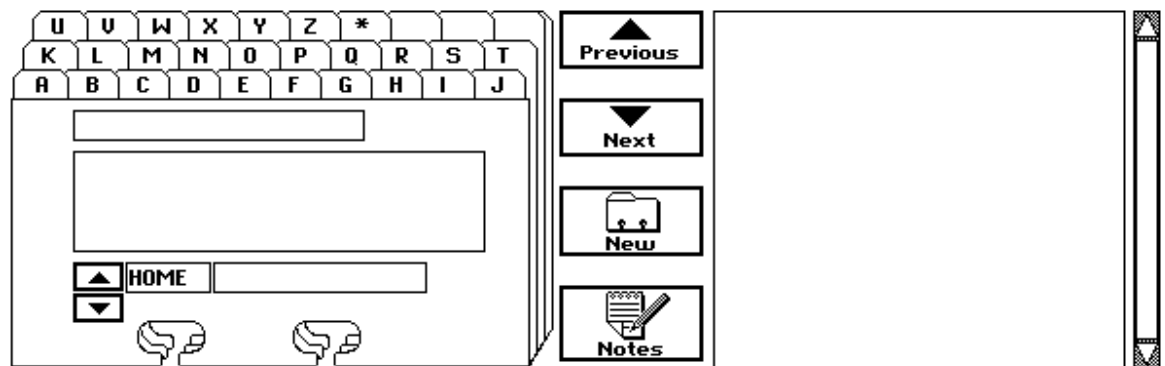
Addressbook is your electronic address and telephone directory. It is much more versatile than a handwritten Addressbook. You can use Addressbook to store addresses and telephone numbers, as well as notes and reminders.

When you click on the Addressbook icon from the Main Menu, the application opens to a default document called First Addressbook.

If you want to start adding cards now, you can use First Addressbook. If you plan to keep more than one Addressbook, you may want to create new Addressbook documents.

► To open First Addressbook:

Click on the Addressbook icon on the Main Menu. *Your address "cards" open:*



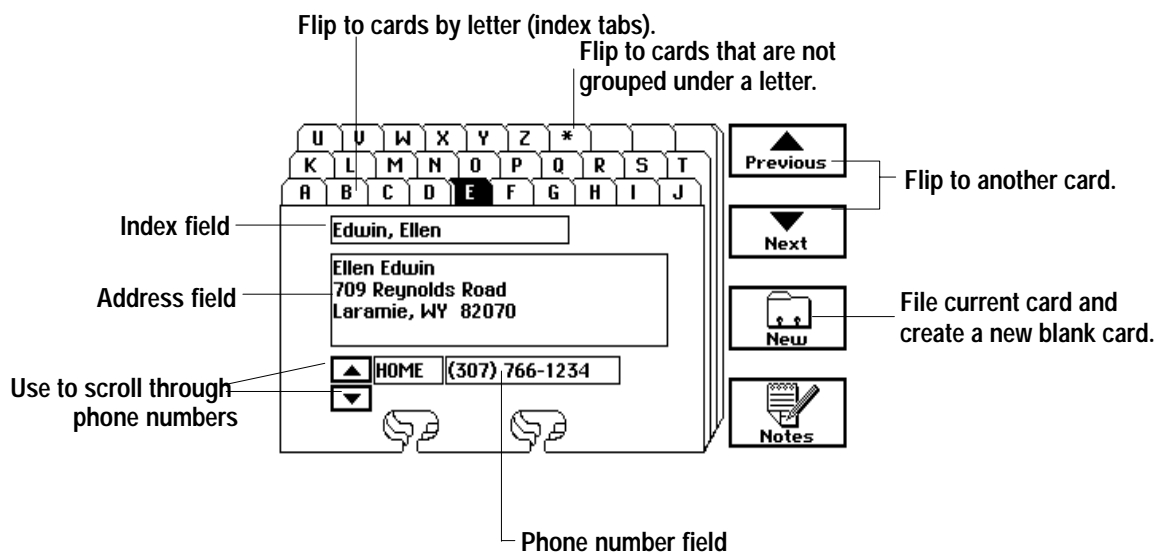
Working with Cards

Addressbook documents are referred to as *Addressbooks*. Addressbooks 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. On the screen, each record looks like a Rolodex® card. Once you fill in the blanks, the application stores the card as a record in your Addressbook file.

The first time you use Addressbook, it automatically creates a document called "First Addressbook." You can start entering names, addresses, and phone numbers in this Addressbook right away. You will enter the information into different boxes for the index, address, and phone. Each one of these boxes for entering data is a *field* of data.

Creating and Adding New Cards

You can easily create new cards and add them to your Addressbook. You start with a blank card and then type information into three fields: the index field, the address field, and the phone number field. The following illustration shows these fields:



CODE + 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.

► **To add cards to your Addressbook:**

1. Click on New. *Addressbook displays 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. So, for example, type **Adams, Chuck**, not Chuck Adams. 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 is copied to the first line of the address field automatically and the insertion point is placed after the last character. If you typed a last name and first name separated by a comma in the index field, then the two name switch places as they are copied. For instance, "Adams, Chuck" in the index field becomes "Chuck Adams" in the address field.*
4. If you want to modify the name as it appears in the address field and not in the index field—by changing "Chuck" to "Charles," for example—you can use **BACKSPACE** to delete the incorrect text, and then enter the revised name.
5. Press **ENTER** again, and then type the address information. Press **ENTER** at the end of each line of the address. *The address field scrolls to accommodate long addresses.*
6. Move to the phone number field by pressing **CODE + TAB** four times, or by clicking in the field with the mouse.
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. The first number displayed is the HOME number.
8. Press **ENTER** or click on the arrows to see other phone number categories: OFFICE, CAR, and FAX. There is also a blank line where you can enter another type of number if you want.
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 stored along with it. Addressbook provides four standard categories — HOME, OFFICE, CAR, and FAX — which you can change on a card-by-card basis or add your own.

You can repeat these steps until the card has a total of seven phone numbers.

► **To add a phone type to the current card:**

1. Click on the up and down arrows next to the phone field until you see an empty entry in the phone list. If there are no empty entries in the phone list, then this card already has seven phone numbers.
2. Click in the 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. *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. *The insertion point appears 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



You can flip through the cards in your Addressbook using the Next and Previous buttons. You can also jump quickly to a particular letter by clicking the appropriate index tab. The cards are indexed alphabetically, with other entries stored under the asterisk (*) tab. You can start flipping through cards from any point; just click an index tab if you want to start with a particular letter. If you reach the end of the cards, click on Next to continue from the beginning. Likewise, if you are 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. Change text by selecting it with the mouse and replacing it with new text, the same way you would change text in any application.
3. You can undo a change by choosing Undo on the Edit menu before you do any other task. *The card will undo the last change entered, but the card will not revert to its original form.*

Copying Cards

It is convenient to copy cards when you want to be able 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. You can save yourself some typing time by using the Copy Record choice on the Edit menu to copy the card with the basic information. Then, you can edit the copy.

► To copy a card:

1. Flip through your addressbook until the card you want to copy is displayed.
2. Choose Copy Record from the Edit menu.
3. Click on New to display a blank card.
4. Choose 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 modify the duplicate card, if necessary.

► To copy part of a card:

1. Select the text you want to copy.
2. Choose 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, choose Paste (not Paste Record) from the Edit menu. *The information is pasted where you want on the new card.*

You can also use the Copy function on the Edit menu to 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, for example.

Deleting Cards

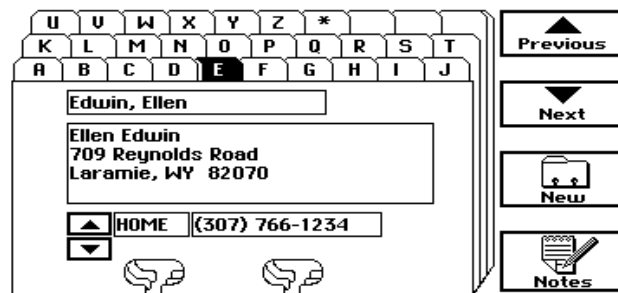
From time to time, you may want to clean up your addressbooks by deleting cards you no longer need.

► **To delete a card from your addressbook:**

1. Flip through your cards until you find the card you want to delete.
2. Choose Delete Record from the Edit menu. *The card is removed from your addressbook.*
3. You can undo a delete by choosing Undo from the Edit menu right after you delete.

Adding Notes to Cards

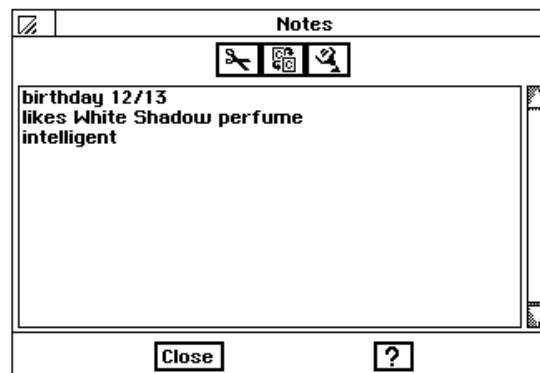
Each Addressbook card can contain notes about the person or company shown on the card. Notes are useful for keeping track of birthdays, children's names, business associates' names, special interests, and any other information. Click on Notes to add notes to cards.



Click here to add notes.

► **To add notes to a card:**

1. Click on Notes. *A small window appears in which you can type the note:*



2. Type any information.
3. Click on Close to close the window. *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 for cards containing information that you specify. For example, you can find all the cards containing **Elm Street**, or all the cards containing area code **203**.

► **To search for information on the cards:**

1. Choose Find from the Utilities menu. *The following 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="?"/>

The search normally looks in all fields, but by turning off some of the check boxes in the dialog box, you can disable searching in one or more fields: Addresses, Notes, or Phone Numbers. For example, there is no point in searching address fields or notes if you are only looking for people in the 203 area code. By turning off the check boxes for Addresses and Notes, you can restrict the search to the phone number fields (and the index field, for which you cannot disable searching).

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 displays the first card containing the specified text. The text that Addressbook found is highlighted 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.
OR
Click on Close when you have finished searching.

Saving and Exiting

If you have made changes or additions to your Addressbook and want to make the changes permanent, you can do this by saving your document. When you open Addressbook in the future, the program looks for a default addressbook. You should save your first Addressbook using the default name which is provided for you entitled First Addressbook.

When you finish using Addressbook, you should save your document and exit. If you forget to save, Addressbook will give you one last chance to save your changes.

For more information about saving changes, see "Saving Documents" in Getting Started.

Addressbook automatically safeguards your Addressbook while you are working on it. In the event of a power failure or other problem, your work is probably safe even if you have not used the Save menu choice. By adjusting the Document Safeguarding Time in the Look & Feel section of System Settings, you can control how frequently this safeguarding takes place.

► **To save changes to your document:**

Choose Save from the File menu. *Addressbook saves your changes and returns you to the document.*

OR

Click on Save. *Addressbook saves your changes and returns you to the document.*

► **To exit Addressbook:**

Choose Exit from the File menu.

OR

Click on Exit. *The Addressbook window closes and the application exits. If you have unsaved changes in your document, Addressbook asks if you want to save those changes.*

Printing 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 displayed on screen as a card, a list of either addresses and phone numbers, or just phone numbers.

► **To print with Addressbook:**

1. Open the Addressbook you want to print.

OR

Flip to the card you want to print.

2. Choose Print from the File menu. *The following dialog box appears:*

Print

—Printer Options—

Medium: Paper Transparency

Width: 0 in Height: 0 in Options...

—Document Options—

Print Quality: High Medium Low (Fast)

Number of Copies: 1

—Addressbook Options—

Current record

Current record - Address only (for labels / envelopes)

All records - Addresses and phone numbers

All records - Addresses only (for labels / envelopes)

All records - Phone numbers only

Print Notes

Print Cancel ?

3. Fill the Printer Options and Document Options sections in the dialog box.
4. Fill the Addressbook Options in the dialog box, using the options you want:
 - **Current record.** This option prints the information displayed on screen.
 - **Current record - Address only.** This option prints the address that is currently displayed 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.

When printing either labels or envelopes, you must choose either "Current record - Address only" or "All records - Addresses only" in order to print correctly.

- **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.
5. 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.

Making New Addressbooks

You may want to create additional addressbooks, in addition to, the startup First Addressbook document. For instance, you may find it easier to keep business contacts in one addressbook and keep friends and family in another. You can use addressbook to track these addressbooks as well.

It is easy to create a new addressbook document from within addressbook. The basic procedure is covered here. For more information about creating and naming a new document, see Chapter 1 "Getting Started."

Before you create a new Addressbook you must first save and close the current one.

► **To create a new Addressbook document:**

1. Choose Close from the File menu. *If you make changes in the current addressbook, you ask if you wish to save or discard them.*
2. When the New/Open dialog box appears, click on New. *Ensemble asks you if you really want to create a new addressbook. 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, choose 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.*

Opening, Importing, and Exporting



An Addressbook document appears as an icon, normally in your Document folder, like the example at the left. You can choose which Addressbook you want to work with by opening its icon. You can also open a Addressbook document from within Addressbook.

► **To open an Addressbook document using its icon:**

1. Locate the icon of the Addressbook document you wish to open in the File Manager.
2. Double-click on the document icon. *Addressbook starts and opens that document.*

► **To open an Addressbook document from within Addressbook:**

1. Choose Close from the File menu. *If you have unsaved changes in the current Addressbook, you ask if you wish to save or discard them.*
2. When the New/Open dialog box appears, select the Addressbook document you wish to open.
3. Click on Open. *The document opens and you are returned to Addressbook.*

Importing an Addressbook Document

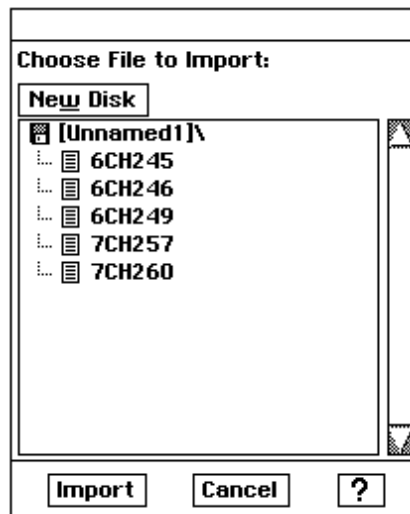
You can import address files, such as mailing lists, from some database and spreadsheet application programs, and turn them into address books. The application formats you can import are the following:

- CSV (Comma Separated Values)
- Lotus 1-2-3® versions

► **To import an address file:**

1. Choose Close from the File menu to close the current Addressbook. *The New/Open dialog box appears.*
2. Insert the diskette with the file you wish to import.
3. Select the file you wish to import and click on Import. *A message appears asking you to insert the import/export libraries diskette.*

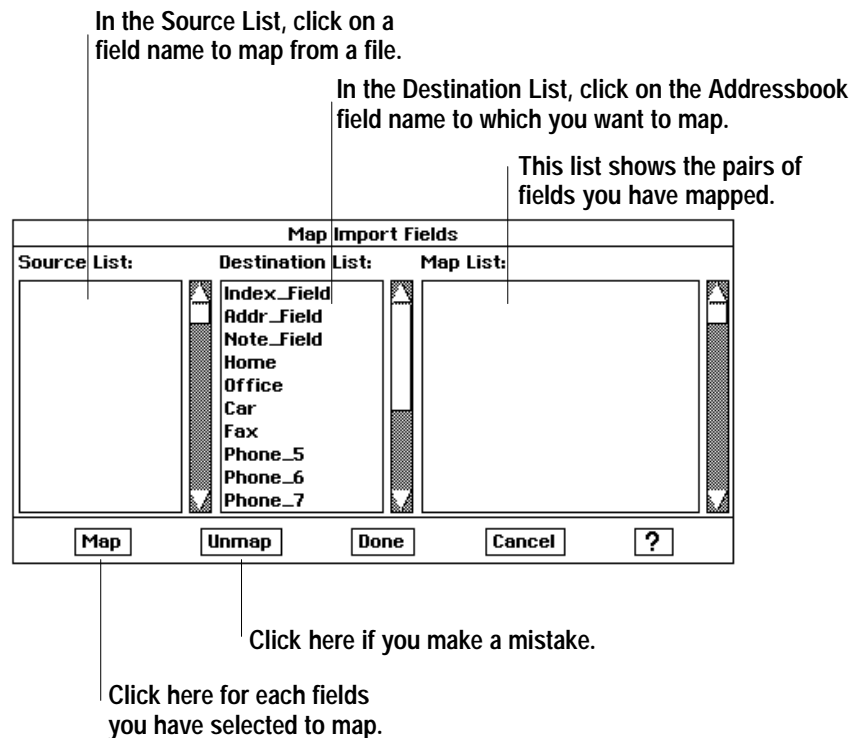
4. Insert Diskette 2 and press **ENTER** or click on OK. *A dialog box appears.*



5. Select the file format and click on Import:

- **Formats.** If you know the format of the file you want to import, you can select it from the Formats list. Then, the file extension appears in the File Mask box and only files with that extension are displayed in the file selector.
- **File Mask.** When you choose a format from the Formats list, the file mask updates automatically. A *file mask* is a filter that separates the specified type of file.

6. Click on Map Import Fields. *The Map Import Fields dialog box appears:*



Mapping correlates fields from Addressbook to fields in the file you are importing.

7. 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.
8. Repeat step 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.
9. When you have mapped all the fields you want, click on Done. *The Import dialog box reappears.*
10. 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.*

When the import is finished, you return to Addressbook with the imported addressbook open. If the imported file meets your satisfaction, you can save the document and give it a name.

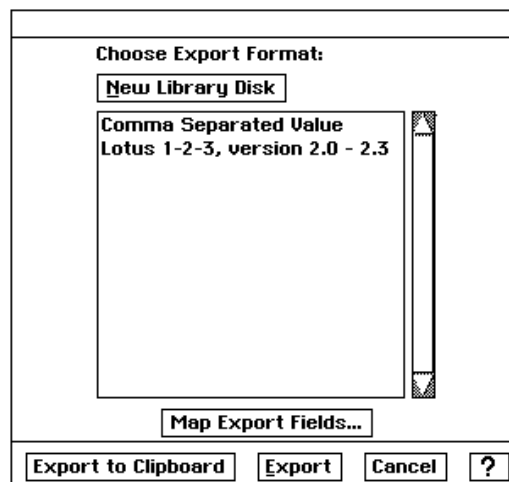
Exporting an Addressbook Document

You can export Addressbook information to other applications. For example, you can export Addressbook information in a format so that it can be used in Lotus 1-2-3®. 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®

► To export an Addressbook:

1. Choose Other from the File menu. *A submenu appears.*
2. Insert Diskette 2 (the Import/Export libraries).
3. Choose Export Document from the submenu. *The following dialog box appears:*

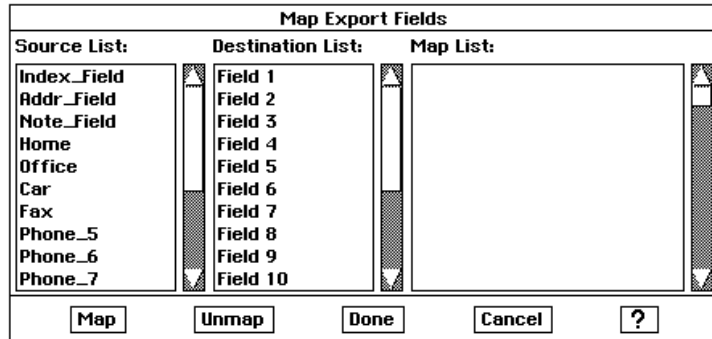


4. Select the format.

Formats. Select from this list to specify the format of the file you will create when exporting. The information in Addressbook will be exported in the selected format.

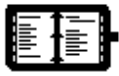
Mapping correlates fields from Addressbook to fields in the file you are exporting.

5. Click on Map Export Fields. *The following dialog box appears:*



6. 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.
7. Click on Map.
8. Repeat steps 5 and 6 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.
9. When you have mapped all the fields you want, click on Done. The Export dialog box reappears.
10. Click on Export.
11. Select the folder, if any, where you wish to place the exported files.
12. Select the file name.
 - **New File Name.** Type a name for the export file in this box. Addressbook provides the correct three-letter extension for the format.
13. 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 import. You cannot interrupt this process.*

8 Planner



Planner is an automated appointment book that combines a yearly calendar and scheduler in one easy-to-use application. With Planner, you can schedule appointments and print your calendar and events.

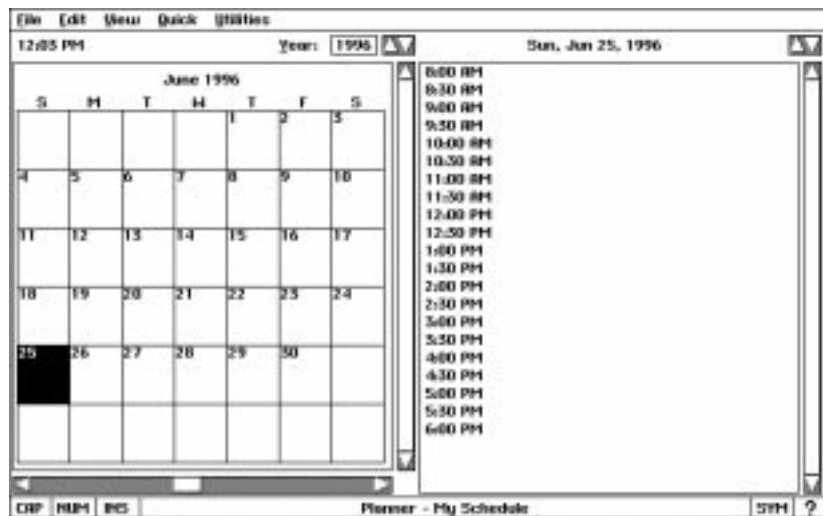
► To start Planner:

When you open Planner for the first time, you see a message telling you that there is no default document. This means that Ensemble is looking for a Planner document on your diskette and cannot find one. Therefore, click on New. If you receive this message again, and you started a planner, you may want to insert the diskette with the saved Planner document.

When you click on New, you see another message telling you that you cannot combine (merge) two Planner documents. Ensemble is warning you that you are creating another document and losing the ability to combine this document with an existing document.

You use the default calendar in the same way you use any Planner document: viewing different days, months, and years, and scheduling events.

Locate the Planner icon on the Main Menu and click on it. *The Planner window appears:*



When you first start Planner, the default calendar *My Schedule* appears in the Planner window. If you have not scheduled any events in it yet, the calendar is empty. Once you make changes and save it, Planner opens *My Schedule* for you every time you start, if you have the diskette containing *My Schedule* is inserted in the disk drive.

If you want to just view the calendar or start scheduling events now, you can use the default calendar. If you plan to keep more than one calendar, you may want to create new Planner documents.

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.

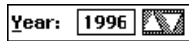
► **To view different months:**

Using the horizontal scroll bar at the bottom of the Calendar window, scroll left to see previous months. Scroll right to see subsequent months. If you have switched to the full year view, you can also scroll up and down. *The appropriate month appears in the window.*

► **To view different years:**

Click on the up or down arrows next to the Year box until you see the year you want. The Year box is located above the Calendar window. You can view any year from 1900–9999.

OR



Double-click in the Year box and edit the year shown. Then press **ENTER**. *The window shows the calendar for the year you selected.*

Normally you see a month at a time in the Calendar window. This is the single month view. You can switch to the full year view, where you see as many months as will fit in your window.

► **To switch to the full year view:**

1. Choose 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 does not fit in your window.

► **To switch back to the single month view:**

Choose Single Month from the View menu. *The calendar for a single month appears.*

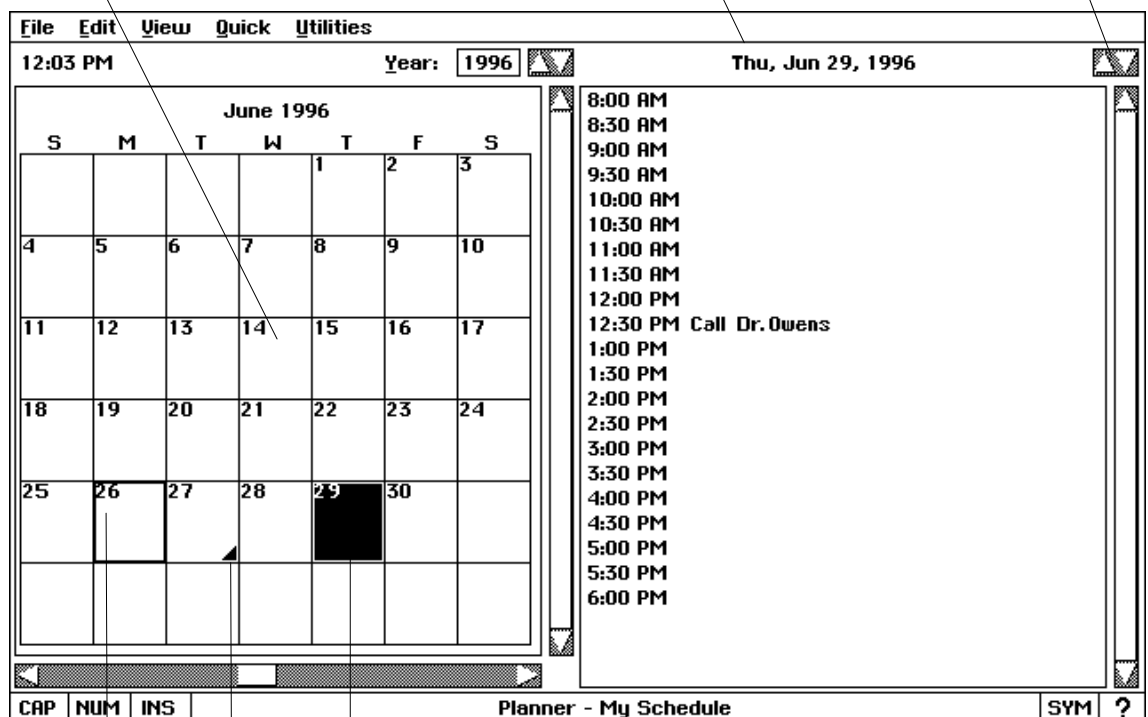
Selecting and Viewing Events

Like an appointment book, Planner keeps track of weekly meetings, important appointments, and special dates. All of these things are called *events*. You can use events in Planner to track important dates in your daily schedule, like business meetings, and you can schedule dates far in advance, like birthdays and vacations. If you have events that occur on a regular basis, such as a class you teach every Thursday or a birthday you want to remember every year, you can specify repeating events to schedule these automatically.

Click on a day in the calendar window to select it and view its events.

This text shows the date of the selected day. Its events appear in the window.

Click here to show the next and previous day's events.



Selected day: this day's events appear in the Event window.

The small triangle indicates that there are events scheduled for this day.

Today's date has a thick black border.

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 see the Calendar window and the Events window side-by-side. However, if you prefer, you can choose to view only one window at a time and switch between them. Showing only one window at a time lets you work with either one without taking up space for both.

► To show only one window:

From the View menu, select Both. *The Both button changes to off and one of the windows disappears.* To return to viewing both windows, choose Both from the View menu again. *Both windows appear.*

Selecting a Day and Viewing its Events

You can view a day's events by clicking that day in the Calendar window and then looking in the Events window. You can also view the next and previous day's events by clicking on the up and down arrows at the top right of the Events window. Finally, you can use choices on the Quick menu to see today's events, or jump to a particular date and see its events.

► To select a day and view its events:

1. If the Calendar window is not showing, choose Calendar from the View menu. *The Calendar window appears.*
2. Click to select 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 located at the top right side of the Events window. The up arrow selects the previous day and the down arrow selects the next day. *As the selected day changes, events for that day appear in the Events window.*

► To view today's events:


Choose Today from the Quick menu. *Today becomes the selected day and its events appear in the Events window.*

► To view events on a particular date:

1. Choose Go to Date from the Quick menu or press **CODE + G**. *The following dialog box appears:*

<input checked="" type="checkbox"/>	Go to Date
Date:	<input type="text" value="9/13/96"/>
<input type="button" value="Go to Date"/>	<input type="button" value="Close"/> <input type="button" value="?"/>

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, 1996 you would type 2/23/1996.
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.* If the Events window is not showing, choose Events from the View menu.
4. If you want to see a different day's events, click in the text box and repeat steps 2 and 3.
5. Click on Close to close the dialog box.

Wed, Dec 13, 1996 

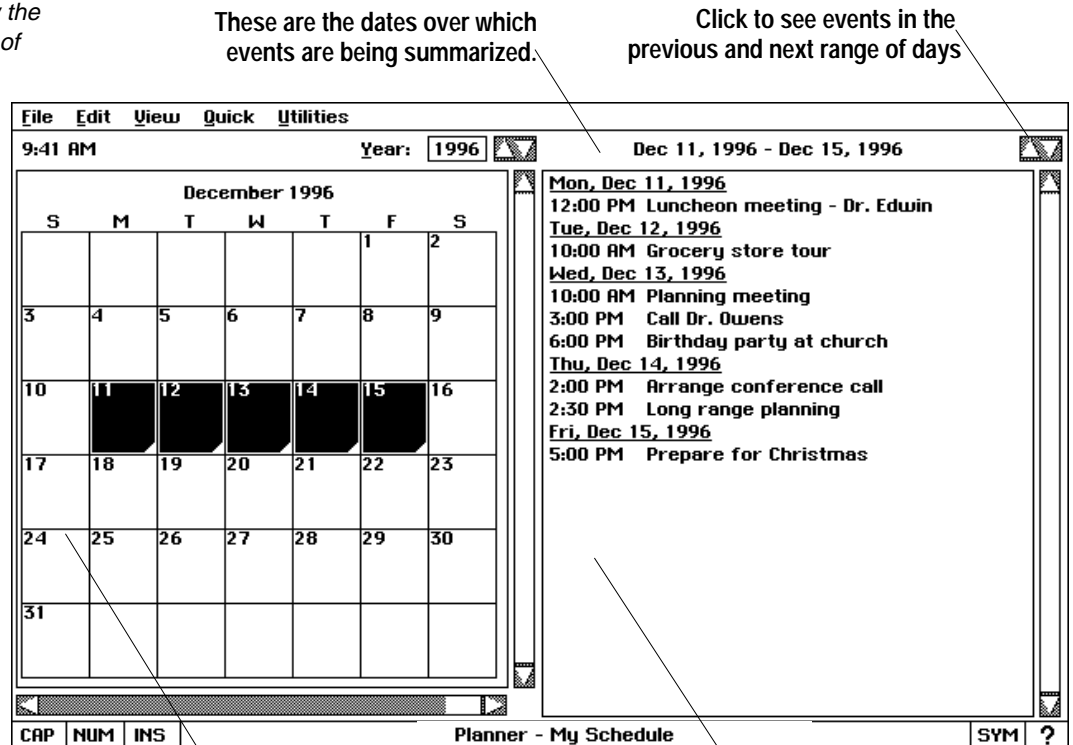
After working with another day's events you may want to quickly jump back to today and view today's events.

When you know the exact date for which you want to view events, you can jump to that date quickly without looking for it on the calendar.

Selecting a Range of Days and Viewing Their Events

You can select any range of days in the year and view a summary of those events. Once you have selected a range, you can also view the previous and next range of days.

You can view a summary of events over a range of days. For instance, you can see all the events for this week or this quarter. The following illustration shows an example of a week's worth of events in summary form:



These are the dates over which events are being summarized.

Click to see events in the previous and next range of days

The range of dates is highlighted in the Calendar window.

A summary of events over the selected range appears in the Events window.

► 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

Choose one of the following from the Quick menu:

- **Today.** Selects today's date.
- **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.
- **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.

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."

The selected range is highlighted in the Calendar window and its events appear in the Events window. If the Events window is not showing, choose Events from the View menu.

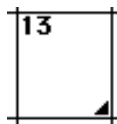
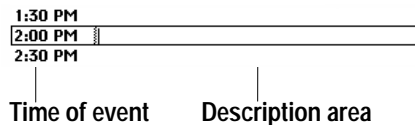
Scheduling Events

Planner makes it easy to schedule events. You simply select the day of the appointment, 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 as well. The Events window provides a list of times called the *day template*. Normally the day template shows times from 8:00 A.M. to 6:00 P.M. 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.

If the Events window is not showing, choose Events from the View menu.



► To schedule an event by selecting from the day template:

1. Select the day on which you want to schedule an event.
2. You may select a day using any method, such as by clicking in the Calendar window or by using the up and down arrows at the top right of the Events window.
3. 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.
4. 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 automatically added to your schedule.
5. 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. The triangle shows that an event is scheduled for that day.

Changing a Scheduled Event

When you change the time of a scheduled event, it does not change its place among the other times in the Event window and may appear missorted until you first view another day's events and then return to this day. For instance, if you change a 9:00 appointment to 11:00, the event remains sorted in its original slot between 8:00 and 10:00 until you view another day's events. The next time you come back and view this day's events, the 11:00 event will be properly sorted between 10:00 and 12:00.

You can change the scheduled time for an event or the details in its description.

► 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 A.M. or P.M. 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, choose Undo from the Edit menu before you do any other task.

Removing a Scheduled Event

If an appointment or meeting is canceled, you can easily remove the event from your schedule.

► **To remove a scheduled event:**

If you suddenly realize that you deleted the wrong event, choose Undo from the Edit menu before you do any other task.

1. In the Events window, click on the event you want to remove.
2. Choose 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 your daily schedule is loaded, but you need to squeeze in one more appointment and you need to schedule the 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. Choose 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 wish 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.

► **To add an event at a particular 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.

1. Select the day on which you want to schedule an event.
2. Choose 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, and then type a description.

Copying Event Descriptions

You can use the Copy function on the Edit menu to 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.

For more information about copying and pasting, see "Getting Started."

► **To copy part of an event description:**

1. Select the text you want to copy.
2. Choose Copy from the Edit menu.
3. Locate the area where you wish 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 choose Paste from the Edit menu. *The information is pasted at the location of the insertion point.*

Scheduling Repeating Events

You might have events that happen regularly, such as school board meetings every Thursday at 4:00. In Planner, you only need to schedule the event once. Planner then remembers to schedule these meetings for you every Thursday at 4:00. Repeating events are useful for appointments that occur at regular intervals. Examples of repeating events can be a birthday, a weekly meeting, a holiday that falls on the same day every year, or a reminder that parent-teacher night is the second of each month. You can schedule an event that repeats in one of the following ways:

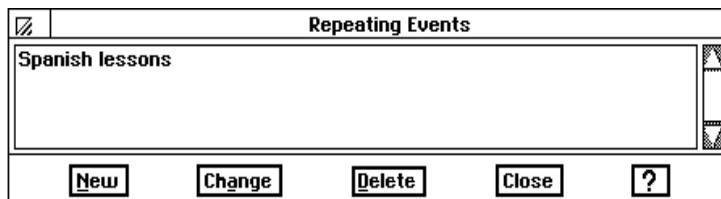
- **Weekly.** A *weekly* event occurs on the same day every week, such as every Wednesday.
- **Monthly by date.** A *monthly by date* event occurs every month on the same numbered day, such as the first or the fifteenth of every month.
- **Yearly by date.** A *yearly by date* event occurs once a year 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.

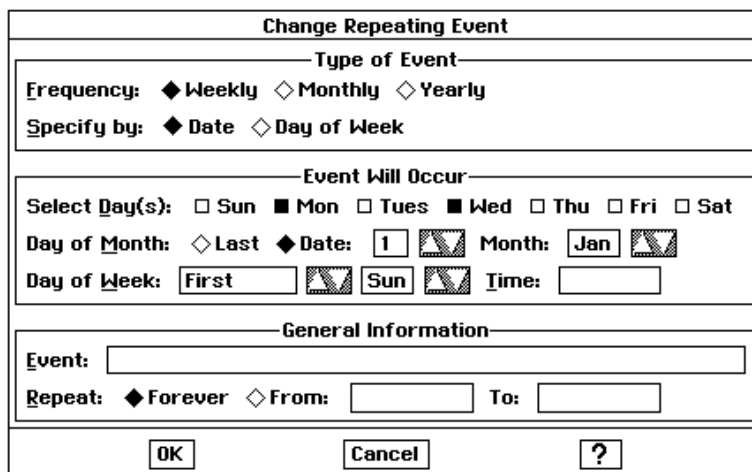
A weekly event occurs on the same day every week, such as every Wednesday.

► **To schedule a weekly repeating event:**

1. Choose Repeating Events from the Utilities menu. *The following dialog box appears:*



2. Click on New. *Another dialog box appears:*



3. Select Weekly.
4. Select the check boxes for the day or days that your weekly event occurs.
5. If you wish to give the event a specific time, type the time in the Time box. Use the HH:MM format, and type AM or PM.
6. Type a brief description of the event in the Event box.
7. 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.
8. Click OK. *The original dialog box appears.*
9. Click Close when you are finished. *The weekly repeating event appears in the Events window at the time and day you selected.*

► **To schedule a monthly or a yearly event 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. A yearly by date event occurs once a year on the same date, such as a birthday or a holiday.

1. Choose Repeating Events from the Utilities menu. *A dialog box appears.*
2. Click New. *Another dialog box appears.*
3. Select Monthly if you are scheduling a monthly event by date.
OR
Select Yearly if you are scheduling a yearly event by date.

4. Select Date.
5. 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 when you are finished. *The monthly or yearly event appears in the Events window at the time and day you specified.*

► **To schedule a monthly or a yearly event by day of the week:**

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.

1. Choose 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 arrow buttons to select the month your event occurs. (Skip this step if you are scheduling a monthly event.)
6. Click on the up or down arrows 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.
OR
Click the up or down arrow buttons to select a specific day of the week.
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.
10. Click on OK. *The original dialog box appears.*
11. Click on Close when you are finished. *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. Choose 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 the 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 when you are finished. *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. Choose 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 when you are finished. *The event is removed from your schedule.*

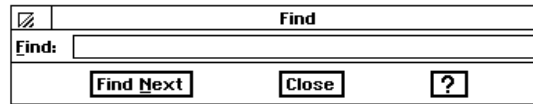
Finding Specific Events

You can search for specific events in Planner. This 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."

Searching is also helpful if you know you have a meeting with a specific person but cannot remember the date. You could simply search for the person's name.

► **To search for specific events:**

1. Choose Find from the Utilities menu. *The following 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.

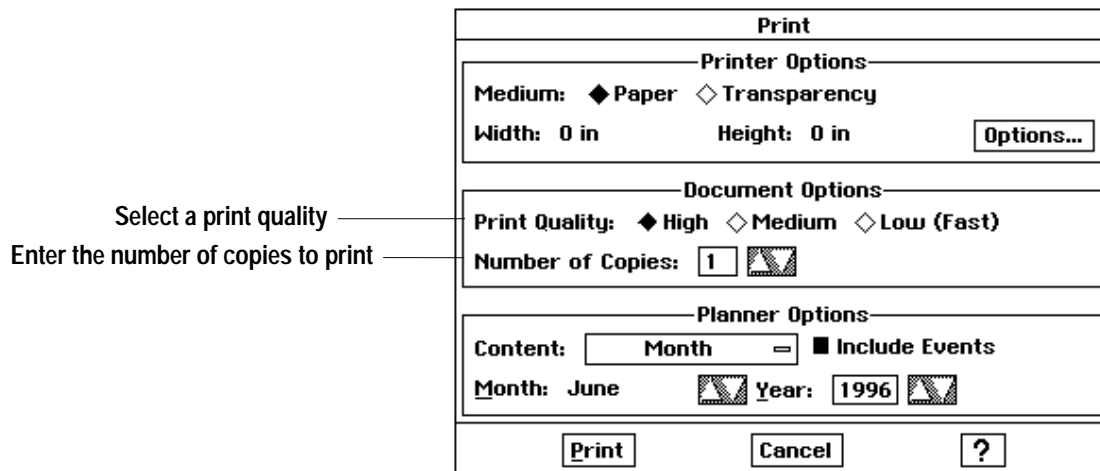
Printing Your Events or Calendar

Only the steps which are unique to printing in Planner are covered here. For general information about printing, see "Printing Documents" in Chapter 2.

You can print 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.

► **To print a monthly calendar:**

1. Choose Print from the File menu. *The following dialog box appears:*



2. In the Planner Options portion of the dialog box, click the button next to the words "Content." *A drop-down list appears.*

3. From the drop down list, select Month. *The choice appears on the Will Print button.*
4. If you want to print the first few lines of events for each day, select Include Events.
OR
If you want to print a blank calendar, make sure the Include Events option is off.
5. Click on the up or down arrows to select the month for printing.
6. Click on the up or down arrows to select the year for the month you want to print. You may also edit the number in the Year box.
7. Click on Print when you are finished. *A calendar of that month prints.*

► **To print a yearly calendar:**

1. Choose Print from the File menu. *A dialog box appears.*
2. In the Planner Options portion of the dialog box, click the button next to the words "Content." *A drop-down list appears.*
3. From the drop-down list, select Year. The choice appears on the button.
4. Click the up or down arrow buttons, or edit the number shown to select the year you want to print.
5. Click Print when you are finished. *A calendar of that year prints.*

► **To print the Events Window:**

1. Select the day or range of days whose events you want to print.
2. Choose Print from the File menu. *A dialog box appears.*
3. In the Planner Options portion of the dialog box, click the button next to the words "Content." *A drop-down list appears.*
4. From the drop-down list, select Events Window. *The choice appears on the button. The date of the Events window to be printed appears below it.*
5. Click Print when you are finished. *The contents of the current Events window prints.*

Changing the page size

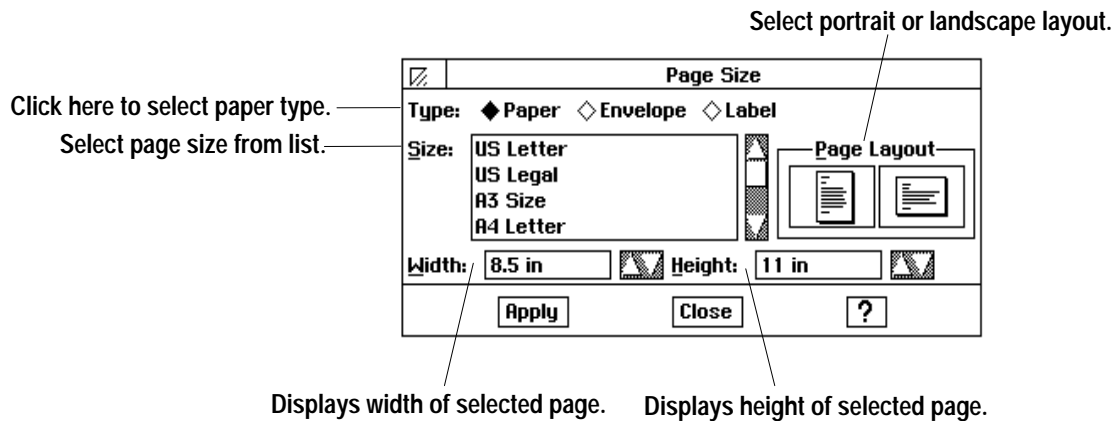
Before you print, you may want to use the Page Size dialog box to change dimensions of your calendar. Normally, Planner prints its documents at 8.5" by 11". You can change the page size, for instance, to print a poster-sized calendar across multiple sheets of paper which you can tape together.

Page Size refers to the size and layout of the final document you wish to print. This does not have to correspond to the actual paper in your printer. For example, you may create a poster that measures 20" by 40". However, the paper in your printer may be 8.5" by 11". In the Page Size dialog box, you specify the size of your document, which is 20" by 40". In the Print dialog box, you specify 8.5" by 11". Planner calculates the number of 8.5" by 11" pages required to print your document and prints it over several pages which you can assemble into a poster. If you choose a page size which 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.

You can also use the Page Size dialog box to specify a different size page when your printer supports different sizes of paper. To correctly print on the different size of paper, you must also change the paper Width and Height in the Printer Options section of the Print dialog box.

► **To change Page Size options:**

1. Choose Page Size from the File menu. *The following dialog box appears:*



2. Fill in the dialog box, changing the options you want:
 - **Type.** Choose Paper, Envelope, or Label. When printing in Planner, Paper is probably the desired choice.
 - **Size.** Select a page size from the scrolling list. The scrolling list contains all common paper, envelope, and label sizes.
 - **Page Layout.** Select portrait or landscape layout.
 - **Width.** Displays the width of the page size you have selected. Can also be used to set a custom page width.
 - **Height.** Displays the height of the page size you have selected. Can also be used to set a custom page height.
3. Click on Apply to apply the settings to the current document. *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.

Saving and Exiting

Planner automatically safeguards your calendar while you are working on it. In the event of a power failure or other problem, your work is probably safe even if you have not used the Save menu choice. By adjusting the Document Safeguarding Time in the Look & Feel section of Preferences, you can control how frequently this safeguarding takes place.

If you have made changes or additions to your calendar and want to make the changes permanent, you can do this by saving your document.

When you are done using Planner, you should save your document, and if you forget, Planner will give you one last chance to save your changes.

► **To save changes to your document:**

Choose Save from the File menu. *Planner saves your changes and returns you to the document.*

► **To exit Planner:**

Choose Exit from the File menu. *The Planner window closes and the application exits. If you have unsaved changes in your document, Planner asks if you want to save those changes.*

Creating New Calendars

Planner provides a standard document called “My Schedule.” Whenever you start Planner, this document opens automatically, making it easy to keep all of your appointments in one place. If you keep just one calendar, you should use this document. However, you may want to keep additional calendars. For instance, you may find it easier to keep business contacts in one calendar and keep friends and family in another.

Creating a New Calendar

Before you create a new calendar you must first save and close the current one.

► **To create a new calendar document:**

1. Choose 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 choose New Event from the Edit menu.
4. After adding an event, choose Save from the File menu. *A dialog box appears.*
5. Select the folder in which you would like to save the new document. To select your document folder, click on Go To Document.
6. Type a name for the document in the New Name area; then click Save. *The new document is saved with the name you provided. You are returned to Planner with that document open.*

Opening Calendar Documents



In File Manager, a Planner document appears as an icon like the example at the left. You can choose which calendar you want to work with by opening its icon. You can also open a document from within Planner.

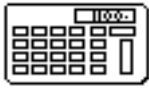
► **To open a Planner document using its icon:**

1. Locate the icon of the Planner document you wish to open.
2. Double-click on the document icon. *Planner starts and opens that document.*

► **To open a Planner document from within Planner:**

1. Choose Close from the File menu. *If you have unsaved changes in the current calendar, you are asked if you wish to save or discard them. The New/Open dialog box appears.*
2. Select the Planner document you wish to open and double-click on it or click on Open. *The document opens and you are returned to Planner.*

9 Calculator



Calculator

The Calculator application puts a versatile calculator on your Ensemble desktop. You can use your online calculator to do standard calculator tasks, like adding, subtracting, multiplying, dividing, and computing percentages. You can store the results in the Calculator's memory or paste them into other applications, such as Communication or Word Processing. You can perform metric to English conversions and Yen to Dollar currency conversion.

► **To start the Calculator:**

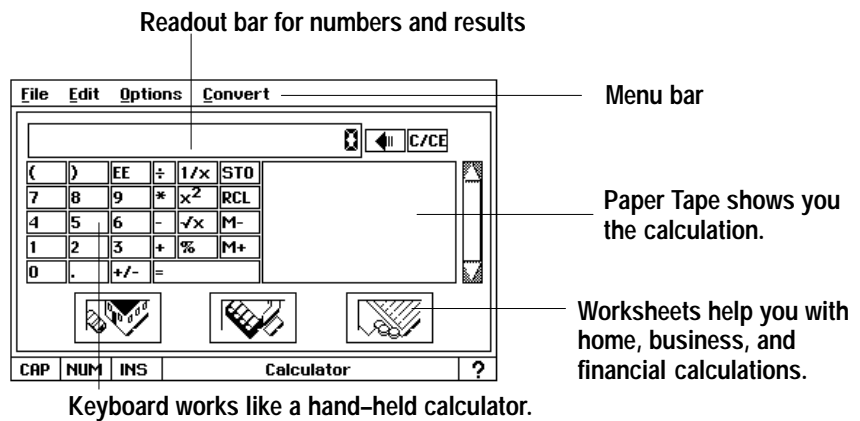
Locate the Calculator icon on the Main Menu and click on it.

OR



Press **CALC**. **CALC** is found on the right side of the function key row. Use this key when you are working in another application like Drawing or Word Processing.

The Calculator window appears. The Calculator window looks like a standard desktop or hand-held calculator.



► **To exit Calculator:**

Press **CALC**. The **CALC** key works like a light switch. It turns the calculator both on and off. *The calculator disappears from the screen.*

OR

Select Exit from the File menu or press **EXIT**. *The calculator disappears from the screen.*

Using Basic Calculator Functions

You can do the following calculations with the Calculator: addition, subtraction, multiplication, division, percentage, square root, numbers squared, and inversion. You can also make measurement conversions, store numbers in memory, and perform financial calculations.

Using the Calculator's Buttons and Keys

Before performing a calculation, familiarize yourself with the buttons that appear in the Calculator window. Some of the Calculator's buttons have keyboard equivalents—keyboard keys that you can press to perform the same action as clicking a button with the mouse.

Calculation buttons

The Calculation buttons are used to do the actual work of calculating numbers. Their functions are explained in the following chart:

BUTTON	KEYBOARD KEY	FUNCTION
0 through 9	0 through 9	Digits used to create numbers needed for a calculation
÷	/	Divide
*	*	Multiply
-	-	Subtract
+	+	Add
=	= or ENTER	Equals (for standard mode only)
()	()	Parentheses
EE	E	Enter E (for entering numbers in scientific notation)
1/x	CODE + 1	Reciprocal
x ²	SHIFT + 2	Number squared
x	CODE + 2	Square root
%	%	Percent
.	.	Decimal
+/-	CODE + -	Change Sign

Backspace and Clear buttons

The C/CE and the ◀ buttons are used to delete or clear your entry. They are located just to the right of the Readout bar.

BUTTON	KEYBOARD KEY	FUNCTION
C/CE	CODE + C	Click once to reset the current number to zero; click again to reset any operations in progress and clear the operations from memory.
◀	BACKSPACE	Click to delete the rightmost number from the Readout bar.

Memory buttons

The following buttons are used with the Calculator's memory function. For more information on using the Calculator's memory, see "Understanding Memory" later in this chapter. The M+ and the M- buttons cannot be used while the NUM indicator is on. See "Using the keyboard as a keypad" on the next page for more information on entering the NUM mode.

BUTTON	KEYBOARD KEY	FUNCTION
STO	[Store in memory.
RCL]	Recall from memory.
M+	M	Add the number displayed in the Readout bar to the number stored in active memory.
M-	CODE + M	Subtract the number displayed in the Readout bar from the number stored in memory.

Performing Calculations

You enter both *numbers* and *operators* for each mathematical task you perform with the Calculator. The numbers you enter are the figures to be computed. The operators are symbols (such as + for addition) that are used to request a particular type of calculation.

An *operation* refers to the combination of an operator with numbers. For example, $100 + 200$ is an operation. A simple calculation consists of only one operation. However, a calculation can consist of as many operations as you need. For example, you may need to know the result of $100 + 200 \times 5$. This calculation consists of more than one operation (multiplication and addition). In calculations with multiple operations, you can tell the Calculator which operation to do first or it will follow the Order of Operations (see next page).

► **To calculate:**

1. Enter all numbers and operators of your calculation. You can use the EE button to enter a number in scientific notation. As soon as the number is entered, Calculator converts it to standard notation.
2. Click on the = button or press **ENTER**. The result appears in the Readout bar. Press on **ENTER** only once. If you press twice and a previous operation is stored in memory, the Calculator will apply this operation to your result. Only those operations which apply one number to another are stored and repeated in this way (such as +, -, *, and ÷).

Order of Operations

When you enter calculations that include more than one operation, the Calculator performs the operations in the following sequence (order of precedence):

1. Any numbers or expressions enclosed in parentheses
2. Multiplication and division
3. Addition and subtraction

If you enter arithmetic functions that have the same level of precedence (such as $2 + 5 - 1$), the operations are performed from left to right.

The final result of your calculation will always be the result of the above sequence. For example, if you enter $3 + 4 \times 6$, the result is 27 (*not* 42). This result is based on $3 + 24$ (the Calculator performed the multiplication before it performed the addition).

Parentheses can be used to ensure that a particular operation is performed first. For example, you could enter $(3 + 4) \times 6$. The Calculator does the parenthetical operation first: $3 + 4 = 7$. After that, the Calculator performs the multiplication: $7 \times 6 = 42$.

Using the mouse

In addition to using the mouse to click buttons and select menu items, you can use it to edit the numbers in the Readout bar. Using the mouse, you can select digits in the display, and move the insertion point. For instance, if you entered the number 124, but meant to enter 14, you could drag select the 2 and press **BACKSPACE** to delete it.

Using the keyboard as a keypad

You may find it easier to use the keyboard for entering numbers. If you are using the numeric keypad, be sure that the **NUM LOCK** key is on (the NUM indicator is highlighted). Pressing NUM LOCK toggles the indicator between on and off as does clicking the NUM button with the mouse. The NUM button is located in the lower left corner of the screen.

Cut and paste

You can copy calculation results to other Ensemble applications. You can also select and copy numbers from another document and paste them into the Calculator's Readout bar.

Handling Error or Overflow Conditions

When the Calculator is unable to perform a calculation, the word Overflow appears in the Readout bar. This can happen if you try to perform a function not allowed by the Calculator, such as dividing by zero. When Overflow is displayed, you can clear it using one of the following methods:

► *To clear an error:*

Click on the C/CE button to clear the number. This clears the error but retains any operations in memory for the calculation in progress.

OR

Double-click the C/CE button to clear the number and delete all previous operations for the calculation in progress.

Understanding Memory

You can save the results of your calculation using Calculator's built-in memory. The memory function allows you to temporarily store numbers during the current work session.

The Calculator's memory is used to store the number shown in the Readout bar. You can add to, subtract from, or recall a number stored in memory. For example, memory is a convenient way to keep track of your current bank balance as you write checks. Simply store your bank balance in memory, then deduct the amount for each check from the balance.

The following list summarizes how to use the memory:

- The number shown in the Readout bar can be copied directly to memory.
- Only one number can be stored at a time.
- The stored number can be updated using the M-/M+ (subtract/add keys).

► **To store a number in memory:**

1. Enter a number in the Readout bar.
2. Click on the STO button to store the displayed number in memory.

Example: If 100 is displayed and you click on STO, the Calculator stores the number 100 in memory.

► **To add to or subtract from a number stored in memory:**

1. Store the number you want to update in memory. (To do this, follow the steps described in the previous procedure.)
2. Enter the amount you want to add or subtract in the Readout bar. You can enter the number directly from the keyboard or it can be the result of a calculation.
3. Click on M+ to add or M- to subtract the amount.

► **To recall a stored number:**

Click on the RCL button on the screen.

Example: 100 is currently stored in memory and you want to add 50. Enter 50 in the Readout bar and press M+; the Calculator changes the number stored in memory to 150.

Example: 150 is currently stored in memory and you want to subtract 20. Enter 20 in the Readout bar and press M-; the Calculator changes the number in memory to 130.

Converting Measurements

The Calculator provides a handy way to convert one type of measurement, such as gallons, to another type of measurement, such as liters. You can convert:

- Inches/Centimeters
- Feet/Meters
- Miles/Kilometers
- Gallons/Liters
- Pounds/Kilograms
- Fahrenheit/Celsius

► **To convert:**

1. Enter the number you want to convert in the Readout bar.
2. Choose the conversion from the Convert menu. If a submenu appears choose the conversion from the submenu. *The conversion is immediately applied and displayed on the Readout bar.*

Calculator Worksheets

The Calculator has three groups of built-in worksheets to help you with common calculations for your home, business, and other finances. You can reach the three different groups of worksheets by clicking on their buttons at the bottom of the Calculator window.

► To use a worksheet:

1. Pick which group of worksheets you want (Home and Family, Retail, and Financial), and click on that button. *A dialog box appears. The dialog box lists the name of the worksheet group, the names of the individual worksheets, and a description of each worksheet.*

Home and Family

Use these worksheets for common household calculations.

Available Worksheets:

- Car Mileage
- Car Purchase
- Car Lease
- Savings Goal
- Home Buying Power

Calculate your car's fuel efficiency.

Open Worksheet Cancel ?

2. Select the worksheet you want to open and click on Open Worksheet.

OR

Double-click on the name of the worksheet to open it. *The worksheet appears:*

Car Mileage

Calculate your car's fuel efficiency.

Odometer reading at last fill up: 30456.2 miles

Current odometer reading: 30770.6 miles

Amount of fuel added: 8 gallons

Your car's efficiency: ?

Calculate Close ?

You can press **TAB** to move from field to field.

3. Fill out the worksheet, and click on Calculate. *The completed calculation appears in the box at the bottom of the worksheet.*

You can continue by entering a second set of information for calculation, or you can leave the worksheet by clicking on Close.

The rest of this section describes the different worksheets that are available for you to use. The worksheets cover three different areas: Home and Family, Retail, and Finances.

Home and Family



The Home and Family button gives you eleven worksheets that help you calculate the expenses that are involved with buying a car, buying and selling a house, taking out a loan, and saving money. The worksheets perform these calculations:

- Car Mileage – Calculates your car’s fuel efficiency.
- Car Purchase – Estimates the monthly cost of buying a new car.
- Car Lease – Estimates the buy-out value of a car at the end of a lease.
- Savings Goal – Calculates the amount you should save each month.
- Home Buying Power – Estimates what price home you can purchase.
- Home Sale – Calculates the net proceeds from the sale of a home.
- Home Purchase – Calculates the loan amount needed to purchase a home.
- College Fund – Estimates the amount you should put away each year to pay for your child’s college education.
- Loan Amount – Calculates the largest loan you can afford.
- Loan (Single Payment) – Calculates the monthly payment on a loan.
- Loan (Total Interest) – Calculates the sum of interest payments over the life of a loan.

Retail



The Retail button gives you eight worksheets that help you with buying and selling retail items. The worksheets perform these calculations:

- Sales Tax – Calculates the sales tax for a transaction.
- Total Sale – Calculates the transaction total including sales tax.
- Profit Margin – Calculates the profit margin on a sale.
- Markup (Cost-Based) – Calculates the retail price of an item based on a percentage markup from the wholesale cost.
- Markup (Profit-Based) – Calculates the retail price of an item based on a percentage markup from the wholesale cost.
- Discount – Calculates the sale price of a discounted item.
- Break Even – Calculates the number of unit sales required to recover fixed initial costs.
- Profit Goal – Calculates the number of unit sales required to achieve a desired profit.

Financial



The Financial button gives you nine worksheets that help you manage your assets and loans. The worksheets perform these calculations:

- **Compound Term** – Calculates the time for a present value to reach a future value using a compounding interest rate.
- **Double-Declining Balance** – Calculates the depreciation of an asset using the double-declining balance method.
- **Future Value** – Calculates the future value of a series of a fixed payments subject to a compounding interest rate.
- **Payment** – Calculates the periodic payment amount required to pay off a loan over a specified time.
- **Present Value** – Calculates the present value of a stream of payments subject to a compounding interest rate.
- **Compound Rate** – Calculates the compounding interest rate required for a present value to reach a future value in a specified period of time.
- **Straight-Line Depreciation** – Calculates the depreciation of an asset using the straight-line depreciation method.
- **Sum-of-Years Depreciation** – Calculates the depreciation of an asset using the sum-of-years' digits depreciation method.
- **Term of Payments** – Calculates the time for a stream of fixed payments to reach a future value.

10 Typewriter

Some Word Processing functions are available in Typewriter, but they are very limited.



CAUTION:

If you have a cut sheet feeder attached to your Ensemble system, and you want to reverse paper while you are using the Typewriter, you must remove paper from the cut sheet feeder. Otherwise, the cut sheet feeder will try to feed a new sheet of paper into your Ensemble system before it is ready to receive the paper.

See "Getting Started" for complete information on paper feeding.



CAUTION:

Do not use correction fluid on any paper you insert into the printer.

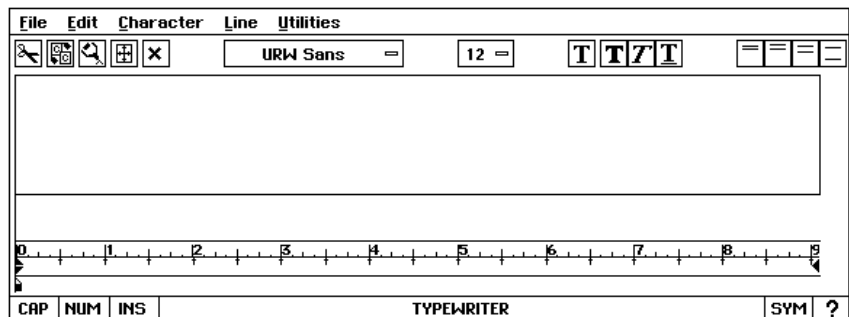
With Typewriter, you can type and print one line at a time. This electronic accessory is useful when you want to fill out a form or create a short document that you do not want to save.

► To open Typewriter:

On the Main Menu, click on the Typewriter icon or press the **TYPE WRITER** function key on the top row of the keyboard.

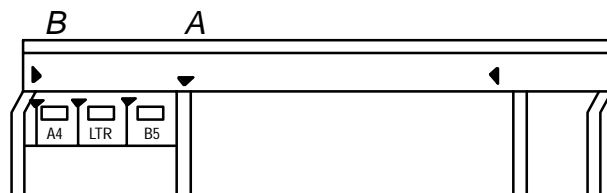
OR

If you have another application open, press **TYPE WRITER** on the top row of the keyboard. *The Typewriter screen appears:*



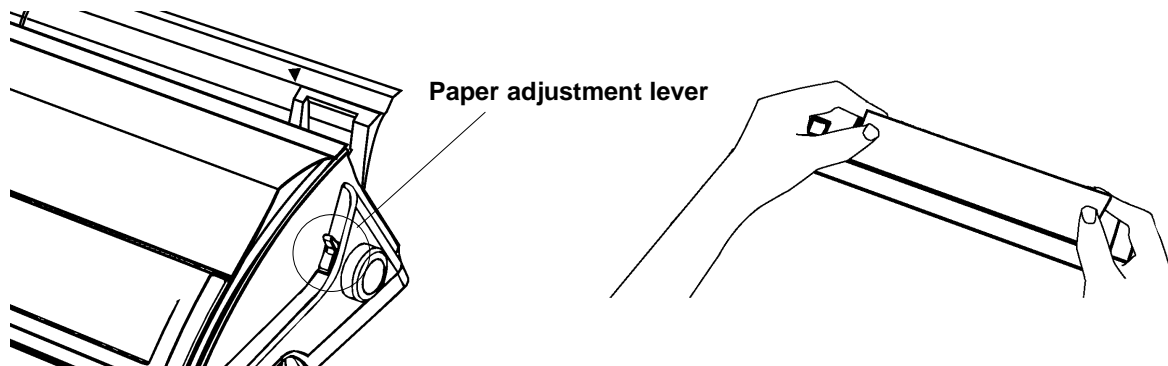
► To insert paper:

1. Center a sheet of 8.5" x 11" paper in the insertion slot, aligning the left edge of the paper with the **A** mark on the paper support.



2. Press **PAPER INSERT** or choose Paper Insert from the Utilities menu to automatically advance the paper to the printing position.

3. If the paper appears crooked, press **PAPER INSERT** again. Loosen the paper by pushing down on the paper adjustment lever. Slide the top of the paper slightly to align the top and bottom edges. Then raise the paper adjustment lever.



4. To slightly change print position, press **UP ARROW** or **DOWN ARROW** or **CODE + UP ARROW** or **DOWN ARROW** for finer adjustment.
5. To move the paper sideways in the platen, you must take the paper out and reinsert it where you want it.

► **To remove paper:**

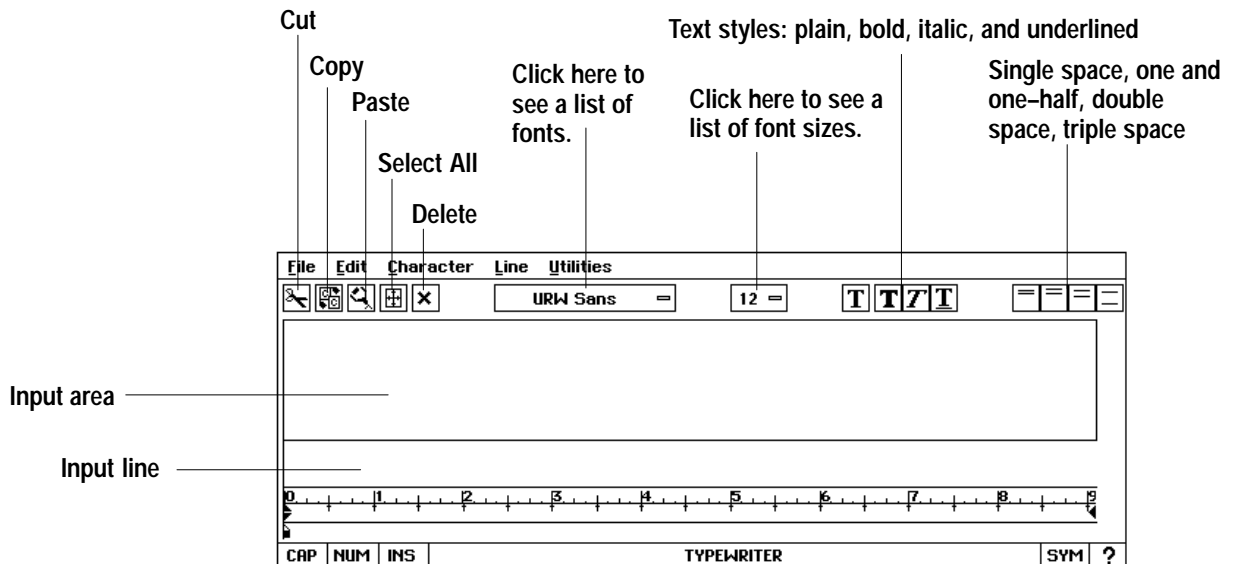
Do not use the platen knob to eject paper unless the paper is jammed.

Choose Paper Eject from the Utilities menu. *The paper ejects from the Ensembleprinter.*

Using the Menu Bar and Tool Bar

The two bars at the top of the Typewriter screen will help you to quickly perform functions. The Menu Bar has pull-down items for selection, while the tool bar uses icons that you click on.

The Tool Bar





► To use a tool on the tool bar:

1. If necessary, select the text whose characteristics you want to change.
2. Click on the tool button for the function you wish to use. (If the button is a pull-down menu, press the button and drag to select the choice you want.) *The characteristics change.*

Entering Text

If you are copying text which is longer than the available unused space, the text pasted is inserted at the insertion point and the characters at the end of the input line is truncated to the extent that there is no available unused space.

Insertion point 
I-beam pointer 

If the text is to be pasted at the end of the line and there is not enough unused space, then the text will not be pasted.

If there is no text in the text area, you cannot move the insertion point.

If the text does not move over when you are pasting, then you are in the overstrike mode. Press the **INSERT MODE** key to switch between the insert and overstrike modes.

The normal method for entering text is called *Insert Mode*. In this mode, the characters you type appear at the insertion point, pushing all existing characters to the right to make room for the new characters. You can click on **INS** on the screen, or press **INSERT MODE** to switch between insert and overstrike mode, in which existing text will be deleted as new text is typed. The input line is one text line high, regardless of font size. You can edit text in this area only. However, you can copy text from the input area (above the input line) and paste it into the input line.

When the input line is full, it prints (if you use Auto Carriage return); or, you can press **ENTER**.

The *insertion point* is the blinking vertical line that indicates where the characters you type appear on the screen. On a blank input line, the insertion point appears at the left side. While you are typing, the insertion point moves to the right, appearing after the last character typed. When you need to make changes in the line, you can move the insertion point anywhere in the line by moving the I-beam pointer. You can quickly, and easily move the insertion point using the mouse; if you prefer, you can use your keyboard arrow keys.

► **To move the insertion point with the mouse:**

1. Move the I-beam pointer to the location in the text where you want to start the insertion.
2. Click the mouse. *The insertion point moves to the new location.*

► **To move the insertion point with the keyboard:**

Press the keyboard keys shown below:

- **HOME** moves the insertion point to the beginning of the current line.
- **END** moves the insertion point to the end of the input line of text.
- **LEFT ARROW** and **RIGHT ARROW** move the insertion point one character to the left or right.
- **CODE + LEFT ARROW**, **CODE + RIGHT ARROW** move the insertion point to the beginning or ending of a word.

► **To correct as you type:**

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

► **To print a new line of text:**

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

If there is text to the right of the insertion point, it is moved over to accommodate the inserted text.

► **To insert text:**

Place the insertion point on the input line where you want to add text and start typing. *Anything you type is inserted into the input line at that location.*

► **To use Automatic Carriage Return:**

From the Utilities menu, select Automatic Carriage Return. *Each line of text prints when the text reaches the end of the line.*

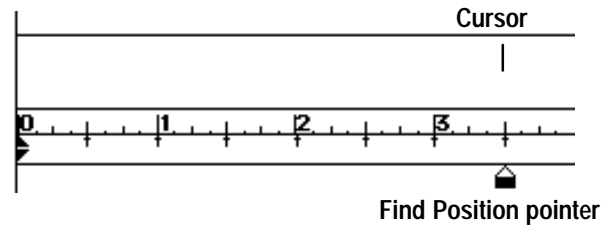
Finding your Position

This function allows you to place text exactly where you need it for filling out forms. It is especially helpful for columns, too.

► **To find your position:**

1. Insert paper using **PAPER INSERT**. Use the **UP ARROW** and **DOWN ARROW** keys if needed to reach the line where you wish to enter text.
2. Note the position on the top cover ruler where the first letter of the first word will begin.
3. At the bottom of the screen, find the same position on the ruler. Move the Find Position pointer by clicking on it with the mouse and dragging it to the position on the ruler. *You can use the **RIGHT ARROW** and **LEFT ARROW** to position the pointer also.*

If you have not moved the ink-jet cartridge for 30 seconds, it moves back to its starting position at the far right.



4. Choose Position Find from the Utilities menu. *The print head on the ink-jet cartridge moves to the position you requested.*
5. Click on OK to return the ink-jet cartridge to the starting position. *The "Find Position" arrow on the ink-jet cartridge shows you the exact position on the paper that corresponds to the cursor location on the screen.*



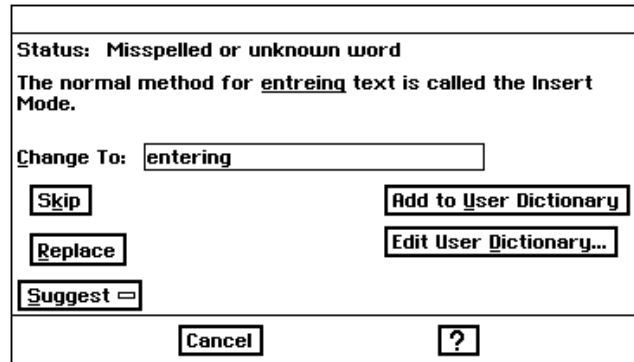
6. If this is the location where you would like text to begin, click in the text input window below the ruler marks and place a tab at the position where the Find Position arrow pointed.
7. Press **TAB** and type.
8. Press **ENTER**. The text prints at the desired location on the form.

Auto Spell

You can check the spelling of each line before it prints.

► To check spelling:

1. From the Utilities menu, click on the Auto Spell box. *Before each line prints, a dialog box appears if any words are misspelled:*

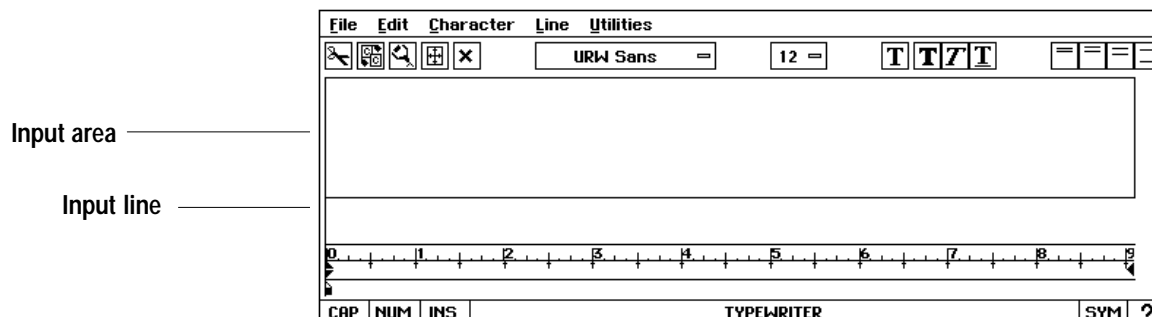


2. You can change misspelled words by entering the change in the Change To box. Or, you can find suggestions for spelling by clicking on the Suggest box. If you find the correct spelling, click on the radio box which has the spelling you want. Then click on Replace.
3. If you are using a word that has an unusual spelling, or a special word that would not be found in a common dictionary, you can add it to the User Dictionary so that Ensemble will recognize it as a correctly spelled word. (See "Adding Words to the Spelling Dictionary" on page 113.)

You can use the User Dictionary that you created if you want Ensemble to ignore special spellings such as "Foto Quik."

Cutting, Copying, Pasting, & Replacing Text

You can copy text from the input text area which contains up to four lines of text. However, you cannot copy more than one line of data from the input text area into the input line. No other edit operations (cutting, pasting, and replacing) are possible in the input text area. You cannot copy from the input text area and paste into the input text area. You must paste into the input line at the insertion point.







When you copy or cut a selection to the clipboard, it replaces whatever is currently on the clipboard.

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

When you paste an item into a document from the clipboard, the item also remains on the clipboard unless you replace it. So you can continue to paste the same item from the clipboard to multiple locations in your document.

This table shows shortcut methods for keyboard editing:

TO	USE KEY
Cut	
Copy	
Paste	
Delete	

When you select text in the input line, you can cut it to move it or you can copy it to another place. The selection you copy or cut is placed on the **clipboard**, a temporary storage space. When you press **PASTE** or choose Paste from the Edit menu, the contents of the clipboard are pasted into the input line.

► **To cut (move) a selection in the input line:**

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

► **To copy a selection:**

1. Select the item or text you want to copy.
2. Press **COPY** or choose Copy from the Edit menu. *The item remains in your document and also goes to the clipboard, replacing any other item on it.*
3. Move the insertion point to the location where you want the item to appear.
4. Press **PASTE** or choose Paste from the Edit menu. *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.
2. Press **COPY** or choose Copy from the Edit menu. *The text is placed on the clipboard.*
3. Select the block of text you want to remove, and press **PASTE** or choose Paste from the Edit menu. *The selection is replaced by the block you copied to the clipboard.*

Dragging and dropping text

Normally, you decide whether the drag and drop should be a move or a copy, depending on whether you drag the pointer to somewhere in the same document or to somewhere in a different document. As you drag, the square at the tail end of the pointer indicates whether the drag and drop will be a move or a copy: If the square is hollow, it will be a move; if the square is filled, it will be a copy.

Do not release the **CODE** or the **MENU** key until after you have released the right mouse button or else you will move the text rather than copying the text.



Move



Copy

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

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

1. Select the text you want to move or copy by moving the mouse pointer over the selected text.
2. Hold down the right mouse button. *The pointer changes to the drag and drop pointer.*
3. Drag the pointer so that it is over the location where you want to move or copy the selection.
4. Release the right mouse button. *The selected text is moved or copied to the new location.*

OR

Change a move to a copy or a copy to a move while dragging:

- Hold down **MENU** to force a move. *The square at the end of the pointer is hollow to indicate the selection will be moved.*
- Hold down **CODE** to force a copy. *The square at the end of the pointer is filled to indicate the selection will be copied.*

Changing Text Style and Format

You have many options for creating attractive, easy-to-read text that conveys your ideas visually. You can change the appearance of the characters you use, as well as the alignment and spacing of lines in a paragraph. Indentations and hanging indents allow you to offset text and numbered lists.

How a character looks on the screen and when it is printed is determined by its font, size, style, and other *attributes*. You can change the appearance of your document by changing the way text appears. You can apply character attributes in two ways:

- You can select the text that you want to change; then choose the attribute you want.
- You can choose the attributes you want; then type new text. The Typewriter applies the current attribute settings to any text you type.

► To change character attributes:

1. Select the text you want to change.

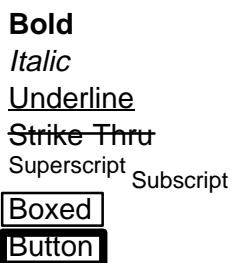
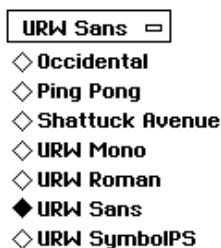
2. Pull down the Character menu. *Three submenus appear.*

- **Font.** Choose from among seven fonts: Occidental, Ping Pong, Shattuck Avenue, URW Mono, URW Roman, URW Sans, and URW SymbolPS. If you would like to see the fonts before you decide, select Font Viewer. *A sample of all available fonts can be seen from this dialog box. Click on Apply to apply your changes to the highlighted text.*

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. In other words, an "i" uses less space than a "w."

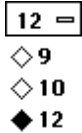
- **Size.** Select the size of the characters. *You can choose any size from 4 to 12 with the Custom Point Size dialog box. The standard choices are 9, 10, and 12 point.*
- **Style.** Select the type style: Bold, Italic, Underline, Strike Thru, Superscript, Subscript, Boxed, and Button.
- **Color** (for Ensemble color models only).



When you select either Boxed or Button style, you must use single spacing. Using anything other than single spacing yields unacceptable results.

► To change the font from the tool bar:

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



► **To change the text size from the tool bar:**

1. Select the text you want to change.
2. Click on Text Size on the tool bar. *The menu of text sizes (showned at left) appears.*
3. Select the text size you want. *The highlighted text appears in the size you selected.*

► **To change the style of text using the tool bar:**

1. Select the text that you want to change.
2. Choose the style you want from the Tool menu on the Style bar. *The selected text appears in the style you selected.*



► **To change the text tone using the tool bar:**

1. Select the text that you want to change.
2. Choose the text tone from the Character menu.
3. Click on a tone choice and click on Apply.

Text tone is only available on color Ensemble models.

Setting up the Page

Setting margins and indentation

You can set both margins and indentations two ways: using the small triangles below the ruler, or selecting Margins from the Line menu.

► **To set margins and indents:**

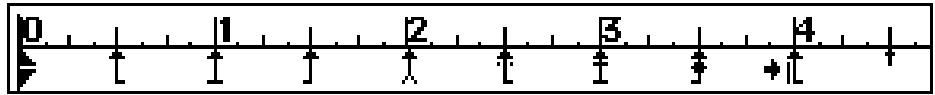
1. With the mouse, move the two small black triangles on the left side of the ruler to the point where you would like the left margin to be.
2. With the mouse, move the triangle on the right side of the ruler to the point where you would like the right margin to be.

OR

1. Under the Line menu, choose Margins. *A dialog box appears.*
2. In the box to the right of Left Indent of First Line, enter the number on the ruler where you would like the first line indent to be and click on Apply. *The top triangle at the left margin moves to the place you set.*
3. Click on Close to close the dialog box.

Setting tabs

Automatic tabs are placed every 1/2 inch, and you can add your own by clicking on the ruler. You can use a tab to set an indentation for the first line of a paragraph. You can set left-aligned tabs, right-aligned tabs, decimal tabs, custom positions, and tab leaders (dotted lines often used between tabbed items).



► **To create tabs:**

1. Click on the ruler. *The tab marker appears where you clicked. The automatic tab markers disappear to the left of the new tab marker.*
2. If the tab marker is not exactly where you want it on the ruler, drag the marker to the location you want.
3. Continue clicking and dragging until you have placed all the tab markers you need.
4. When you press **TAB** while entering text in the specified paragraphs, the text aligns under the tab marker(s).

► **To clear a tab:**

Drag the tab marker off the ruler to remove it. *The automatic tabs reappear to the left of the removed tabs.*

Using the ruler

When you open a new document, the margins are set for a 6½" text area and the tab stops are 1/2 inch apart. You can use the ruler to change right and left indentations and to insert different tabs.

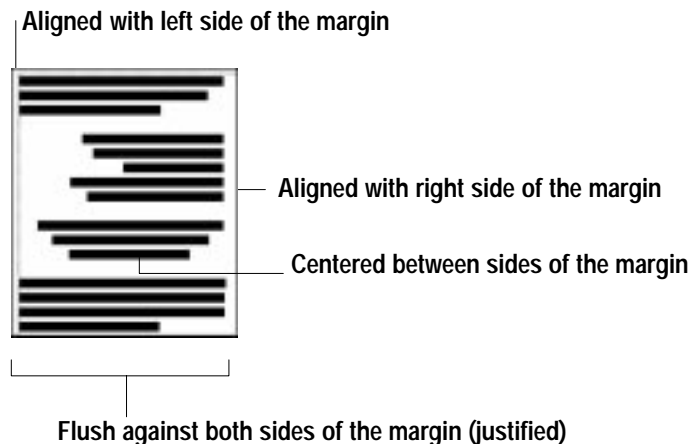
The indentations and tabs you see on the ruler affect the input line only. You cannot change indentations and tabs for text already in the input area.

Aligning text

NOTE: *Justification only works if you use automatic carriage return. If you press **ENTER** to input the line, it accepts the line as is and does not justify it.*

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

For example, when text is left-aligned, the rows of text line up along the left margin (excluding specified indentation) and the right ends of the lines are ragged.



This table shows shortcut methods for aligning text. Select the text first.

ALIGNMENT	
Left	CODE + L
Center	CODE + E
Right	CODE + R
Justified	CODE + J

► **To change text alignment:**

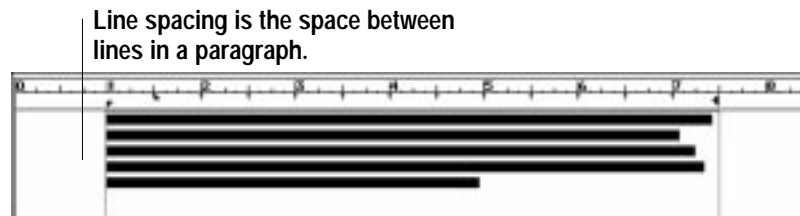
1. Select the text or move the insertion point into the paragraph you want to align.
2. Choose Alignment from the Line menu. *A submenu appears.*
3. Select the alignment you want (Left, Center, Right, or Justified).

OR

Select the text and use one of the key combinations shown at the left. You may justify only if you select automatic carriage return (word wrap).

Changing line spacing

Line spacing is the spacing between lines in a paragraph, or *leading*.



You may want to add more space between the lines of text in a paragraph. You can choose from the following line spacing:

- **Single.** This is considered normal spacing. There is no extra line space between each row of text.
- **One and a Half.** There is a half line space between each row of text.
- **Double.** There is a whole line space between each row of text.
- **Triple.** There are two whole line spaces between each row of text.

► **To specify line spacing:**

1. Choose Line Spacing from the Line menu. *A submenu appears.*
2. Select one of the following line spacing options from the submenu:
 - Single
 - One and a Half
 - Double
 - Triple

11 Book Reader

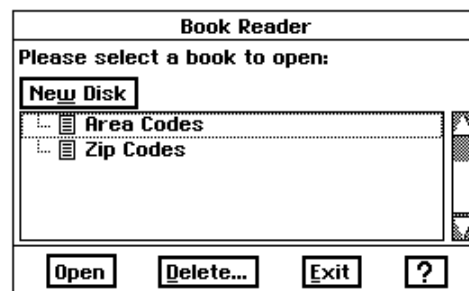
With Book Reader, you can open “books” on diskette to find information quickly. Your Ensemble Personal Publishing System comes with directories of zip codes and area codes on diskette. You can use Book Reader to access this diskette as well as others available from Brother.

a pb pro and *co po* are features that allow you to skip around in the book to just the part you want to read.

When you open a book on diskette, you will be able to scroll through it, much like you would when reading an actual book. Plus, you will be able to jump from topic to topic by using a “**hyperlink**,” a highlighted word that takes you to a new topic.

► **To open a book:**

1. Insert Diskette 1 (the diskette containing your books).
2. Open Book Reader by clicking on its icon on 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 displayed. *When you open a book, you will be given a set of tools to use with it. The tools are displayed as icons along the bottom of the screen. The tools are as follows:*

Back. This tool is used when you are using a hyperlink to jump to information in different parts of the book. Back takes you back to the previous page that you “hyperlinked.” If Book Reader is displaying the first page, the Back tool will not be usable.

Begin. This tool brings up the Table of Contents, or if there is not one, the first page of the book.

Revisit. This tool shows you a dialog box with a list of pages you have looked at.

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 will not be active.

Send. This tool shows a dialog box that gives you the options of sending selected text to the clipboard for use in other documents or sending selected text to the printer.

Find. This tool brings up a dialog box that gives you options about the information you want to find and how you want to find it.

► **To close a book:**

Choose Exit from the Book menu. Select Exit from Book menu if you wish to leave the application.

Using Information and Text

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 personal desk guidebook you are creating in Word Processing. Or, if you have a dictionary or encyclopedia on diskette, you can copy information into a report and use it as a quote.

► **To “read” a book:**

Use the scrollbars on the right side to go up and down the page.

OR

Click on the Turn Page icon at the bottom of the screen.

OR

Jump from hyperlink to hyperlink by clicking on underlined words or hotspots.

OR

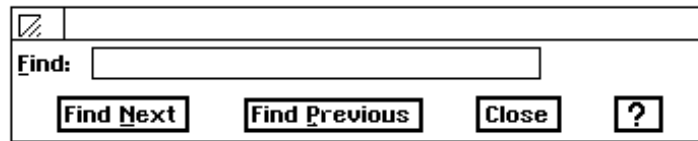
Click on the Begin icon at the bottom of the screen. *If the book has a Table of Contents page, Book Reader shows it to you. If it does not have a Table of Contents page, the first page of the book appears.*

OR

To go back to the previous page, select Back.

► **To find information in a book:**

1. Click on the Find icon at the bottom of the screen. *The Find dialog box appears:*



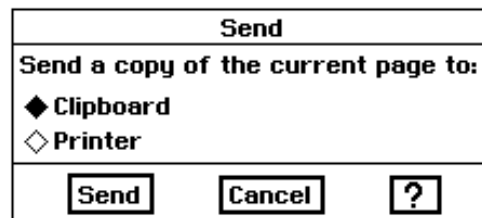
2. Click on Find Next, Find Previous, Close, or Help.

► **To find information with hyperlinks or hot spots:**

1. Move the cursor until a text hyperlink (hotspot) is located. *These can exist anywhere. When the cursor moves over one, the cursor changes to a cursor question mark.*
2. Click on the spot. *The area flashes, then Book Reader jumps to the information on that topic.*

► **To copy text or other content from the book:**

1. Select the content you wish to copy by holding the left mouse button down and dragging the cursor over the text. *The cursor should become the I-beam pointer.*
2. Click on the Send icon at the bottom of the screen. *The Send dialog box appears:*



3. Click on Clipboard or Printer, then click on Send.

► **To go back to the last page you have seen:**

Select Back. *The last page you "read" appears.*

Printing from Book Reader

This option is in the Send dialog box. The options are sending selected text to the Clipboard or Printer. Selecting the print option prints the selected text or the current page if no text is selected.

► ***To print selected text from a book:***

1. Select the content you wish 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.

12 Desktop Reference

With Desktop Reference, you can check spelling, find synonyms, check hyphenation, and jumble letter order to create new words (very handy in word games). You can also personalize your dictionary to include a User Dictionary containing words or abbreviations that you use frequently that would not be entries in a standard dictionary, such as the name of your company.

Check Spelling

If the word does not appear in the dictionary, the Suggestions box is displayed.

► **To check spelling, hyphenation & definition:**

1. Click on the Desktop Reference icon on the Main Menu. *The Desktop Reference application window appears.*
2. Enter the word in the Word box.
3. Press **ENTER** or click on the Lookup icon on the tool bar. *If the word is spelled correctly, Desktop Reference shows you proper hyphenation and gives you meanings with parts of speech. If the word is not in the dictionary, the Suggestions box appears.* When you select a word from Suggestions, the new word is looked up automatically.
4. If the word has several meanings, you can use the scroll bars on the right of the Meaning(s) dialog box to see all of the meanings.
5. If the definition will not fit onto one line, you can see the complete meaning by selecting the meaning that you want to see. *The full meaning appears in the Full Meaning box.*

Find Synonyms

► **To find synonyms:**

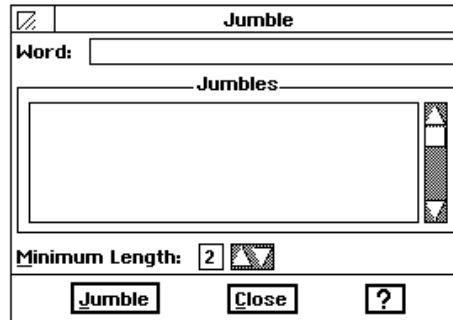
1. Enter the word that you want to find synonyms for in the Word box.
2. Press **ENTER** or click on the Lookup icon. Look under the Full Meaning box to see a list of synonyms in the Synonym box at the bottom.
3. Select the appropriate sense (definition) of the word from the Meaning(s) box.
4. Look in the Synonyms box at the bottom of the screen to see a list of synonyms.
5. If you want to see hyphenation or definitions for one of the synonyms click on the button by the word.

► **To view the last words that you looked up:**

Click on History in the Menu bar. *The last ten words that you looked up and found are listed with the most recent at the top.*

► **To jumble a word:**

1. Select Jumble from the Utilities menu or click on the Jumble icon. *The following dialog box appears:*



2. Change Minimum Length of word so more words can be found.
3. Click on the Jumble button. *The word in the Word box is "jumbled" to create new words.*

Editing the User Dictionary

For example, you may not want your name or the name of your company to be considered misspelled even though it is a term that would not be listed in any dictionary. With the User Dictionary, you can personalize the standard dictionary by adding these words so that they are ignored during Spell Check.

Clearing the New Word Field does not delete words from the User Dictionary.

The User Dictionary allows you to enter words into the system's dictionary so that these words will not be perceived as misspelled by the operating system. This can save you a lot of time when you check your spelling.

► **To add a word to the User Dictionary:**

1. Load the diskette that is holding the User Dictionary into the drive.
2. Under the Edit menu, select User Dictionary. *The User Dictionary dialog box appears.*
3. Press **BACKSPACE** to clear the New Word field, and enter the new word you want to become a part of the dictionary. Click on Add New Word; then click on Close. *Your new word is now stored in the user dictionary.*

► **To delete a word from the User Dictionary:**

1. Under the Edit menu, select User Dictionary. *The User Dictionary dialog box appears.*
2. Scroll in the Words in User Dictionary box until you find the word you wish to delete.
3. With the word selected, click on the Delete Selected Word button or press **MENU + D**; then click on Close.

13 Text File Editor

Text File Editor is a simple editing program that allows you to read, write, and edit DOS text files which are stored in ASCII text.

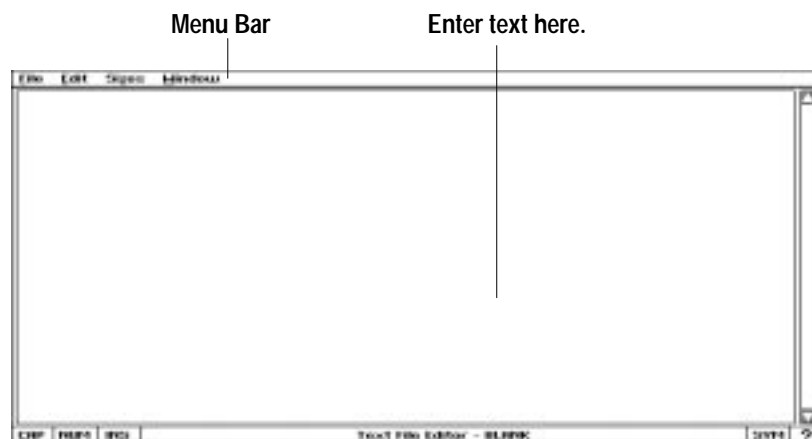
DOS is Disk Operating System.

Text File Editor is not a full-featured word processing program, but a program you may want to use to write notes that can be read by people who are not using Ensemble applications, since almost every word processing application can open ASCII text files. *akbcc o pros* contain plain text without special formatting like boldfacing, adjustable tabs, and page breaks. You can also export from Word Processing to ASCII text files.



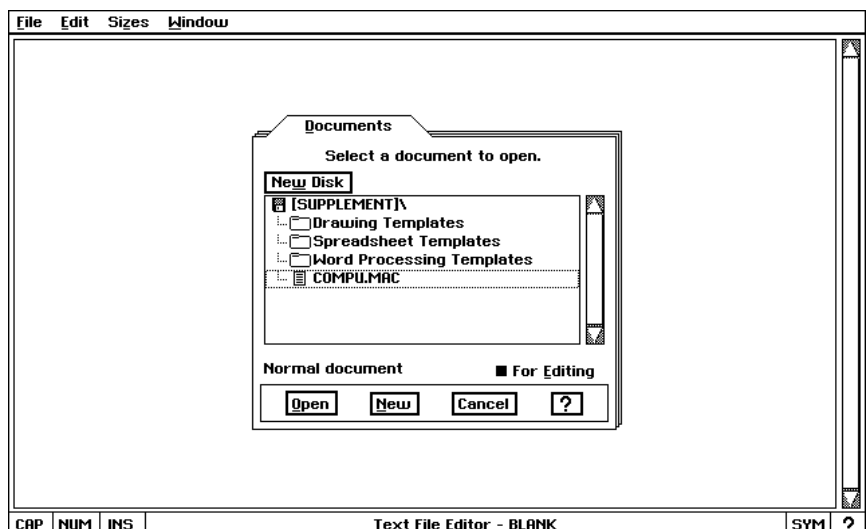
► To start Text File Editor:

1. Insert Diskette 2.
2. From the Main Menu, click on the File Manager icon.
3. Click on the Text File Editor icon. *A new document appears:*



4. To create a new document or open a document, choose New/Open from the File menu. *The New/Open dialog box appears:*

If you click on the New button, a document named "Blank" (plus an optional number if there is already a blank document) appears in the document window. You enter and edit text in the document window, which has its own title bar and window control button inside the Text File Editor window.



What Text File Editor Can Do

To find out how to do the functions in the list on the right, see Chapter 2, "Word Processing." These operations work just like Word Processing.

- Edit using **CUT, COPY, PASTE, DELETE**
- Create and save a document
- Copy, rename, or backup a file
- Undo your latest change
- Check spelling
- Search and Replace
- Use Wild Cards and Special Characters
- Print

What Text File Editor Cannot Do

If you need to use any of these features, you will need to create your document in Word Processing rather than Text File Editor. See Chapter 2, "Word Processing."

- Adjust left and right margins
- Adjust tab stops
- Change text styles and fonts
- Vary alignment
- Modify line spacing
- Create page breaks
- Adjust rulers
- 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. This keeps the lines and sentences together in the same paragraph. 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

Text File Editor displays all the text in a document at the same size. If you choose 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.

You can change the size of the text displayed in any Text File Editor document. You can make the text larger to reduce eye strain. Text File Editor provides three sizes of text:

- 9 point
- 12 point
- 14 point

► **To change the text size:**

Choose a new size from the Sizes menu. *All text in the document changes to the new size.*

Printing a DOS Text File

In Text File Editor, you choose Print from the File menu to print a document, just as you would in any Ensemble application. However, you should be aware of 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 size of printed text may be different from the size of the text shown in the Text File Editor window. Regardless of the text size you choose from the Sizes menu, Text File Editor *always* prints in a uniform size.

For more information about printing in Ensemble applications, see Chapter 1, "Getting Started."

Naming a DOS Text File



DOS File Names. All documents you create with Text File Editor are DOS text files. Therefore, when you save them, you must give them names that follow the DOS rules for naming files. DOS file names can be up to eight characters long, optionally followed by a period and three more characters. You may want to use "TXT" following the period to indicate your file is a text file. You cannot include spaces in a DOS file name. For more information about DOS file names, see Chapter 1.

14 Games

Ensemble has two games: Turnabout, a game of strategy, and Solitaire, a popular international card game for one player. Turnabout is built into your Personal Desktop Publisher and it is always available from the Main Menu. Solitaire is found on Diskette 2.

Turnabout

Turnabout is a strategy game where you try to gain control of the board by capturing your opponent's pieces. The game ends when no one can make any more moves. The person with the most pieces on the board wins.

Capturing Pieces

The captures are done by placing your pieces on both sides of a single piece or at both ends of a row of your opponent's pieces. When you capture a piece or a row of pieces, they change to become your pieces. You may have to capture the same piece more than once in the course of the game. Captures can occur in any direction: vertically, horizontally, or diagonally.

Sequence of Play

You can play Turnabout against either another person or against the system. Either way, the game play sequence is the same:

► To play Turnabout:

1. Click on the New Game icon or select Start New Game from the Game menu. *You are shown a game board with four pieces in the center four squares of the board.*
2. Move the pointer to the square where you want to put your next piece. Remember, this move must result in the capture of an enemy piece.
3. Click the mouse. *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.*
4. The system then places its next piece.
Watch the board carefully because the action moves very quickly.
5. It is your turn again to place your next piece.

Play continues until no more of the pieces can be captured. Ensemble 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.

If you are not sure where to make your next move, try selecting the Hint command found in the Game menu. Ensemble will show you the best move to make.

Setting User Options

The commands found in the Options menu help you tailor Turnabout to your personal tastes.

- **Two Players.** Select Two Players if you want to play Turnabout against another person. You need to select Start New Game to begin play after adjusting this setting.
- **Play First.** Select Play First if you are playing against the system and you want to make the first move in the game. You need to select Start New Game to begin play after adjusting this setting.
- **Play Second.** Select Play Second if you are playing against the system and you do not want to make the first move. You need to select Start New Game to begin play after adjusting this setting.
- **Machine vs. Machine.** Select Machine vs. Machine if you want to watch the system play Turnabout by itself. To stop the game: select any of the other player options (Two player, Play First, etc.). Selecting Machine vs. Machine automatically starts a new game.
- **Obstacles.** Select Obstacles to put barriers in some of the squares on the playing board. This makes the game more challenging. Selecting Obstacles automatically starts a new game.
- **Board Size.** Select Board Size to change the size of the playing board. The size ranges from a 6 × 6 square grid to an 18 × 18 square grid. The larger board sizes make the play more challenging. Selecting Board Size automatically 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!

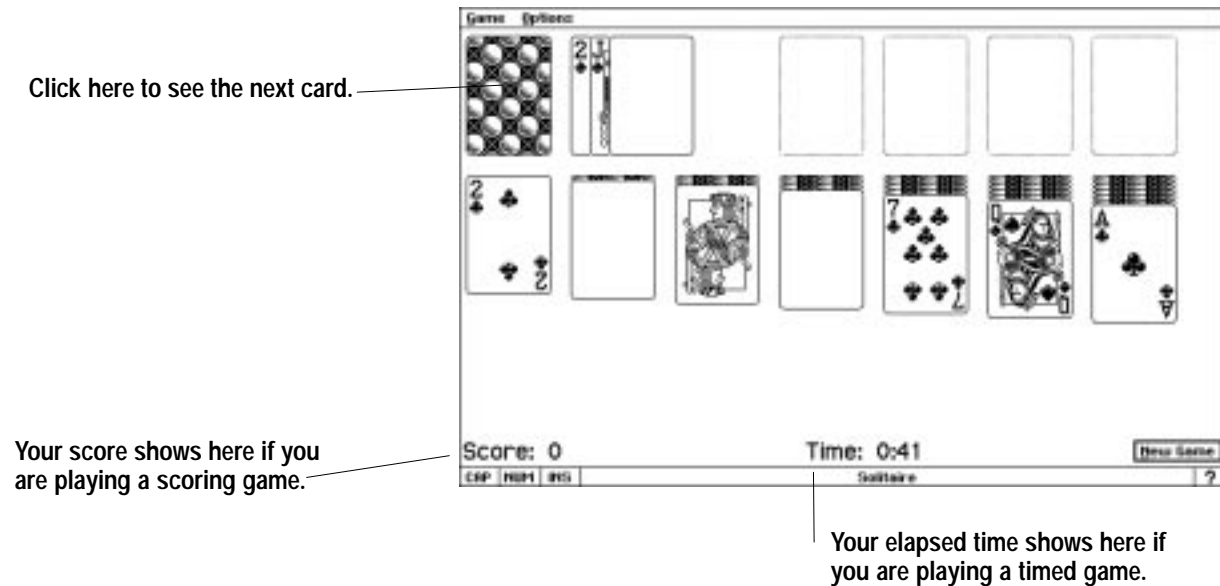


Solitaire

Solitaire has three playing levels. For more information about the playing levels in this game, see “Setting the Playing Level” later in this chapter. For the rules of Solitaire, see any standard book on card games, or try playing Solitaire at the beginner level.

Starting Solitaire

1. Insert Diskette 2 into the disk drive.
2. Click on the File Manager icon on the Main Menu.
3. Locate the Solitaire icon and double-click on it. *The Solitaire window appears:*



4. To start the game, drag any card to a new location.
OR
Click the deck to see a new card.

Playing the Game

You drag cards to move them from stack to stack, and you click on face-down cards to flip them over. For more information about clicking and dragging, see "Getting Started."

► To start a new game:

You can deal the deck of cards again at any time. When you deal again, you start a new game.

Choose Re-Deal from the Game menu or click on the New Game button in the lower right-hand corner.

► To move a card to a new location:

Double-click a card in one of the seven lower stacks to send it to one of the four upper stacks—that is, if it is a legal move.

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 how you set your options.*

► **To undo a mistake:**

Choose Undo from the Game menu. *The card returns to its original location.*

Automatically Finishing a Game

You win a Solitaire game when you have flipped over all of the face-down cards, and you have played all of the cards in the deck. When this happens, the Auto Finish button changes from gray to black. At this point, you can manually move all the cards into the upper four piles, or you can simply click on the Auto Finish button. All of the cards in the lower stacks automatically move to the four upper stacks.

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 playing 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 and no cheating.

► **To change the playing level:**

Choose Level of Play from the Options menu, and 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:

<i>If you . . .</i>	<i>You get . . .</i>
Let ten 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.** In this scoring option, 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.** In this scoring option, you play against the clock. Your goal is to score as many points as possible in seven 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 “Changing Other Options” later in this chapter.
- **No Scoring.** In this scoring option, you simply 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. Choose Scoring from the Options menu. *A submenu appears.*
2. Select a choice 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 319.

► To change the number of cards drawn:

1. Choose Draw How Many Cards? from the Options menu. *A submenu appears.*
2. Select a choice 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:

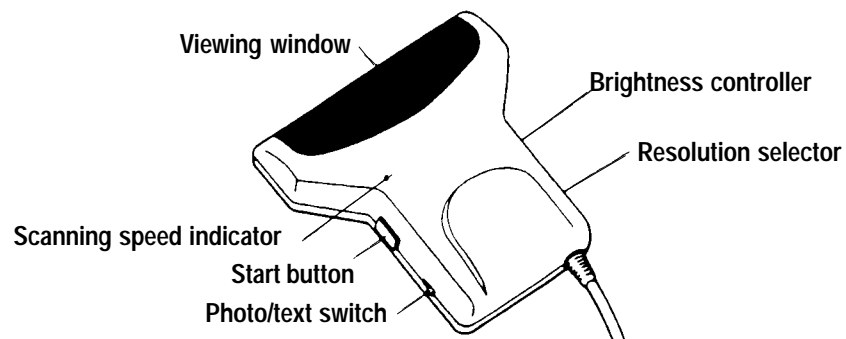
<i>If you choose. . .</i>	<i>It will . . .</i>
Change Card Backs	Open a dialog box where you can choose different artwork for the backs of the playing cards.
Set Countdown Time	Open a dialog box that lets you specify the number of minutes and seconds allowed for Countdown scoring.
Outline Dragging	Show only the outline of the card as you drag it.
Full Card Dragging	Show the full card as you drag it.
Fade Cards	Fade the cards 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.

15 Scanner

The **SC-700 Image Scanner** is used to put text and images into the Scrapbook or directly into artwork that you create in Drawing or Word Processing. A wide variety of material can be scanned: photographs, maps, graphs, magazine text, documents, drawings, cartoons, and line art.

Color as well as black and white images can be scanned, but the final result will only be in black and white. Using Drawing, you can edit, print, and save the image before inserting it into a document.

Parts of the Scanner



Hold the scanner with your palm on the top center for best control. If you are right-handed, your thumb should be placed over the start button. If you are left-handed, hold your middle finger over the start button.

If the scanner is not moved for 10 seconds or longer, it goes into a "time out" mode. To restart it, select Scan from the File menu, and try the operation again.

- ▶ **Photo/text switch:** This switch has four settings. The left-hand setting is for text or clearly defined images without shading and no need for detail. The right-hand setting is for images with various shades and many details such as photographs. The other two settings are to provide intermediate results. Experiment to find the optimal setting and to achieve desired results. The words TEXT and PHOTO are used to help you to remember which end is which.
- ▶ **Viewing window:** The viewing window is located at the leading edge of the scanner. It can be used to see the work you are scanning when the scanning light is on. Use the window as a guide to align and position the scanner over the image.
- ▶ **Scanning speed indicator:** This acts as a warning signal that you are scanning too fast. When the scanner is in normal operation, the light will be off. As you approach the maximum scanning speed, the light will blink. If you are scanning an image too fast, the light will come on and the image will not be scanned.

The dpi setting you can use depends on available memory at the time of the scan. The higher the dpi, the more memory the scan will require.

- ▶ **Resolution selector:** This selector allows you to select the dots per square inch (dpi) of the scanned image between 100–400 dpi. The higher the resolution, the clearer the image will be. (The higher the dpi, the smaller the image.)

Maximum image size per dpi setting:

At 400 dpi about 4" x 0.4"

At 300 dpi about 4" x 0.7"

At 200 dpi about 4" x 1.6"

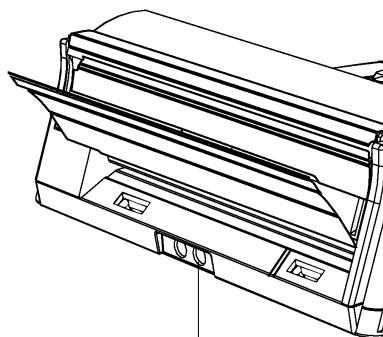
At 100 dpi about 4" x 6.4"

- ▶ **Brightness controller:** This control lets you adjust the contrast (brightness or darkness) of the scanned image. Rotating the wheel toward the DARK setting yields a darker image, with less visible detail. Rotating the wheel toward LIGHT produces a lighter image with more visible detail. The light and dark settings can enhance an original image by either bringing out more detail, or eliminating shadows and splotches. Again, experimentation yields the best results.

Using the Scanner

► To copy an image with the scanner:

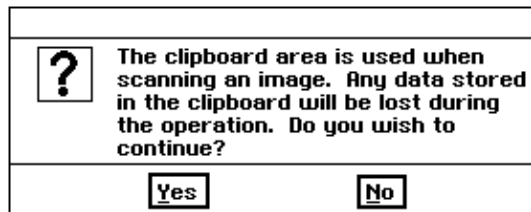
1. Connect the scanner to Ensemble.



Insert scanner connector.

2. From the Main Menu select the program where you want to place the image. You can select Drawing, Word Processing, or Scrapbook (if placing the image in Word Processing).
3. Place the image face up on a flat surface, and position the scanner on the image.
4. Select Scan from the File menu. *The following message appears:*

One minute is the maximum reading time.



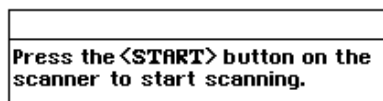
Scanning Hints:

Scanning in a smooth, straight line yields a smoother image. Jerky hand motions, or slipping from side-to-side results in a jagged, wavy, or slanted image.

Using a ruler or straight edged object may help in scanning straight.

An image with many shades, or scanned at high resolution has less distortion if scanned slowly. If you scan too fast, the indicator lights, the warning tone sounds, and the scanned image is stretched or compressed.

5. Click on Yes, and the following message appears:



6. Immediately, press the start button once and release. See page 321 for the location of the start button.
7. Begin scanning at one edge of the image or text, and move the scanner over it to the end of your image. Scan smoothly and in a straight line. *The light underneath the scanner comes on while scanning. If the scanner does not move for ten seconds, Ensemble cancels the scan.*
8. When you finish scanning the image, the light underneath the scanner goes off. *When printed, the image appears more clear than when viewed on your monitor. (The ink-jet printer prints the scanned image at a higher resolution than the monitor displays the scanned image.)*
9. If the image does not appear, repeat the instructions.

What to do if an error occurs. . .

Error Condition	Message	Solution
Scanner is unplugged.	The scanner is not responding. Check the scanner connection at the back of the machine and try the operation again.	Check the scanner connection at the back of the machine. Try the operation again.
There is not enough memory.	There is not enough memory to scan. Close some applications or documents and try the operation again.	Close applications or documents. Try the operation again.
Scan is canceled.	The scanner is not responding. Check the scanner connection at the back of the machine and try the operation again.	Try the operation again. Keep the scanner moving.

16 Using a Modem

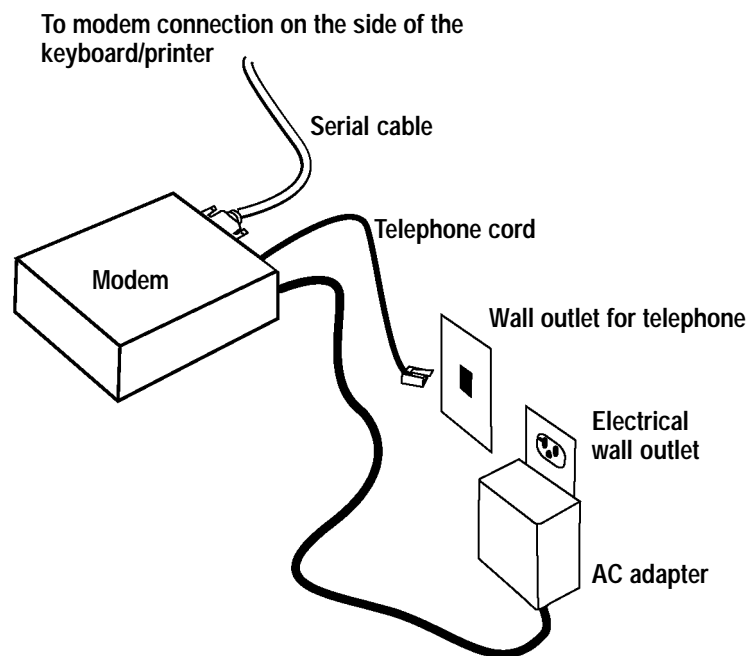
You can use Ensemble to send faxes and to send information to and receive information from a computer. With the optional fax modem, you can send your document as a fax. (You cannot receive a fax.) With the fax modem, you can also reach information services to get the latest news, stock quotes, Hollywood gossip, and other information.

The optional data modem for Ensemble allows you to send or receive a message or document. You can also reach information services for news, stock quotes, E-mail, or Hollywood gossip.

Connecting a Modem

The FX-700 Fax Modem and MO-700 Data Modem are shipped with the following parts:

- ▶ FX-700 or MO-700 unit
- ▶ Serial cable
- ▶ Telephone cord
- ▶ AC adapter
- ▶ Modem user's manual



► **To connect the modem:**

1. Turn off Ensemble.
2. Make sure that the power switch is off on the modem. (The switch is on the back of the modem.)
3. Plug the small end of the AC adapter into the power jack at the back of the modem, and plug the AC adapter into a AC wall socket.
4. Disconnect your phone cord from the wall jack.
5. Plug one end of the phone cord that came with the modem into the wall jack, and the other end into the phone jack marked WALL at the back of the modem. If you have a data modem, insert the other end of the phone cord into LINE.
6. Plug the telephone cord into the other jack at the back of the modem labeled PHONE.
7. Connect the modem to Ensemble's modem connection port with the serial cable provided.
8. Turn the modem on. *You are ready to use the modem.*

Modem lights

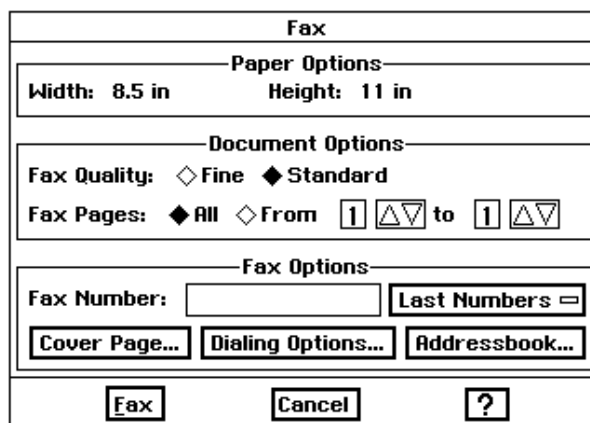
On the front of your fax modem are 8 lights. Each light is described below:

HS (High Speed)	Lights when the fax modem is operating at 2400 bps or faster.
AA (Auto-Answer)	If AA lights up, you can answer incoming calls.
CD (Carrier Detect)	Lights when Ensemble connects to a fax machine.
OH (Off Hook)	Lights when modem has picked up the phone. Do not pick up the phone.
RD (Receive Data)	Lights when information is sent from another modem to your modem.
SD (Send Data)	Lights when information or fax is sent to another modem.
TR (Terminal Ready)	Lights when Ensemble is ready to send information.
MR (Modem Ready)	Lights when the fax modem is turned on.

Sending a Fax (FX-700 Fax Modem Only)

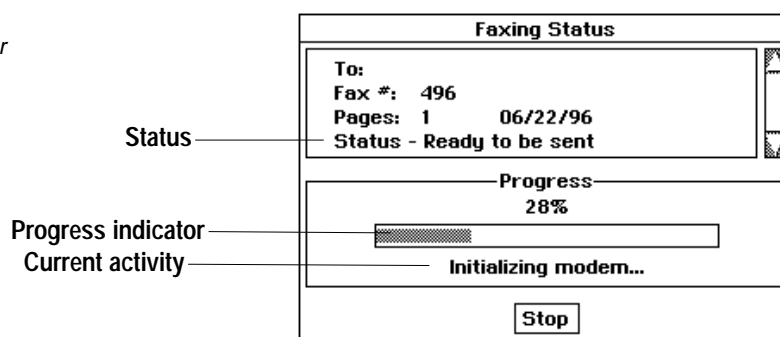
► To send a fax:

1. Insert a blank formatted diskette.
2. Create a document in Word Processing, Spreadsheet, Drawing, Addressbook, Text File Editor, or Planner.
3. Select Save from the File menu.
4. Name your document.
5. Click on Save.
6. Select Fax from the File menu. *The following dialog box appears:*



7. Make your selections in the Fax dialog box. See the following section, "Fax Dialog Box Selections."
8. After you make all your selections, click on Fax. *The message "Preparing to Send FAX" appears, and then is followed by:*

While faxing, you will not be able to perform other functions on Ensemble. You must wait until the fax is sent. Also, do not turn Ensemble off while faxing, or your fax will not be sent.



If you click on Stop while faxing, to start faxing again you must turn the switch off on the back of the modem, then turn it back on.

- **To/Fax#/Pages/Date.** Shows you which fax is being sent.
- **Status.** The table on page 332 shows errors in sending your fax which appear in the status line.
- **Progress Indicator.** The thermometer indicator shows the progress of the fax. For example, if the fax has 10 pages, including the cover page, the indicator moves 1/10th of the way for each page.
- **Current activity.** Current activity follows this order: "Initializing," "Dialing," and finally "Sending cover page" or "Sending page x."
- **Stop.** Click on Stop if you do not want to send the fax.

Fax Dialog Box Selections

Fax paper options

Fax machines with paper narrower than 8.5" (such as A4) usually crop the edges of the image. If you know that the receiver of your fax is using narrow paper, you might change the margins on the pages you are sending to eliminate cropping of image.

Width and Height. Paper size prints 8.5" by 11." You cannot change the size of the paper. If you fax a document larger than 8.5" x 11", the following message appears: **The document page size is too large for the selected paper. Do you want to scale the document or leave it actual size and have it faxed on multiple sheets of paper?** Select Scale to Fit to reduce the text to fit a 8.5" x 11" page. Select Leave Actual Size to print your fax on several pages. If you fax a document smaller than 8.5" x 11", Ensemble centers the text on the fax.

Document options

Fax Quality. Choose Fine or Standard. Standard is adequate for most machines. To print with greater clarity choose Fine.

Fax Pages. Select All or From/to. If you select From/to, click on the arrows to select the page numbers to fax.

Fax settings

These restrictions on the way you type in the fax number also apply when you type in your phone and fax number in the Sender Information dialog box.

Fax Number. Enter the fax number. You can enter a maximum of 20 characters. The following characters are accepted by Ensemble:

- ▶ Digits 0-9, *, and #
- ▶ Space
- ▶ Comma. A comma briefly pauses the dialing. Use a comma when you dial 9 or another number for an outside line. Type a comma after the nine (9, 555-5578).
- ▶ Hyphen -
- ▶ Period. You can use a period when dialing Europe (011.XX.YYY---YY): 011 (international access); XX (country code); Y (fax number).
- ▶ Parentheses ()

Last Numbers. This pop-down list shows the last ten numbers faxed.

Cover Page. Click here to include a cover page or sender information for the fax. Sender information puts your name, company, and fax number on the cover page and in the fax. See the next section "Using a Cover Page" for information on creating a cover page. See page 331 for information on Sender Information.

Addressbook. You can automatically enter a name and fax number from Addressbook.

► **To select a name and fax number from an Addressbook:**

1. Insert the diskette that contains the name and fax number you wish to use.
2. Click on Addressbook in the Fax dialog box. *The Addressbook dialog box appears.*
3. Select a name and fax number.

OR

Click on Change Addressbook to see names and fax numbers from another Addressbook file.

4. Click on OK. *The person's fax number appears in FaxNumber on the Fax dialog box. The name goes into the "TO" space on the cover page, even if you are not sending a cover page. Fax numbers show only the first 20 characters.*

Dialing Options. Click here to dial a number for an outside line, call long distance, or enter a calling card number. Select one, two, or all boxes. Ensemble dials what you select.

- **Access.** Click in the check box if you have an outside line or call waiting. Click on Access. A menu appears. Select 1170 to stop call waiting. You should stop call waiting while you fax. You can type a 9 or 8 (for an outside line) or 1170.
- **Long Distance.** This is the number to reach AT&T, Sprint, MCI, or any other long distance provider. You can type in the number or click on Long Distance to select the number. The pop-up menu has codes for you: 18003210288 for AT&T, 18008778000 for Sprint, or 18009501022 for MCI.
- **Billing Card.** Click in the check box if you are using a calling card. Enter your calling card number.

Print Options. Spreadsheet lets you select a range of cells to print. Also, you can select one, two, or all boxes to print the spreadsheet, graphics, or cell notes.

Using a Cover Page

To send a cover sheet for your fax, you must use this cover sheet.

The Ensemble cover page is shown below:

6/12/96 7:35 AM	PAGE: 1
FAX	
To: Subject: From: Company: VoiceNumber: FaxNumber: # Pages (including cover sheet):	
Message:	

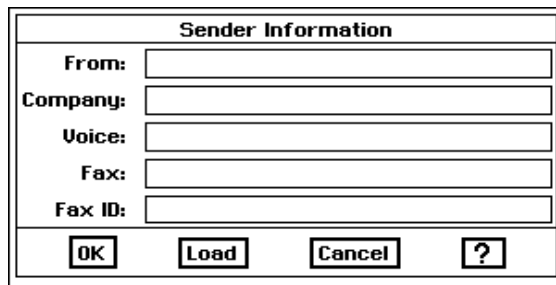
When you click on Cover Page, the following dialog box appears:

Cover Page	
Attach Cover Page: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
To:	<input type="text"/>
From:	<input type="text"/> <input type="button" value="Sender Information..."/>
Subject:	<input type="text"/>
Message:	<input type="text"/>
<input type="button" value="OK"/>	<input type="button" value="Clear"/> <input <="" td="" type="button" value="?"/>

- ▶ **Attach Cover Page.** Click here to include a cover page with your fax.
- ▶ **To.** Enter a name up to 50 characters. If you choose a name from Addressbook, that name appears here.
- ▶ **From.** Click on Sender Information to enter your name. See below for information on Sender Information.
- ▶ **Subject.** Describe the subject of your fax. Enter up to 50 characters.
- ▶ **Message.** Enter up to 500 characters. The Message appears on the cover page.
- ▶ **OK.** Applies changes.
- ▶ **Clear.** Clears what you enter in To, Subject, and Message.

Sender Information

If you already have the Sender Information on diskette, insert the diskette. Click on Sender Information, and the following dialog box appears:



The dialog box is titled "Sender Information" and contains five input fields: "From:", "Company:", "Voice:", "Fax:", and "Fax ID:". At the bottom of the dialog box are four buttons: "OK", "Load", "Cancel", and "?".



CAUTION:

United States law requires that the time and date of sending, your name or company or organization name, and the your phone or fax number appear on at least the first page of any fax sent in the United States. Therefore, fill in the Sender Information dialog box.

If you have the information on diskette, click on Load. The sender information appears on the screen above.

The first time you want your name, company, and fax number on the cover page and in the fax (Sender Information), you must enter the information into the dialog box. Enter the information below. The information is saved on diskette when you send a fax.

From. Enter your name up to 50 characters. Your name appears on the cover page, if one is attached.

Company. Enter the name of your company up to 50 characters. Your company appears on the cover page, if one is attached.

Voice Phone and Fax Phone. Enter your phone number and fax number up to 20 characters each. Your phone number and fax number appear on the cover page. In addition, your fax number appears on the top of every page of the fax unless you leave it blank, in which case, your phone number appears instead. If both are blank, no number appears.

When you enter your phone number and fax number, only the following characters are accepted:

- ▶ Digits 0-9, *, and #
- ▶ Space
- ▶ Comma. A comma briefly pauses the dialing sequence. Use a comma when you dial 9 or another number to reach an outside line. Type a comma after the nine (9, 384-5578).
- ▶ Hyphen -
- ▶ Period. Use a period when dialing Europe (011.XX.YYY---YY): 011 (international access); XX (country code); Y (fax number).
- ▶ Parentheses ()

Fax ID. You should enter your name or organization in this space. Enter up to 20 characters. Your name or organization appears on the top of each page in the fax. (*You could enter the same information in Company and Fax ID.*)

OK. Applies changes.

Load. Puts sender information from diskette to the Sender Information dialog box.

Cancel. Erases changes.

Fax Errors

On Screen Messages	Solution
Busy signal	The fax number you are sending to is busy. Try again.
No answer from dialed phone number	Tell person to turn fax machine on.
Document is corrupted	Retype document. Send document again.
Answered by non-fax device	Check fax number and try again.
Transmission stopped by the user	You stopped the fax. Try again.
Error from modem	Check settings and send fax again.
Unexpected modem response	Check settings and send fax again.
Modem not class 2	Modem you are sending to is wrong type.
Could not send page	Document is too large. Shorten document.
Timeout: the fax modem is not responding	You did not type a comma after the 9 to dial out.
Could not open serial port	Check connection to keyboard/printer.
Out of heap space	Shorten document.
Could not contact Fax spooler	Try to fax again.

Sending and Receiving Information

(FX-700 and MO-700 Modems)

If you purchased the data modem (MO-700) or fax modem (FX-700), you can communicate with computers, other wordprocessors, online services, bulletin board systems, and mainframe computers at colleges and corporations that also have a modem. You can also share information with other computer users, from friends and colleagues to users on world-wide computer networks.

This section describes how to do the following:

- ▶ Get started using Communication.
- ▶ Dial phone numbers.
- ▶ Establish various modem, terminal, and window settings.
- ▶ Use scripts to automate tasks.
- ▶ Perform various interactions with computers, word processors, and online services.

Calling the other person before you start

Some settings on Ensemble must match the settings of the other computer or word processors. Before you begin, call the person you will communicate with by modem, and find out the following information:

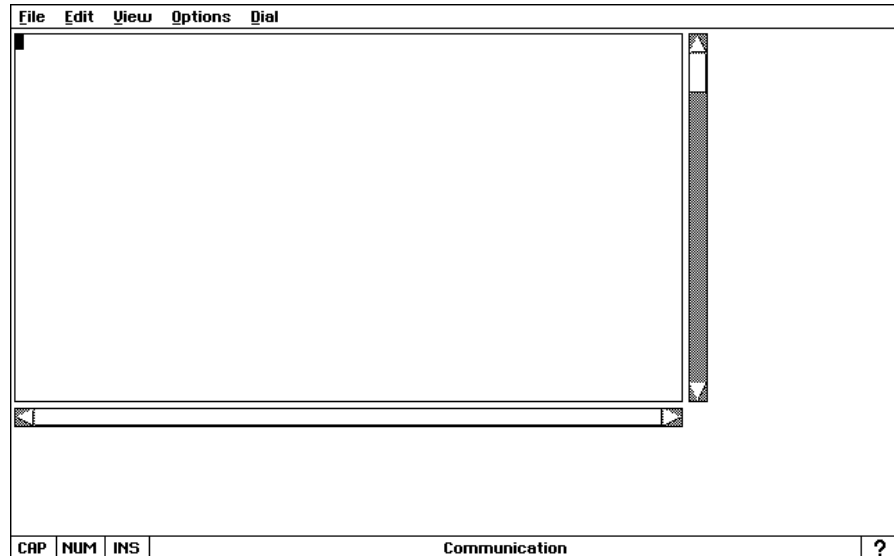
For information on protocol settings, see page 336.

- ▶ Protocol settings on receiver's computer:
 - Word Length or data bits
 - Stop bits
 - Parity
- ▶ Type of terminal the other person selects on his or her computer. For information on terminal settings, see page 337.
- ▶ Phone number of phone connected to his or her modem.

Starting Communication

► To start Communication:

1. Insert Diskette 2.
2. Click on the File Manager icon on the Main Menu.
3. Double-click on the Communication icon. *The following Communication window appears:*

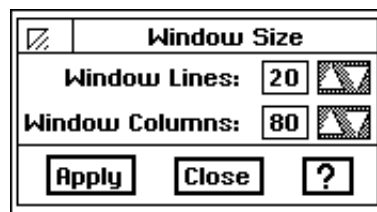


Changing window settings

You can control the size of the Communication window to show as much or as little information at a time as you want.

► To change the window size:

1. Choose Window Size from the View menu. *The dialog box below appears.*



2. Fill in the dialog box changing the options you want:
 - **Window Lines.** Window Lines sets the number of lines your computer screen shows in the window. Choose any number from 1 to 20.
 - **Window Columns.** Window Columns sets the number of columns your computer screen shows. Choose any number from 1 to 80.
3. Click on Apply to apply your changes.
4. Click on Close to close the dialog box.

Changing the text size

You can increase or decrease the size of text (the font) shown on the Communication window. Anytime you open Communication, a small font is in effect. Changing text to the larger font can make it easier to read.

► To change the font size:

Select either Large Font or Small Font from the View menu. Ensemble resizes both the text and the window to the new size.

This feature affects all text in the window. You cannot change the font size of individual words or sentences.

Showing line status

The Show Line Status option allows you to monitor the quality of your connection. In other words, Show Line Status allows you to “see” how good the connection is. Data communication is similar to a regular phone call in that sometimes the connection is “bad” — there is a lot of noise on the line. Usually, you need to hang up and redial to correct the situation. Based on information provided from the menu option Show Line Status, you may decide that the quality of the connection is poor. In that case, you can hang up and try again later.

► To monitor the line connection quality:

Choose Show Line Status from the Options menu. *The following status window below appears.*

Show Line Status	
Read Errors: 0	Write Errors: 0
Frame Errors: 0	Parity Errors: 0
<input type="button" value="Reset Counters"/>	<input type="button" value="Close"/> <input type="button" value="?"/>

The line status errors are the number of errors in reading the message being received or writing the message being sent. Communication automatically counts these errors during your communication sessions. It is normal to have a small number of errors. However, if you see hundreds of errors during a session, consider hanging up and dialing again.

It is a good idea to reset the counters every time you start a communication session. Otherwise, the error count for the current session is added to existing values. This results in an inaccurate count of the number of errors in the current session.

► To reset the counters to zero errors:

1. Click on Reset Counters. *The counters are all reset to zero values.*
2. Click on Close to close the dialog box.

Getting Ready to Communicate

Before you can communicate, you must connect to the other modem by choosing protocol and terminal settings, and then dialing. Once you connect, you can use the Communication window to send and receive messages. Anything you type is sent to the other computer. The messages sent to you by the other computer also appear in the Communication window.

Choosing the protocol settings

	Protocol
Baud Rate:	<input type="radio"/> 300 <input type="radio"/> 1200 <input checked="" type="radio"/> 2400
Parity:	<input type="radio"/> Even <input type="radio"/> Odd <input type="radio"/> Space <input type="radio"/> Mark <input checked="" type="radio"/> None
Word Length:	<input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input checked="" type="radio"/> 8
Stop Bits:	<input checked="" type="radio"/> 1 <input type="radio"/> 1.5 <input type="radio"/> 2
Handshake:	<input checked="" type="checkbox"/> None <input type="checkbox"/> Hardware <input type="checkbox"/> Software (XON/XOFF)
Hardware Handshaking Options:	
Stop Remote:	<input type="checkbox"/> DTR <input checked="" type="checkbox"/> RTS
Stop Local:	<input checked="" type="checkbox"/> CTS <input type="checkbox"/> DCD <input type="checkbox"/> DSR
<input type="button" value="Apply"/> <input type="button" value="Reset"/> <input type="button" value="Close"/> <input type="button" value="?"/>	

You should always turn off call waiting when using the phone line to communicate with another computer. Failure to do so may cause the other computer to disconnect if someone calls while you are connected. To find out how to turn off call waiting, consult your local telephone company.

Protocol allows orderly exchange of information between two modems. Protocol settings tell your modem such things as how fast to transmit information and what type of phone line you have. Use the dialog box above to select the protocol settings for your modem.

Call to find out what protocol settings the other computer is using. Your protocol settings must match the protocol settings of the computer or word processor you communicate with.

► **To choose the protocol settings:**

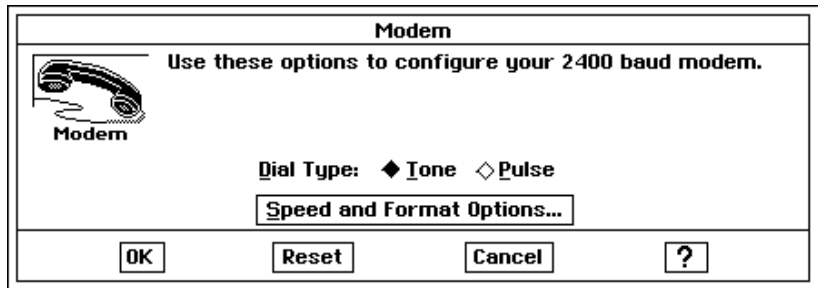
1. Choose Protocol from the Options menu. Fill in the following:
 - **Baud Rate.** The baud rate is the rate of speed your modem sends and receives information. Select 2400 baud.
 - **Parity.** Parity checks errors in sending information. The most common setting is None.
 - **Word Length.** Word Length is the number of bits that form a character. The most common setting is 8.
 - **Stop Bits.** Stop bits help a computer figure out when to send or receive a character. The most common setting is 1.
 - **Handshake.** Choose Software (XON/XOFF), and Ensemble checks the flow of information from the other computer or word processor. Handshake allows you to receive all information sent to you by the other computer or word processor.
 - **Hardware Handshaking Options.** Use the default settings.

2. Click on Apply to apply your change.
3. Click on Close to close the dialog box.

The Preferences application is described in Getting Started.

► **To change the default protocol settings:**

1. Click on Preferences on the Main Menu.
2. Click on Modem. *The following dialog box appears:*



3. Select whether your phone is tone or pulse.
4. Click on Speed and Format Options. *The Serial Port Options dialog box appears.*
5. Change the settings to match those you made in the Protocol dialog box. See page 336 for information on the Protocol dialog box.
6. Click on OK. *The Serial Port Options dialog box closes.*
7. Click on OK to close the Modem dialog box.
8. Choose Exit from the File menu.

Choosing the terminal settings

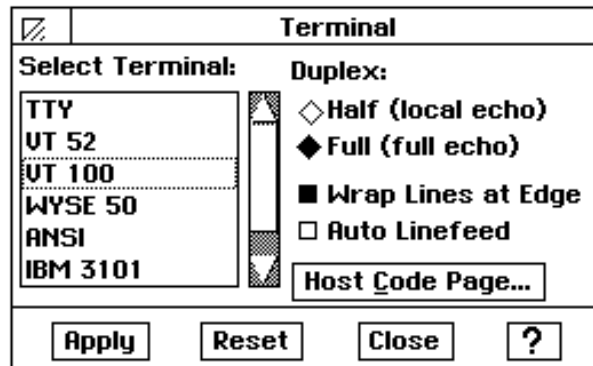
Computers in the workplace and home speak different languages. Before you communicate with another computer, you must make Ensemble speak the language of the other computer, or **terminal**. *Call the person you want to communicate with by modem to find out what kind of terminal he or she has selected on their computer or word processor. Then, you choose terminal settings in order to make Ensemble speak the language of the other terminal.*

Also, Ensemble generally must speak the language of another computer when you hook up to an online service. When you sign up for an online service, a representative should tell you whether you should use the same terminal.

The Ensemble Communication application can speak the language of terminals such as TTY, VT52, VT100, WYSE50, and ANSI by "imitating" the language. Because the imitation is not complete, you may find that some features do not work as you expect with a certain terminal. However, the imitation should be adequate for most situations.

► **To choose the terminal settings:**

1. Choose Terminal from the Options menu, and the following dialog box appears:



2. Fill in the dialog box changing the options you want:

- **Select Terminal.** You and the receiver must match with this setting. Select VT100 as your first choice, TTY as your second choice, and ANSI as a third choice.
- **Duplex.** The Duplex setting controls the way information flows between two computers or word processors. At full duplex, information flows between two computers or word processors at the same time. At half duplex, information can flow only in one direction at any given time.
- **Wrap Lines at Edge.** This setting shows all text from the other computer or word processor. If you select this option, long lines of text end at the edge of your screen and continue to the next line. If you do not select this option, lines of text that go beyond your screen's edge do not appear. However, if you capture this text to a DOS file, you capture all text, even the text that did not fit on your screen. See "Saving text in a file" on page 350.
- **Auto Linefeed.** Auto Linefeed converts each incoming carriage return (end of line) with a carriage return and new line. Otherwise, each new line of incoming text overwrites the last line. If all your incoming lines appear as double-spaced text, do not choose Auto Linefeed (unless you prefer double-spacing).
- **Host Code Page.** Host Code Page allows you to choose a language for your text. When you select this option, a dialog box with a list of languages appears. Choose the appropriate language from the list. Click on Apply.

3. Click on Apply to apply your changes.

OR

Click on Close to close the dialog box without making any changes.

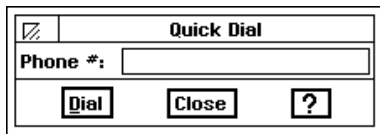
After you have chosen your protocol and terminal settings, you are ready to dial the phone number.

If you do not know if you need full or half duplex, type a few characters on your screen. If what you type appears twice, you need Full (full echo); otherwise, choose Half (local echo). You must be connected to another computer to test the duplex setting. For more information about connecting to another computer, see "Dialing" on page 339 in this chapter.

Dialing

You can dial by using Quick Dial or by setting up a dialing *script* to automate setting up and starting a communication session. For example, you may want to have the phone number dialed automatically, or you may want your computer to hang up automatically. See page 343 for using scripts.

Before you dial, make sure you have made any necessary changes to the protocol and terminal settings as discussed in this chapter.



► To use Quick Dial:

1. Choose Quick Dial from the Dial menu. *The dialog box at the left appears.*
2. Enter the phone number for the phone connected to the other modem. To access an outside phone line (for example, by dialing "9"), you need to tell the modem to pause for a moment before it dials the phone number. This is indicated with a comma in the phone number. For example, "9,5551212" tells the modem to dial 9 first to get an outside line, then pause, and then to dial 5551212.
3. Click on Dial. *When the connection has been made to the other computer, CONNECT appears in the Communication window.*
4. When you see CONNECT on your screen, click on Close. *You are now ready to send and receive messages.*

Having a Conversation

Once you have connected, any text you enter on the Communication screen is automatically sent to the receiver.



The cursor changes from solid to hollow, depending on what tasks are taking place. When the cursor is solid, generally it means that what you type appears in the Communication window and is sent to the computer or word processor you are connected to.



When the cursor is hollow, generally it means what you type is not sent to the other computer or word processor. You could be filling in a dialog box or receiving information from another computer or word processor.



When you have finished communicating, choose Hang Up from the Dial menu.

Sending Brief Messages and Files

Besides having a conversation, there are four other ways to send information to another computer or word processor:

- Typing and sending a message using the Message choice on the Edit menu. Use this method when messages are brief and spontaneous, and you want to send them immediately to the other computer or word processor.
- Sending text that you have copied into the clipboard.
- Sending an ASCII text file to the other computer or word processor. An ASCII text file is the same as a DOS text file. ASCII text files are created in Text File Editor.
- Sending files using XMODEM. Use this method to send a file or a large amount of information to another computer or word processor. XMODEM checks for errors to make sure files arrive intact.

Sending brief messages

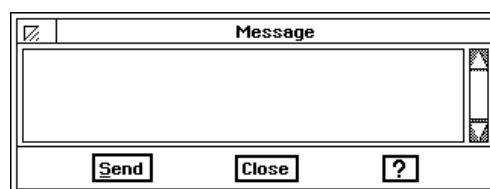
The Message option on the Edit menu allows you to create brief messages before you are connected to another computer or word processor (before you enter protocol or terminal settings) or after you are connected to another computer. It gives you time to write and edit your message before sending it.

The Message choice does not check for errors. In other words, all you type may not reach the other computer. This is usually not a problem for short messages like: "Hello, how are you?" If a message this brief gets corrupted by a poor connection and arrives "Hello, how are you?" the receiving party can probably figure the message out.

However, the Message option is not acceptable for sending a long file or a large amount of information. Suppose you are sending your income tax figures to your accountant, and the number that represents your gross income is corrupted. What started out as "35,000.00" may have arrived as "\$&5*#00.00." Your accountant is not likely to figure this out. To send long files, see "Sending text files using XMODEM" on page 342.

► To send a brief text message:

1. Insert Diskette 2.
2. Click on the File Manager icon on the Main Menu.
3. Double-click on Communications.
4. If you have not connected to the other computer, see "Getting Ready to Communicate" on page 336.
5. Choose Message from the Edit menu. *The dialog box below appears.*



6. Type your message in the dialog box.
7. Edit the text as needed.
8. Click on Send. *Your message appears on the other computer's or word processor's screen.*
9. Choose Hang Up from the Dial menu.
10. Click on Close to close the dialog box.

Sending text using the clipboard

You can copy text from Word Processing or other applications and send it to another computer or word processor. For example, suppose you have an announcement that you have written in Text File Editor. You can open the file in Text File Editor, and copy the message to the clipboard. Next, you can paste the contents of the clipboard into the Communication window. When you do this, Communication sends the text to the other computer or word processor just as if you had typed it into the Communication screen.

► To send the contents of your clipboard:

1. Open the file containing the text you want to send.
2. Hold down the left mouse button, and drag the cursor across the text to highlight the text.
3. Choose Copy from the Edit menu to copy the text to the clipboard.
4. Insert the Diskette 2.
5. Click on the File Manager icon on the Main Menu.
6. Double-click on Communications.
7. If you have not connected to the other computer, see "Getting Ready to Communicate" on page 336.
8. When you see CONNECT on the screen, click on Close on the Dial menu.
9. Choose Paste from the Edit menu. *Ensemble sends the contents of your clipboard to the other computer or word processor.*
10. To exit, choose Hang Up from the Dial menu; then press **EXIT**.

Sending ASCII text files

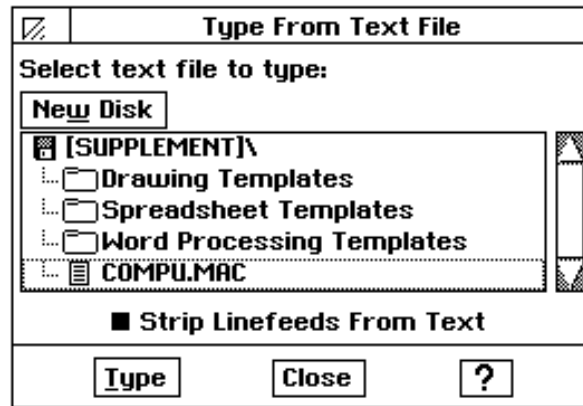
You can send text files saved on diskette. This method does not check for errors, so there is no guarantee that the information arrives exactly as it was typed.

Before sending a DOS text file, it is good practice to check whether or not the receiving computer requires linefeeds. Linefeeds prevent text from typing over itself.

► To send an ASCII text file created in Text File Editor:

1. Create a document in Text File Editor to make an ASCII text file.
2. Insert Diskette 2.
3. Click on the File Manager icon on the Main Menu.
4. Double-click on Communications and connect to the other computer. See "Getting Ready to Communicate" on page 336 for information on connecting.
5. Insert the diskette with the file you want to send.

6. Choose Type From Text File from the File menu. *The dialog box below appears.*



7. Select the ASCII file you want to use.
8. Select Strip Linefeeds From Text if the other computer does not need linefeeds after carriage returns. Most computers need linefeeds, so you will normally not need to select this option.
9. Click on Type to send the DOS file. *Ensemble shows a status window to show how your file transfer is going. When the file transfer is finished, Ensemble returns to the Communication window.*
10. To exit, choose Hang Up from the Dial menu; then press **EXIT**.

If you create a document in Word Processing and want to send it as an ASCII text file, you must export the document. See "Importing and Getting" in Getting Started on page 59. When you export, select ASCII.

Sending text files using XMODEM

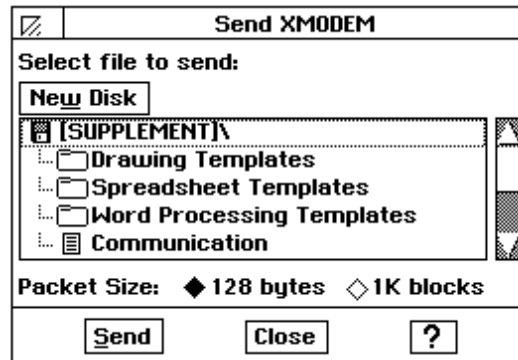
Before you can use XMODEM to transfer files, check that the other computer is set up to receive an XMODEM transfer. Do this by calling before you start your connection, or, once you are connected, by sending a message to the other computer indicating that you want to use XMODEM. Ask the receiver to select XMODEM from the File Menu. Also, to send a file the other person must have enough disk space.

With the XMODEM protocol you can send files or a large amount of information to another computer or word processor. The advantage of using XMODEM is that XMODEM detects a transmission failure and resends the information again.

► **To send a file using XMODEM:**

1. Insert Diskette 2.
2. Click on the File Manager icon on the Main Menu.
3. Double-click on Communications.
4. If you have not connected to the other computer, see "Getting Ready to Communicate" on page 336.
5. Insert the diskette with the file you want to send.

- When CONNECT appears on the screen, choose Send XMODEM from the File menu. *The dialog box below appears.*



- Select the file you want to send.
- Select the size of the data packet. Large files are broken up into small *data packets* to make the file easier to send to another computer. The recommended selection is 128 bytes.
- Click on Send. *The Send XMODEM Status window appears and shows the progress of the transfer, reporting any errors.* XMODEM automatically resends those portions of the transmission that have errors. However, if the error count increases suddenly, you probably have a problem in the phone line and may want to try to send the file again later.
- To exit, choose Hang Up from the Dial menu; then press **EXIT**.

Send Status
Sending: Communication
Packets Sent: 0
Packet Errors: 0
Timeouts: 0
<input type="button" value="Abort Transfer"/>

Using Scripts

You can place commands into one file called a *script*. You can then use the file to instruct Communication to perform a series of tasks. For example, you can write a script that instructs your computer or word processor to dial a phone number, provide protocol and terminal information to establish a connection, and log you into an online service. You do not need to respond to prompts or worry about mistyping information. Also, scripts are faster than commands you enter from the keyboard.

Scripts are useful if you subscribe to several communication services, each of which may require different settings for your modem. You can write a script that automatically dials the phone number, logs into the service, receives the file, and places it in the proper location on your computer, then logs out and hangs up.

Script syntax guidelines

All Communication scripts must follow guidelines for *syntax* (the “grammar” for the commands) and treatment of text. The following lists the guidelines:

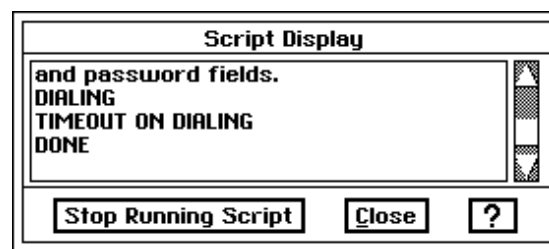
- All Communication commands must be upper case, for example, CLEAR, DIAL, END.
- All commands are case sensitive. (If a capital A is required, you cannot use a lower case a.)
- Words enclosed in angle brackets (< >) from “Script commands” in this chapter are place holders for the words you need to type; for example, where you see <baud>, you type the baud rate, such as 2400. Do not type the angle brackets in Text File Editor.
- A line that starts with a colon is treated as a label or comment. This means that Communication shows the contents of that line, but it does not attempt to process or execute anything.

► **To create a script:**

1. Use Text File Editor to create a text file containing your script commands. For more information about Text File Editor, see Chapter 13. For a list of the commands, see “Script Commands” on page 345.
2. Save the file with a DOS file name with the extension .MAC. For example, MYSCRIPT.MAC is a script name. A DOS file name contains 8 characters, plus 3 characters on the extension. MAC above is the extension.
3. Save the file on Diskette 2. You are now ready to run the script.

► **To run a script:**

1. Choose Scripts from the Dial menu. *A dialog box appears.*
2. Select the script you want to run.
3. Click on Run. *The dialog box below appears and shows each line of the script as your computer executes it. This gives you a progress report on your script.*



► **To stop a script:**

Click on Stop Running Script.

If your script stops abruptly, it may be because you made an error in the script.

Script Commands

The script commands are listed below in alphabetical order. If available, the menu choice or other function is provided to help you see what happens when you use a command.

You will see a few examples of how these commands are actually used. It is good practice to start with a simple script, then build on it by adding more commands. Try to see if you can build a script that performs an entire communications session from dialup to hangup without requiring your intervention. For more information about running your scripts, see "Using scripts" on page 343.

Command	Description	Example
:<label>	Any line beginning with a colon is treated as a label (although the colon is not actually part of the label). Use the GOTO command to jump to a label line. Labels can be in upper or lower case, but you must be consistent. If you have a label defined as ":GoHere", you must refer to exactly the same way in GOTO statements ("GOTO GoHere").	:JumpToThisLabel
ABORT	Communication goes to this special label when you click Stop in the Script Display window. The word "ABORT" must be all uppercase.	:ABORT
BELL	This command sounds a beep. Use this in your script to alert you of an activity that is taking place or one that has completed.	BELL
CLEAR	This command clears the Script Display window.	CLEAR
Command	Description	Example
COMM <baud-databits-parity-stopbits-duplex>	This command allows you to specify the baud rate, data bit value, parity setting, stop bit value, and duplex settings all on one line. This command is the equivalent of specifying Baud Rate, Data Bits, Parity, and Stop Bits in the Protocol dialog box and of specifying Duplex in the Terminal Options dialog box. For more information, see "Choosing the Protocol Settings" and "Choosing the Terminal Settings" in this chapter.	For example, if you are using a 2400 baud line with eight data bits, no parity, and one stop bit, you would put this command in your script (put dashes between settings): COMM 2400-8-N-1-FULL
DIAL "<number>"	This command dials the phone number you specify after DIAL. The phone number must be enclosed in quotation marks. Use commas to make Communication pause in the dialing. For more information, see "Dialing" in this chapter.	To dial 9 (for an outside line), a pause, and then 555-1212, you would put the following line into your script: DIAL "9,555-1212"

Command	Description	Example
END	This command stops the script and returns control to you. It does not jump to the :ABORT label. Use this command to continue manually what the script has started for you. This is useful for beginning script users as a way to implement a basic script to see how one works.	This script dials the phone number, 9,555-1212, then returns the Communication window back to you just as if you had used the Quick Dial option on the Dial menu. DIAL "9,555-1212" END
GOTO <label>	This command instructs Communication to go to the line specified by the label. You can use the GOTO command to jump to specified label lines (lines that begin with a colon). You must enter the GOTO label commands exactly the way you typed the label. (Be sure to leave off the colon, though.)	For example, the following line: JumpToThisLabel must be referred to in a GOTO command as: GOTO JumpToThisLabel
MATCH <text> GOTO <label> PROMPT <number>	The MATCH and PROMPT commands work together to make Communication perform some action based on text received from another computer. First, the MATCH command makes Communication look for <text> in the text that is transmitted by the other computer. You can specify many MATCH commands but after them all, you must include a PROMPT command. The text for the MATCH commands must be entered inside quotation marks (" "). The PROMPT command specifies the amount of time your computer waits for the sending computer to supply the Matching text. PROMPT time values are in sixtieths of a second. (That is, 3600 sixtieths is a minute.) If the MATCH command is satisfied within the time specified in the PROMPT command, the script goes to the given label. ?Goes where? Otherwise, Communication goes to next line in the script.	MATCH "password?" GOTO DoPass MATCH "System is down" GOTO SystemDown PROMPT 3600 PRINT "No Response" The first MATCH command looks for the text "password?" from the remote computer. If the text is sent, the script goes to the label "DoPass", otherwise it continues with the next MATCH statement. If the second MATCH is made, the script goes to the label "SystemDown." If neither condition is met in the allotted minute (PROMPT 3600), the script prints "No Response" in the Script Display window.
PAUSE <number>	This command causes Communication to pause for the amount of time specified. The number value is in sixtieths of a second. The default is 60, or one second.	To have your script pause for one minute, use the following line: PAUSE 3600
PORT <port>	This command instructs Communication to use the Com port specified. (This is a modem connectors on your computer or word processor where your modem is connected) This command is the equivalent of specifying Modem Port in the Protocol dialog box. For more information, see "Choosing the Protocol Settings" in this chapter.	The following command tells Communication to use Com port 2: PORT 2

Command	Description	Example
PRINT <text>	This command instructs Communication to print <text> in your Script Display window. This message is not sent to the other computer or word processor. Use this command as an indication of what the script is doing. You can have as many PRINT statements in your scripts as you want.	To force carriage returns after the text display, enter ",CR" at the end of each line, or add another print command: PRINT CR For example: PRINT "Enter Password Now" ,CR PRINT "Password:" This displays on your screen as: Enter Password Now Password:
PULSE TONE	These commands cause Communication to use tone or pulse dialing when it dials a phone number. Otherwise, Communication uses whatever you have set in your Modem settings.	To force your script to use pulse dialing, use the following command: PULSE
SEND <text>	This command sends the specified text to the other computer or word processor. Use a ",CR" at the end of the text if you want to insert a carriage return after the text.	For example, to send the word "password" followed by a carriage return to the other computer, you would put the following line in your script: SEND "password" ,CR
TERM <terminal type>	This command instructs Communication to emulate the type of terminal specified. Valid terminal types are TTY, VT52, VT100, WYSE50, ANSI, IBM3101, and TVI1950. This command is the equivalent of specifying Select Terminal in the Terminal Options dialog box. For more information, see "Choosing the Terminal Settings" in this chapter.	For example, to make Communication emulate a standard TTY terminal, you would put this command in your script: TERM TTY

Receiving and Saving Messages and Files

Before you receive information, it is a good idea to determine what you intend to do with it. Depending on the type and volume of information, there are various ways to accept, store, and save it, including the following:

- Scrolling through the text as it arrives without saving it
- Copying text to the clipboard
- Saving text in a file

Scrolling through text on the screen

As the text arrives at your computer, the first part of the text may scroll off the screen. If the message is longer than 175 lines, consider saving it to a file. See "Saving text in a file" on page 350 in this chapter.

► **To scroll through the text on your screen:**

Click on the up or down arrow on the scroll bar.

Copying text to the clipboard

Only the last 175 lines of text received are saved. If the message exceeds 175 lines, newly arriving text writes over the text that has already arrived.

To save a small amount of text that appears in your window, use the Copy and Paste commands to paste the text into an application file, such as a Text File Editor file. You can copy and paste information one screen at a time, or you can wait until the entire message has arrived, as long as the message does not go over 175 lines of text.

► **To copy text from your clipboard to a file:**

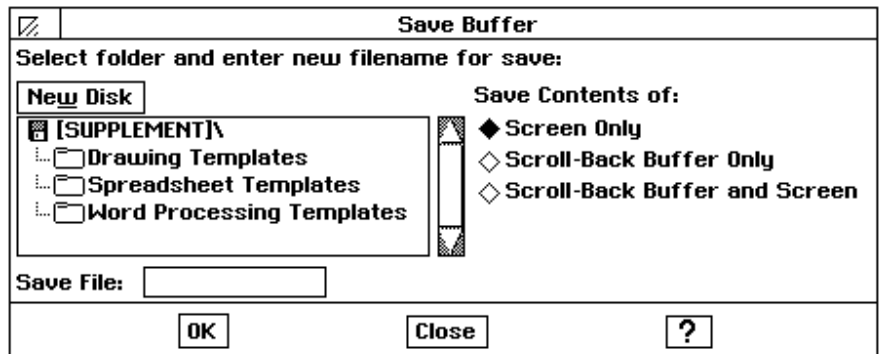
1. Select the text in the Communication window that you want to copy. Hold down the left mouse button, and drag the cursor across the text to highlight the text.
2. Choose Copy from the Edit menu.
3. Select Hang Up from the Dial menu.
4. Close Communication.
5. Click on Word Processing or another application.
6. Select New/Open from the File menu.
7. Select the file where you want information placed.
8. Click on Open.
9. Click where you want the text.
10. Choose Paste from the Edit menu. *The text is placed into the file.*

Saving screen and scroll-back buffer text to a file

Communication saves the last 175 lines of text in the *scroll-backbuffer*. This is an area that stores the text that scrolls off the screen. Communication stores the information in the scroll-back buffer so that you can show it by scrolling back through the window. Otherwise, all the text that scrolls off your screen would be lost. By saving text in a file, you can prevent the loss of incoming text.

► **To save the contents of your screen and scroll-back buffer:**

1. When your phone rings, press **ENTER**.
2. After your screen shows CONNECT and text appears on your screen, insert a diskette.
3. Choose Save Buffer from the File menu. *The following dialog box appears:*



4. Select the directory you want.
5. Type a DOS file name (a DOS file name contains up to eight letters or numbers, followed by a period, then a three-letter extension). For more information on DOS file names, see "Naming a DOS File" in Chapter 1, on page 59.
6. Select Screen Only (saving only what you see on your screen).
OR
Select Scroll-back Buffer Only (saving only what is hidden in the Scroll-back Buffer).
OR
Select Scroll-back Buffer and Screen (saving both).
7. Click on OK to save the text to the file.
8. To exit, choose Hang Up from the Dial menu; then press **EXIT**.

Saving text in a file

You can “capture” all text as it arrives and have it immediately placed in a file. Saving text in a file is also faster than using the Copy and Paste method.

Do not save incoming text in a file and run XMODEM at the same time.

► **To save all incoming text to a file:**

1. Insert Diskette 2.
2. Click on the File Manager icon on the Main Menu.
3. Double-click on Communications.
4. If you have not connected to the other computer, see “Getting Ready to Communicate” on page 336.
5. Insert a formatted diskette with enough disk space to hold the file.
6. When your phone rings, press **ENTER**.
7. When your screen shows **CONNECT**, choose Capture to Text File from the File menu. *A dialog box appears.*
8. Select End Lines with CR/LF if you want the end of each line to contain a carriage return and linefeed. If you are unsure, it is a good idea to select it.
9. Click on Capture. *A status window below appears.*

Capture Status
Capturing to: capture.txt
<input type="button" value="Stop Capture"/>

10. When all information appears on the screen, press Stop Capture.
11. To exit, choose Hang Up from the Dial menu; then press **EXIT**.
12. The DOS files are saved in Text File Editor. For information on Text File Editor, see page 311.

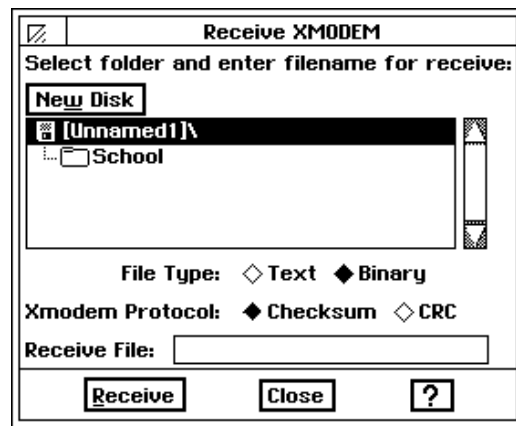
Saving text files using XMODEM

Before you can use XMODEM to receive files, find out if the other computer is set up to send files using XMODEM. Do this by calling before you start connecting to the other computer, or, after connecting, by sending a message to the sending computer indicating that you want to use XMODEM. Also, find out what error-checking mechanism is supported on the other computer, Checksum or CRC. Also, find out if the file you will receive is ASCII (a DOS file) or a word processing file.

You can receive text files without errors from being sent from one location to another. The other choices for receiving files do not check for errors.

► To receive a file using XMODEM:

1. Insert Diskette 2.
2. Click on the File Manager icon on the Main Menu.
3. Double-click on Communications.
4. If you have not connected to the other computer, see “Getting Ready to Communicate” on page 336.
5. When you see CONNECT on your screen, choose Receive XMODEM from the File menu. *The dialog box at the left appears.*
6. Select the directory you want.



7. Select the type of file you are receiving. You have the following two choices:
 - **Text.** Select Text if the file you are receiving is a DOS text file (ASCII).
 - **Binary.** Select Binary if the file you are receiving is a Word Processing or a Graphic file.
8. Select how you want to check for errors. There are two choices; both give you the file without errors in sending:
 - **Checksum.** This is a simple method of checking for file corruption during sending and receiving.
 - **CRC (Cyclic Redundancy Check).** CRC is more sophisticated than Checksum. It is a good idea to select it if the sending computer supports it.
9. Type the name of a file.
10. Click on Receive. *The status screen at the left appears showing you the progress of the transfer. If errors increase dramatically, you may have a poor line connection. In that case, consider canceling the transfer and trying again later.*
11. To exit, choose Hang Up from the Dial menu; then press **EXIT**.

Receive Status
Receiving: test
Packets Received: 0
Packet Errors: 0
Timeouts: 0
<input type="button" value="Abort Transfer"/>

Using CompuServe

If you dial into a computer system that requires you to log in (such as a bulletin board or online service), you often must log out before you hang up. If you do not log out first, you may continue to be billed for your online time.

Before starting, it is recommended that you make a backup copy of the diskette containing Communication by selecting Copy Disk from the Disk menu of File Manager. Insert the backup copy into the disk drive and leave the original untouched. Next, follow the instructions on the right "To set up CompuServe."

If you are setting up using a temporary account ID and password, you must change these lines again after receiving your permanent account ID and password.

Your modem allows you to use CompuServe. The following services are available with CompuServe:

- Sports news and Hollywood gossip
- Advertisements you post
- Support for software or computers on the market
- Consumer information and financial investment services
- Travel and shopping information
- Internet
- Games

► **To set up CompuServe:**

1. Insert Diskette 2.
2. Click on the File Manager icon on the Main Menu.
3. Double-click on Text File Editor.
4. Choose New/Open from the File menu.
5. Select COMPU.MAC.
6. Find the line: DIAL "1-800-848-4480"
7. Delete the phone number, and type in your local access phone number. See the enclosed CompuServe booklet for the phone number. (Do not delete the parentheses.)
8. Find the line: SEND "ACCOUNTNAME",CR.
9. Delete ACCOUNTNAME and enter your CompuServe account name or account ID between the parentheses.
10. Find the line: SEND "PASSWORD",CR.
11. Delete PASSWORD, and enter your password in between the parentheses. You can find the temporary password on the back of the CompuServe booklet.
12. Save your settings.

► **To start CompuServe:**

1. Insert Diskette 2.
2. Click on the File Manager icon on the Main Menu.
3. Double-click on Communications.
4. With modem on, choose Scripts from the Dial menu.
5. Select COMPU.MAC.
6. When you are ready to stop CompuServe, type BYE.
7. Press **ENTER**.
8. Choose Hang Up from the Dial menu.

APPENDIX


























Troubleshooting

09 256	0 AA251 5C 4
"This document has not been saved. Please save it now." message appears.	You have not named and saved your document. The size of this document is greater than 20k. Save it and continue working.
"Document is too big. Please break it up into smaller documents." message appears.	The size of your document is greater than or equal to 100K (approximately 20 pages of text). Save this document to diskette and begin another document at this point. If you choose not to save and Ensemble runs out of memory, you could lose all your work.
"Please close one document." message appears.	The size of the two documents you have open is greater than or equal to 100K (approximately 20 pages of text). Save one or both documents to a diskette and begin another document at this point. If you choose not to save and Ensemble runs out of memory, you could lose all your work.
I cannot find the document I am looking for.	Make sure that you have opened the correct application. The list of documents shows only documents created in the application you are using. For example, Word Processing documents do not show up in the Text File Editor. Your document may be down in the scrolling list where you cannot see it. Use the scroll bar to see more of the list. Your document may be on a different diskette.
A disk could not be found.	Insert a diskette.
Cursor will not move where I want it to go.	To move the cursor with the mouse to a certain place, you must have text in that area. Press ENTER to move the cursor down the page.
My document is printed in the wrong direction on the paper.	Make sure your settings in both Page Set Up and Page Size are the same as your Printer Options.
I put a diskette in the disk drive, but Ensemble cannot find it.	Rescan the diskette from the Disk menu.
The lines or objects I draw do not go where I want them to go.	Turn off Snap to Grid. In Word Processing, select Grids under the Layout menu. In Drawing, select Grids from the Options menu.
Lines and specks appear on the screen.	Click on the Redraw Screen icon on the far right-hand side of the Basic Functions tool bar in Word Processing.
I made a mistake and I want to undo it.	Choose Undo from the Edit menu. See page 83.
I cannot find my cursor.	Check to see that you have a text tool selected.
Part of the image on the screen is missing.	Click on the Redraw button on the far right-hand side of the tool bar.
The tones on the screen are not the tones I selected.	Make sure you are in Normal drawing mode.
I cannot select text in the Drawing application.	Convert the text from Graphic.


Troubleshooting (continued)

09 256	0 AA251 5C 4
The cursor jerks on the screen when I use the mouse.	Clean the mouse by taking out the roller ball and cleaning it.
I want to return to the original Ensemble default settings.	From the Main Menu, press and hold CODE + MENU + SHIFT + HELP . Release.
My text is cut off on the left edge.	Make sure your document dimensions that you set up in Page Size are not greater than the actual size of your paper.
While importing, I received a message saying that "The system is low on resources."	Check the size of the document you wish to import.
In Spreadsheet, I received a message in a cell with either #NAME# or #TYPE#.	Your formula is not correct. Recheck it character by character for accuracy.
In Spreadsheet, I have ### in a cell.	Your cell is not wide enough for the value to display. Increase the cell width of you want to view the value.
The mouse is not working properly.	Turn the keyboard/printer off for 10 seconds. Then turn it back on. You might have lost some work.
The text and graphics screen looks scrambled.	Click on the Redraw icon. Turn the keyboard/printer off for 10 seconds. Then turn it back on. You might have lost some work.
Ensemble does not respond.	Turn the keyboard/printer off for 10 seconds. Then turn it back on. You might have lost some work.

Black & White Clip Art

				
ACCENT	AIRPLANE	ANNOUNC	B-DAY	BABY
				
BALOONS	BAREFEET	BASEBAL	BAT	BIGEVENT
				
BILL	BLACKCAT	BORDER1	BORDER2	BORDER3
				
BORDER4	BORDER5	BORDER6	BORDER7	BORDER8
				
BSNSMAN	BSNSWMN	BUNNY	CAR	CHAMPGN












Black & White Clip Art

			Congratulations!	
CHECK	CHEETAH	CHURCH	CONGRAT	CROSS
				
CRUISE	CUT	DOG	EAGLE	EASTER
		FIRST CLASS		
EGGHEAD	FIRECRKR	FIRST	FISH	FIST
		FREE!		
FLAG	FOOTBAL	FREE	FUNBUS	GOLF
 GRADUATION	GRAND OPENING	Seasons Greetings		Happy Hanukkah
GRAD	GRAND	GREET	HANDSHK	HANUKKAH










Black & White Clip Art

 <p>HAPPYHOL</p>	 <p>HOT-AIR</p>	 <p>JACKOLN</p>	 <p>JOY</p>	 <p>KITTY</p>
 <p>LIMO</p>	 <p>LINCOLN</p>	 <p>LIPS</p>	 <p>MARTINI</p>	 <p>MODEL</p>
 <p>MOONDUDE</p>	 <p>NEW</p>	 <p>NEWBURST</p>	 <p>NEWYEAR</p>	 <p>NOSMOKE</p>
 <p>NOTE</p>	 <p>NOTES</p>	 <p>PAPERCLP</p>	 <p>PARTY</p>	 <p>PIGGYBNK</p>
 <p>PINAPPLE</p>	 <p>PUSHPIN</p>	 <p>REMINDER</p>	 <p>ROSE</p>	 <p>RUSH</p>




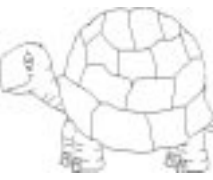


Black & White Clip Art

 <p>RYLFLUSH</p>	 <p>SALE1</p>	 <p>SALE2</p>	 <p>SANTA</p>	 <p>SAVE</p>
 <p>SCHOOL</p>	 <p>SHAMROCK</p>	 <p>SKULLBNS</p>	 <p>SOLDSIGN</p>	 <p>STAR</p>
 <p>STARDUDE</p>	 <p>SUNDUDE</p>	 <p>TEARDROP</p>	 <p>TENNIS</p>	 <p>THANK</p>
 <p>TRACK</p>	 <p>TROPHY</p>	 <p>UMBRELLA</p>	 <p>VALENTN</p>	 <p>WAITER</p>
 <p>WASHNGTN</p>	 <p>WEDDING</p>	 <p>WREATH</p>	 <p>XMASBELL</p>	 <p>YOU</p>

Color Clip Art

				
ALLIGATO	BLACKCAT	BUTTERFLY	CAKE	CAKE2
				
CAROLER	CELEBR	COBRA	EAGLEC	FORKLIFT
				
FOUNTAIN	GENTIAN	GIFTS	GIRAFFED	HYACINTH
				
KIDS	LAMP	LEOPARD	OPEN	OPENING
				
OUTLINE	PANSY	POCKET	ROSES3	SAIL

Color Clip Art

 <p>SNOWMAN</p>	 <p>TEA</p>	 <p>TIGER</p>	 <p>TURTLECA</p>	 <p>WANDFLOW</p>
 <p>WATERLIL</p>				

Math and Database Functions



CAUTION:

Ensemble applications use floating point math. While floating point calculations have benefits such as speed, they are inherently inaccurate. All spreadsheets and calculators based on floating point math produce errors in the 17th or 18th significant digit. While this is often not detectable, the errors become apparent in some calculations, especially financial functions such as IRR and NPV. Ensemble adheres to the IEEE 754 standards for floating point calculations.

Functions are built-in formulas that automatically perform common calculations and insert data in Spreadsheet. For example, you can use a built-in function to total a group of numbers, calculate the net present value of an investment, or 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, addresses, ranges, or cell and range names in Spreadsheet; and field names in Addressbook 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, field names, or addresses of cells that contain numbers. When the argument is the interest rate, express it as its actual value (for example, enter **.07** or **7%** rather than **7** to indicate 7%). Be certain to specify the same units for the term and the interest. If the interest is monthly, the term is also monthly. The results of these calculations are always numbers.

Enter all values without spaces!

Function	Description	Example
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.	=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. Depreciation is highest in the first period and decreases in successive periods. Each year's depreciation is a constant percent of the <i>book value</i> of the asset and continues until the book value equals the salvage value. $DDB = \text{cost} - \text{salvage}$ (total depreciation from previous periods) * 2 / life <i>Book Value</i> is the value of the asset at any given period, taking depreciation into account. <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.	=DDB(5000,250,60,1) returns \$166.67, the depreciation during the first month. =DDB(5000,250,60,2) returns \$161.11, the depreciation during the second month. =DDB(5000,250,5,1) returns \$ 2000, the depreciation during the first year.
FV (<i>payments, interest, term</i>)	Returns the future value of a stream of regularly invested payments. For example, if you save \$250 every month, you can use FV to calculate how much that will pay of your child's college education which will cost \$40,000 in ten years? <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>	=FV(250,.05/12,120) returns \$38820.57. To compare the present value with the future value if you invest \$500 every month for 10 years at an interest rate of 5%, you would use the following expressions: =FV(500,.05/12,120) returns \$77641.14. =PV(500,.05/12,120) returns \$47140.68.

The formula used by the FV function:

$$FV = \text{payment} \times \frac{(1 + \text{rate})^{\text{term}} - 1}{\text{rate}} \quad \&$$

Function	Description	Example
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. (NPV finds the initial investment when you know the interest rate.) IRR assumes that the income from the investment is reinvested at the interest rate of internal rate of return and calculates the percentage rate at which the NPV of a series of cash flows is equal to the PV of the initial investment. Not available for use in Addressbook. <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.	=IRR(.05,C1:C13) returns 2.82% if rounded to two decimal places. See the example below.

Example:

Your friend is starting a pizza restaurant and you invest \$10,000 initially. He then pays you back varying amounts every month. After 5 months you make an additional investment after 6 months to add more staff to the restaurant for the summer. The spreadsheet below shows the cash flow in the range B1:B12.

1	January	-10000
2	February	2000
3	March	1000
4	April	1000
5	May	2000
6	June	-5000
7	July	2000
8	August	2000
9	September	3000
10	October	1000
11	November	1000
12	December	2000
13		
14	IRR	2.82%
15		
16		

Function	Description	Example
NPV (<i>interest, range</i>)	Net present value , which is the amount of money (in today's dollars) to be spent in the future. To discount a future cash flow, calculate its present value. To discount <i>multiple</i> future cash flows, use net present value to calculate their present values and add them together. Use NPV when you know the interest rate and want to know the initial investment. Use IRR when you know the initial investment and want to calculate the rate. Both NPV and IRR use irregular payments at regular intervals. The future cash flows are figured at a constant interest rate, assuming that payments are made at the end of each period. If there is a down payment at the beginning of period 1, add that amount to the result of the NPV calculation. Not available for use in Addressbook. <i>Interest</i> is the interest rate for the calculation. <i>Range</i> is the cells containing the cash flow information.	=NPV(.0625/12,B2:B11) returns 10326.87. See the example below.

Example:

Suppose you want to send your daughter to design school in the coming year. You know the tuition payments are due in August and November, and she will need living costs every month. If the total expense will be \$10,500, how much will you have to set aside now in an interest account paying 6.25 percent to cover the necessary expenses each month?

	A	B
1	Month	Payment
2	August	\$4,250.00
3	September	\$250.00
4	October	\$250.00
5	November	\$4,250.00
6	December	\$250.00
7	January	\$250.00
8	February	\$250.00
9	March	\$250.00
10	April	\$250.00
11	May	\$250.00
12		
13	Sum	\$10,500.00
14	NPV	\$10,326.87

Function	Description	Example
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>	Use the PMT function 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	Present value	
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.	If you have \$5000, what annual interest rate would you need to have \$8000 in 5 years? =RATE(8000,5000,5) returns 9.86%.
SLN (<i>cost, salvage, life</i>)	Straight-linedepreciation. <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.	=SLN(12000,2000,5) returns 2000.
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.	What is the depreciation in the 4th year for a computer system that initially cost \$12000, which after 5 years could be sold for \$2000? =SYD(12000,2000,5,4) returns \$1333.33.
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>	How long will it take to accrue \$10,000 if you make monthly payments of \$250 at an annual interest rate of 5.5%? =TERM(250,.055/12,10000) returns 36.8.

Information Functions

The information functions return information about a cell, range of cells, or field.

Function	Description	Example
CHOOSE (index, value1, value2,...)	Returns the n^{th} value in the list of arguments, where the first value is 0 and <i>index</i> indicates the n^{th} 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.	=CHOOSE(5, A1, A2, A3, A4, A5, A6) returns the contents of cell A6. =CHOOSE(2,"vanilla","chocolate","toasted almond","peach") returns toasted almond.
COLS (range)	Number of columns in a range.	=COLS(B2:F65) returns 5.
COUNT (value1, value2,...)	The number of arguments, that is, the number of non-blank cells in a range . <i>Values</i> can be numbers, null, logical values, and dates. The arguments can only be a comma-separated list.	=COUNT(23,42,65,23) returns 4. =COUNT(B3:B6) returns the number of non-blank cells in the range.
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.	=IF(A5>100,ERR(),A5) returns #ERROR# if the value in A5 is less than or equal to 100; otherwise, it returns the value in A5.
HLOOKUP (value, range, offset)	Returns a value from a horizontal lookup table . Allows you to use a spreadsheet table like a database. Enter values in the table and then extract information from the rows of the table according to your specifications. HLOOKUP extracts from the horizontal rows in the same way as VLOOKUP extracts information from vertical columns. HLOOKUP and VLOOKUP assume the entries in the first row or column are sorted. They return the entry corresponding to the nearest ascending value that is not greater than <i>value</i> . Useful when you have several alternatives to "lookup," such as tax rates, commissions, or discounts. (HLOOKUP is not available for use in Addressbook.) <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. The first row of the table needs to be sorted. <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.	=HLOOKUP("Jane",B1:E5,2) returns 11. (See chart below.)

Example of HLOOKUP:

	A	B	C	D	E
1		Claudia	Jane	Kyle	Steve
2	10	12	14	16	15
3	20	10	11	8	6
4	30	9	13	8	19
5	40	13	8	17	5

Function	Description	Example
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.	=INDEX(B1:H24,5,6) returns the contents of G7.
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.	=ISERR(B2) returns TRUE if the value in B2 is an error. =IF(ISERR(B2),"",B2) returns an empty string if there is an error. Otherwise, the expression returns the contents of B2.
ISNUMBER (<i>value</i>)	Returns 1 if an expression is a number or 0 if it is not. Useful in IF statements.	=ISNUMBER(B2) returns TRUE. =IF(ISNUMBER(B2),"",B2) returns an empty string if B2 contains a number. The expression returns the contents of B2 if B2 is not a number.
ISSTRING (<i>value</i>)	Returns 1 if an expression is a string or 0 if it is not. Useful in IF statements.	=ISSTRING(B2) returns TRUE. =IF(ISSTRING(B2),"",B2) returns an empty string if B2 contains a string. Otherwise, the expression returns the contents of B2.
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). (Not available for use in Addressbook.)	=N(B1:B13) returns 2365 if B1 contains 2365.
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>)	Number of rows in a range .	=ROWS(B2:F65) returns 64.
VLOOKUP (<i>value, range, offset</i>)	Returns a value from a vertical lookup table , allowing you to use a spreadsheet like a database. You can enter values in the table and then extract information from the columns of the table according to your specifications. VLOOKUP extracts information from vertical columns in the same way as HLOOKUP extracts from the horizontal rows. HLOOKUP and VLOOKUP assume the entries in the first row or column are sorted. They return the entry corresponding to the nearest ascending value that is not greater than <i>value</i> . These functions are useful when you have several alternatives to "lookup," such as tax rates, commissions, or discounts.	=VLOOKUP("Jane", A2:E5, 2) returns 11.00. See the example below. . <i>Value</i> is the value to be found in the first column of the table. <i>Value</i> can be a number, address, or text string. The first column of the table needs to be sorted. <i>Range</i> is the address of the range that defines the table. <i>Offset</i> defines which column contains the information. The first column is 0.

Example of VLOOKUP:
VLOOKUP("Jane",A2:E5,2) returns 11.00.

	A	B	C	D	E
1	Name	1Q	2Q	3Q	4Q
2	Claudia	12.00	14.00	15.00	15.00
3	Jane	10.00	11.00	8.00	8.00
4	Kyle	9.00	13.00	8.00	18.00
5	Steve	13.00	8.00	17.00	5.00

Logical Functions

The logical functions evaluate relationships and return “true” or “false” results. True = 1 (or non-zero values) and false = 0. The main purpose of logical functions is the IF() function, which evaluates any of the logical functions in order to take a specified action.

Function	Description True = 1 (or non-zero), False = 0	Example
AND (logical1, logical2,...)	Logical AND. Returns 1 if all arguments are true or 0 if any of the arguments is false. Useful with IF statements. <i>Logical</i> can be either logical values, arrays or references to cells or fields 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.	=AND(1+3=4,3+1=3) returns 0. =AND(1+3=4,3+1=4) returns 1. =IF(AND(A1>B1,A1<C1),100,200) returns 100 if A1 is greater than B1 and less than C1. Otherwise, it returns 200.
FALSE ()	Returns 0. You can use FALSE in a calculation or enter it directly into a cell or field 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 onespecified 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.	=IF(B13=500,50,-50) returns 50 if B13 contains 500. Otherwise, the expression returns -50. =IF (D14 = “warm”, “red”, “yellow”) returns red if D14 contains “warm”. Otherwise, the expression returns yellow. =IF (A1>A2, “Ascending”, “Descending”) returns Ascending if A1 is greater than A2. Otherwise the expression returns Descending.
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, cells or field references. 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.	=OR(1+2=3,2+3=5) returns 1. =OR(1+2=3,2+3=4) returns 1. =OR((1+2=2,2+3=3) returns 0. =IF(OR(A1>100,A1=B1),25,50) returns 25 if A1 is 100 or less, or A1 equals B1.
TRUE ()	Returns 1. You can use TRUE in a calculation or enter it directly into a cell or field where it is interpreted as a logical value. You must include the empty parentheses. See also FALSE.	

Mathematical Functions

The arguments for mathematical functions are either numbers, field names, or addresses of cells that contain numbers. The results of these calculations are always numbers.

Function	Description	Example
ABS (<i>value</i>)	Absolute value of a number. Value can be a cell or field reference.	=ABS(12) returns 12. ABS(-12) returns 12.
EXP (<i>value</i>)	Value of e (the mathematical constant) raised to the power of value. The factorial is equal to $1 \cdot 2 \cdot 3 \dots value$, where <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> .	=EXP(2) returns e^2 or 7.389056.
FACT (<i>value</i>)	Factorial of a number (value)	=FACT(4) returns 24. =FACT(2.5) returns 2.
INT (<i>value</i>)	Value rounded to the next lowest integer. Value can be a positive or negative number, or a reference to a cell or field that contains a number.	=INT(123.456) returns 123. =INT(123.567) returns 123. =INT(-123) returns -123. =INT(-123.456) returns -124.
LN (<i>value</i>)	Natural logarithm of <i>value</i> , using the constant e as a base. LN is the inverse of EXP. Value must be a positive number.	=LN(2) returns 0.693147.
LOG (<i>value</i>)	Base 10 logarithm of <i>value</i> . Value must be a positive number.	=LOG(100) returns 2.
MOD (<i>value, 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.	=MOD(147,12) returns 3.
PRODUCT (<i>value1, value2,...</i>)	Product of multiplication of a list of numbers (<i>values</i>). You can have as many arguments as you want. Value can be numbers, references, and logical values.	=PRODUCT(B1:B13,2)PRODUCT(250,3,2) returns 1500.
ROUND (<i>value, places</i>)	Value rounded to the specified number of decimal places.	=ROUND(12.23761,2) returns 12.24.
SQRT (<i>value</i>)	Square root of a <i>value</i> . Value must be a positive number.	=SQRT(144) returns 12.
SUM (<i>value1, value2,...</i>)	Total of a list of <i>values</i> . You can use as many arguments as you want, including values, addresses, ranges, named cells, and field names for arguments.	=SUM(B3:B13) =SUM(23,45,67) returns 135.
TRUNC (<i>value</i>)	The integer portion (without rounding) of a <i>value</i> .	=TRUNC(23.66) returns 23.

Print Functions

The print functions return the name of the file, the current page, and the number of pages of inclusion in headers and footers when printing documents.

Function	Description	Example
FILENAME ()	Returns the filename of the current file for inclusion in a Spreadsheet header or footer. You must include the empty parentheses. (Not available for use in Addressbook.)	
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. (PAGE is not available for use in Addressbook.)	=“Page”& PAGE()& “of”& PAGES() <i>returns</i> Page 3 of 15.
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. (Not available for use in Addressbook.)	=“Page”& PAGE()& “of”& PAGES() <i>returns</i> Page 3 of 15.

Statistical Functions

The arguments for statistical functions consist of either numbers, field names, or addresses of cells that contain numbers. The results of these calculations are always numbers.

Function	Description	Example
AVG (<i>value1</i> , <i>value2</i> ,...)	Average of the values in a list. You can use as many arguments as you want, including values, addresses, ranges, named cells, named ranges, and field names for arguments. AVG treats empty cells as zero values. You cannot average cells or fields containing text.	=AVG(A15:A24) returns 74. =AVG(Grades) returns 85. =AVG(89,94,91,98) returns 93.
MAX (<i>value1</i> , <i>value2</i> ,...)	Largest number in a list. List can include values or addresses, separated by commas. MAX ignores empty cells and treats text as a zero.	=MAX(2,4,6,8) returns 8. =MAX(-2,-4,-6,-8) returns -2. =MAX(B3:B13) returns the largest number in the range B3:B13.
MIN (<i>value1</i> , <i>value2</i> ,...)	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.	=MIN(2,4,6,8) returns 2. =MIN(-2,-4,-6,-8) returns -8. =MIN(B3:B13) returns the smallest number in the range B3:B13.
RANDOM ()	Random number between 0 and 1. RANDOM returns a new random number with every recalculation. RANDOM() returns a decimal value.	
RANDOMN (<i>value</i>)	Random number between 0 and value-1 , a number you specify. RANDOMN returns a new random number with every recalculation. RANDOMN(100) returns a number between 0 and 99.	
STD (<i>value1</i> , <i>value2</i> ,...)	Standard deviation of the values in a list. You can use as many <i>values</i> as you want.	=STD(254,255,253,248,257,255,256) returns 2.944.

The formula used by the STD function:

$$\sqrt{\frac{n\sum x^2 - (\sum x)^2}{n(n-1)}}$$

STDP (<i>value1</i> , <i>value2</i> ,...)	Standard deviation of a population. You can use as many <i>values</i> as you want. You can use values, addresses, ranges, named cells, and field names for arguments.	=STDP(254,255,253,248,257,255,256) returns 2.726.
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The formula used by the STDP function:

$$\sqrt{\frac{n\sum x^2 - (\sum x)^2}{n^2}}$$

Function	Description	Example
VAR (<i>value1</i> , <i>value2</i> ,...)	Simple variance of a sample population. You can use as many arguments as you want, including values, addresses, ranges, named cells, and field names for arguments.	=VAR(254,255,253,248,257,255,256) returns 8.666667.

The formula used by the VAR function:

$$\frac{n\sum x^2 - (\sum x)^2}{n(n-1)}$$

VARP (<i>value1</i> , <i>value2</i> ,...)	Population variance of the values in a list. You can use as many arguments as you want, including values, addresses, ranges, named cells, and field names for arguments.	=VARP(254,255,253,248,257,255,256) returns 7.42857.
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String Functions

A string is a series of characters. The string functions extract text (including numbers) or return numbers based on text. For example, you can extract the last four digits of a stock number that might identify the manufacturer of a product.

Code numbers internally to represent each character. The CHAR and CODE string functions convert Ensemble codes to characters and vice versa. For a complete list of the Ensemble character codes, see next the section, Character Codes.

Function	Description	Example
CHAR (value)	Converts a code number 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 a list of character codes, see next section.	=CHAR(65) returns A. =CHAR(68) returns D.
CLEAN (string)	Strips unprintable characters from a string. Useful for removing non-printable characters from imported text.	=CLEAN(CHAR(13)&"text") returns text.
CODE(string)	Converts a character to its code number	=CODE("A") returns 65. =CODE("D") returns 68. =CODE("Now is the time") returns 78.
EXACT (string1, string2)	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 equals sign except the = is not case-sensitive. This is particularly useful with IF statements.	=EXACT("iteration","iteration") returns 1. =EXACT("iteration","Iteration") returns 0. =IF (EXACT(A5,"Hotel"),1000,0) returns 1000 if A5 contains "Hotel". =IF(EXACT(A5="Hotel"),1000,0) returns 1000 if A5 contains "Hotel" or "hotel".
FIND (substring, string, start)	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.	=FIND("all","Now is the time for all good men",0) returns 20. =FIND("i","Mississippi",3) returns 4.
LEFT (string, num)	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.	=LEFT("Hale",1) returns "H". =LEFT("12 items left",2) returns "12".

Function	Description	Example
LENGTH (<i>string</i>)	Returns the number of characters in a string including characters, punctuation marks, and spaces enclosed in quotation marks.	=LENGTH("Now is the time.") returns 16.
LOWER (<i>string</i>)	Converts upper case characters to lower case .	=LOWER("SUMMER,1993") returns summer,1993.
MID (<i>string, start, num</i>)	Returns the number of characters (num) 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.	=MID("The United States",4,6) returns "United".
PROPER (<i>string</i>)	Capitalizes the first letter of every word and the first letter following any non-letter character. PROPER converts all other characters to lower case.	=PROPER("Now is the time") returns "Now Is The Time". =PROPER("1993 BUDGET") returns "1993 Budget".
REPEAT (<i>string, num</i>)	Repeats a string a specified number of times. If <i>num</i> is zero, REPEAT returns an empty string.	=REPEAT("Ha",6) returns HaHaHaHaHaHa. =REPEAT("Ha ",6) returns Ha Ha Ha Ha Ha Ha.
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.	=REPLACE("1992",3,1,"3") returns "1993". =REPLACE("Now is the time for all good men",29,3,"people") returns "Now is the time for all good people".
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.	=RIGHT("Section A",1) returns "A". =RIGHT("Number of Items, 25",2) returns 25.
STRING (<i>value, N</i>)	Converts values to a string using N decimal places . <i>N</i> can be a number from 0 through 15.	=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.	=TRIM(" Cleveland, Ohio ") returns "Cleveland, Ohio".
UPPER (<i>string</i>)	Converts a string to upper case .	=UPPER("usa") returns USA.
VALUE (<i>string</i>)	Converts a number in string form to a value	=VALUE("1.75") returns 1.75.

Time and Date Functions

Spreadsheet and Addressbook use 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.

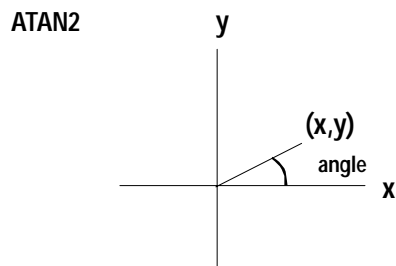
Function	Description	Example
DATE (<i>year, month, day</i>)	Converts a numeric date (day, month, year) to the serial number format. <i>Year</i> can be from 1900 to 2078. For the years 1900 to 1999, you can enter just the last two digits, for example 96 rather than 1996 . <i>Month</i> can be 1-12. <i>Day</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#.	=DATE(93,01,20) returns 33988. =DATE(93,01,32) returns #VALUE#, because the <i>day</i> value 32 is out of bounds.
DATEVALUE (<i>string</i>)	Converts a date (in text form) to the serial number format	=DATEVALUE("1/20/93") returns 33988. =DATEVALUE("Jan 20, 1993") returns 33988.
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.	=DAY(33988) returns 20. =DAY(DATEVALUE("1/20/93")) returns 20.
HOUR (<i>time value</i>)	Returns the hour of the day from <i>time_value</i> 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.	=HOUR(29453.5) returns 12. =HOUR(TIMEVALUE("11:58PM")) returns 23.
MINUTE (<i>time value</i>)	Extracts the minute from the <i>time_value</i> 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.	=MINUTE(TIMEVALUE("11:58PM")) returns 58. =MINUTE(29453.55) returns 12.
MONTH (<i>date value</i>)	Extracts the month from the <i>date_value</i> 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.	=MONTH(DATEVALUE("May 6, 1968")) returns 5. =MONTH(25420) returns 8.

Function	Description	Example
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.	=NOW() returns 33988.50 (January 20, 1993, 12 noon) if it is now 12 noon on January 20, 1993.
SECOND (time value)	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.	=SECOND(TIMEVALUE("11:58:45PM")) returns 45. =SECOND(29453.49) returns 36.
TIME (hour, minute, second)	Converts a numerical time (hour, minute, and second) to the serial number format	=TIME(12,34,23) returns 0.523877.
TIMEVALUE (string)	Converts a time (in text format) to the serial number format	=TIMEVALUE("1:10PM") returns 0.54861111.
TODAY()	Returns the current date (month, day, and year) from the serial number format	=TODAY() returns 33988.00 if today's date is January 20.
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.	=WEEKDAY(33988) returns 4 (Wednesday). =WEEKDAY(DATEVALUE("1/20/93")) returns 4 (Wednesday). (Sunday = 1, Saturday = 7)
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.	=YEAR(33988) returns 93. =YEAR(DATEVALUE("1/20/93")) returns 93.

Trigonometric Functions

The arguments for trigonometric functions are either numbers, field names, or addresses of cells that contain numbers. The results of these calculations are always numbers.

Function	Description	Example
ACOS (value)	Returns the angle that is the arccosine of a value from -1 to 1. Value can be a cell or field reference.	=ACOS(.50) returns 1.047198 radians.
ACOSH (value)	Returns the angle that is the hyperbolic arccosine of a value. The inverse hyperbolic cosine is the number for which the hyperbolic cosine is <i>value</i> . Value must be equal to or greater than 1.	=ACOSH(5) returns 2.292432.
ASIN (value)	Returns the angle that is the arcsine 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. Value must be from -1 to 1.	=ASIN(.75) returns 0.848062 radians.
ASINH (value)	Returns the angle that is the hyperbolic arcsine of a value. The inverse hyperbolic sine is the number which is the hyperbolic cosine of <i>value</i> .	=ASINH(10) returns 2.998223. =ASINH(15) returns 3.402307.
ATAN (value)	Returns the angle that is the arctangent of a number. The arctangent is the angle (in radians) for which the tangent equals <i>value</i> . Value is the tangent of the angle you want.	=ATAN(90) returns 1.559686 radians.
ATANH (value)	Returns the angle that is the hyperbolic arctangent of a value. Value 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> .	=ATANH(0.75) returns 0.972955.
ATAN2 (value)	Returns the arctangent 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 <i>x,y</i> coordinate. The coordinates <i>x,y</i> 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 <i>x,y</i> argument. If you use 0,0 for <i>x,y</i> , the #VALUE# error appears in the cell.	=ATAN2(1.5,2.0) returns 0.643501 radians.



Function	Description	Example
COS (angle)	Returns the cosine of an angle, expressed in radians. If you know an angle in degrees, you can use the RADIANS function to convert it to radians.	=COS(1.5) returns 0.070737. =COS(RADIANS(40)) returns 0.766044.
COSH (value)	Returns the hyperbolic cosine of a value	=COSH(2) returns 3.762196.
DEGREES	Converts radians to degrees .	
PI ()	Value of π (3.141592653589793). You must include the empty parentheses.	
RADIANS	Converts degrees to radians .	
SIN (angle)	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.	=SIN(RADIANS(45)) returns 0.707.
SINH (angle)	Returns the hyperbolic sine of an <i>angle</i> , expressed in radians.	=SINH(0.5) returns 0.521095.
TAN (angle)	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.	=TAN(RADIANS(45)) returns 1.0.
TANH (angle)	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.	=TANH(0.5) returns 0.462117.

Fonts

Occidental Font

Symbols keyboard

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International keyboard

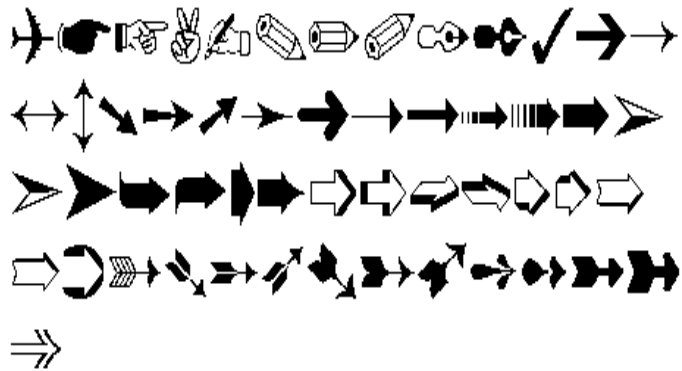
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Math Symbols

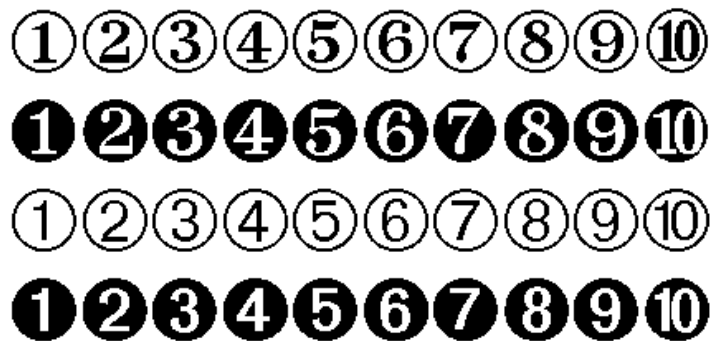
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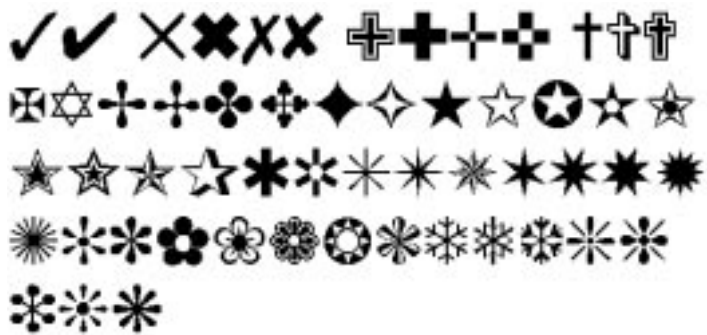
Pointer
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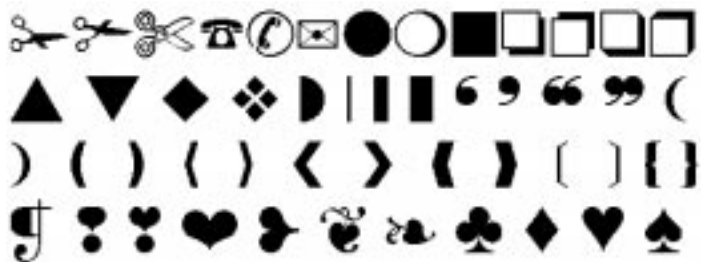
Numbers
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Symbols
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Other
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Shattuck Avenue Font

Symbols keyboard

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International keyboard

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Math Symbols

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URW Mono Font

Symbols keyboard

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International keyboard

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Math Symbols

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URW Roman Font

Symbols keyboard

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1 2 3 4 5 6 7 8 9 0 ® © ™

International keyboard

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Math Symbols

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URW Sans Font

Symbols keyboard

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International keyboard

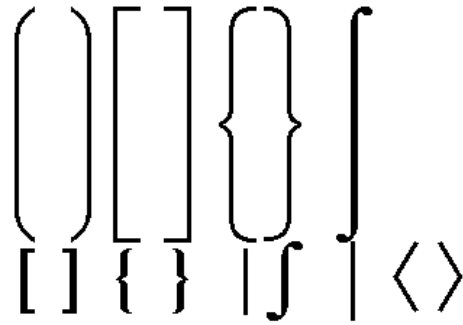
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Math Symbols

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URW SymbolsPS Font

Bracket keyboard



Greek keyboard

α β χ δ ε φ γ η ι φ κ λ μ
ν ο π θ ρ σ τ υ ω ξ ψ ζ
Α Β Χ Δ Ε Φ Γ Η Ι Θ Κ Λ Μ
Ν Ο Π Θ Ρ Σ Τ Υ ζ Ω Ξ Ψ Ζ

Symbol Math keyboard

7 8 9 + < > ≤ ≥ ≅ ~ ≈ ∅
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Symbol Other keyboard

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ℳ ℞ ∫ ® © ™ √ ∙ ¬ ∧ ∨ ↔ ⇐
↑ ⇒ ↓ ◇ ® © ™ .

Specifications (continued on the next page)

Monitor PDP-100J PDP-350CJ PDP-300CJ	14" monochrome CRT 14" color CRT 14" color CRT	Printer Resolution	300 dpi vertical and horizontal
Keyboard	80 keys, 7 fonts	Maximum File Size per Application	Approximately 100K (can be much less depending on the number of text regions)
Printer PDP-100J PDP-350CJ PDP-300CJ	Black ink-jet Color ink-jet, color or black Color ink-jet, color or black	Diskette	1.44 Mb or 720 kb 3.5" diskettes MF2HD or MF2DD
Ink-jet Cartridges	Brother	Size of Thesaurus	41,843 words
Ink-jet Cartridge Capacity	1,000,000 characters of 12 point URW Roman font	Size of Dictionary	114,000 words
Paper Capacity	Single Sheet Feed	User Dictionary Word Capacity	204 words
Paper Capacity with Optional Cut Sheet Feeder	30 Sheets (20 lb. bond)	Voltage	120 VAC \pm 10%
Paper Type	<p>Paper Stock: 16-24 lb. bond. Recommended 50-100% cotton content for best printing. LX Jet Series paper 51634Y or 51636H glossy paper, and Xerox 4024 Standard.</p> <p>Labels: 2-5/8" x 1" Avery #8660 (clear), #5160 (white) 2-5/6" x 1" Avery #5660 (clear), 4" x 1" Avery #5261, 4" x 1-1/3" Z Label #32208, 4" x 2" Avery #5163, 8163 4" x 3-1/3" Avery #5164 4-1/4" x 1-1/3" Avery #5662 4-1/4" x 2" Avery #5663</p> <p>Diskette Labels: For 3.5", Avery 2186 (2 3/4" x 2", laser labels)</p> <p>Film Transparency: especially made for ink-jet printing such as Lexmark #1372083 or Hewlett Packard #HP 51636F</p>	FAX Capabilities	50,000 characters on 8.5 pages with 12 point text OR one character per page for a total of 54 pages

Specifications (continued)

Printing Direction	Black: Bidirectional and Unidirectional Color: Unidirectional	Weight of Monitor	PDP-100J: 15.4 lbs. (7 kg) PDP-350CJ & PDP-300CJ: 27.5 lbs. (12.5 kg)
Printing Environment for Transparencies	Avoid temperatures over 1045F (405C) and high humidity (over 70%RH).	Weight of Keyboard/Printer	Approx. 11 lbs.
Maximum Paper Size	12" width x 14.33" length	Printing Speed	160 characters per second
Maximum Printing Area	9.1" width x 13.33" length	Keyboard/Printer Dimensions	17.9" width x 5.83" height x 16.14" depth (455 mm x 148 mm x 410 mm)
ROM	3Mb	RAM	1Mb
Monitor – PDP-100CJ	13" width x 13.18" height x 12.8" depth (330mm x 335mm x 325mm)	Monitor – PDP-300CJ PDP-350CJ	14.48" width x 14.6" height x 14.46" depth (368mm x 370.9mm x 367.4mm)

Glossary

- A4 size paper** - a metric paper size 210 mm x 297 mm or 8.3" x 11.7"
- absolute reference** - in Spreadsheet, a reference to a cell address based on its column and row number
- access code** - a code used by a modem to use a phone line for transmitting information
- acoustic cover** - the clear plastic cover that encloses the printer
- Addressbook** - one of the applications you can open from the Main Menu. This application allows you to produce mass mailings from a list of addresses.
- application** - a program used to produce a document or perform a task. For example, the Drawing application can be used to create drawings that can be placed in documents such as newsletters.
- area chart** - a chart composed of connecting straight lines with the area below the lines filled or shaded
- argument** - in Spreadsheet, a piece of information you enter into a formula
- arrow keys** - the up, down, left, and right arrow keys
- 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** - a group of pixels that form an image
- Bitmap tool bar** - a special tool bar that you can use to work with bitmap images
- BMP** - bitmap format
- Book Reader** - an Ensemble application that allows you to "read" books that have been provided on diskettes
- border** - a line or box around text or graphics
- browse view** - in Addressbook, to be able to scroll through a list of all addresses
- byte** - a unit of information consisting of 8 bits, used to show storage capacity. Kb = approximately 1000 bytes; Mb = approximately 1,000,000 bytes
- Calculator** - an Ensemble electronic accessory that can be opened from the Main Menu or by pressing the **CALC** function key
- card view** - in Addressbook, to be able to view one address card at a time
- carriage** - the mechanical unit that carries the ink-jet 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

clicking – pressing and releasing a mouse button

clipboard – a temporary holding place for one image or block of text. Placing an item in clipboard automatically 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

cut sheet feeder – an optional accessory that allows you to load several sheets of paper for printing

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.

Desktop Reference – one of the applications you can open from the Main Menu. It is used to find synonyms, hyphenation, and jumbles (mixing up letter order).

directory – a folder

disk drive – the slot on the side of the Ensemble unit in which diskettes are inserted

diskette – a 3.5" square plastic and metal disk that is inserted into the disk drive. Diskettes can be used to run applications, present a tutorial, or store documents and data. Diskettes must be formatted before they can be used unless you purchase pre-formatted diskettes.

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.

document safeguarding – a backup feature of Ensemble that takes a snapshot of your work in progress so that you can go back to it in case your current work is lost

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.

dragging – pointing to something on the screen and then holding down the mouse button while moving the mouse

Drawing – an Ensemble application for creating graphics

draw mode – a screen display option for the Drawing application

dual documents – working in two documents at the same time

duplex – in the Communications application, the ability to send and receive data at the same time

elevator box – the box on the right side of a window that you can use to scroll up and down by sliding it with your mouse

emulate – to act like; to resemble

executable file – a type of file that allows you to execute or perform functions; an application

extension – the three letters that follow the name of a file in DOS format, usually showing you what kind of a file it is

fax modem – an optional accessory that allows you to send documents to other fax modems or fax machines, and data to other modems

field – a place for entering a certain type of information in a spreadsheet

file – a saved document

file mask – a way to see only the files of a certain type, filtering out files of other types

File Manager – one of the applications you can open from the Main Menu. File Manager helps you to open, move, copy, and manage files.

file selector – the New Disk button and the scrolling list used 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 – the type of math used in Spreadsheet, allowing you to make quick calculations, but with possible inaccuracy beyond the 17th or 18th significant digit (a digit required for a certain level of precision)

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). Ensemble accepts only MF-2DD (double-sided/double-density/double-track) and MF-2HD (double-sided/ high density/double-track).

formula – any mathematical process that you perform automatically in Spreadsheet

function keys – the keyboard keys that activate Ensemble functions such as copy, paste ink change, etc. The function keys are the top row of keys on the keyboard.

functions, Basic tool bar – a tool bar that contains icons for performing tasks such as save, copy, print, etc.

functions, Advanced tool bar – a tool bar that contains icons for performing tasks such as zooming in or changing line spacing

geometric progression – a series of numbers such as 3, 9, 27 that increases by a specific multiplier (called a step value) such as 3

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, 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 object 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 type of paragraph indentation in which the first line extends further left than the rest of the paragraph, "hanging" out in the margin

header – a page element that appears at the top of each page. See *footer*.

help pointer – one of the shapes of the pointer. It indicates that you can jump to the section of help text shown by the pointer.

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

hotspot - in Book Reader, a graphic method of moving around in a "book"

hourglass pointer - one of the shapes of the pointer. It indicates that the system is busy. You must wait for the hourglass pointer to disappear before being able to take any other action.

hyperlink - in Book Reader, a feature that allows you to skip around in a "book" to the specific part you want to view

I-beam pointer - one of the shapes of the pointer. It indicates that you can type or edit text. You also use it to select text and to choose where the text you type appears.

icon - a picture symbol on the screen used to represent an application, document, folder, etc.

import/export function - allows you to bring in drawings and documents from other applications or make Ensemble documents readable by other computers

indentation - the space between the margin and the text

Information bar - a bar at the top of the screen in File Manager that shows you information (such as size) about a folder

ink-jet cartridge - contains the ink and spray nozzles used by the ink-jet printer

insert mode - a method for entering text in which new text does not erase existing text, but pushes it to the right

insertion point - the blinking vertical line on the screen that shows you where your next text will be placed

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 you type and that appear on the screen, but do not appear when you print, such as a section break mark

iteration - the process of recalculating a circular reference repeatedly until the results converge and the result differences are insignificant

jumble - an option of the Desktop Reference that allows you to change the order of letters in a word to create new words

justified - a type of paragraph alignment in which the left and right edges of the text extend to the edge of the right and left margins

keyboard layout - the types of keys and their arrangement on the keyboard

labels - in Spreadsheet, the descriptive titles for rows and columns, such as "expenses"

labels - printed labels used for addresses

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

LED light - the light beside the disk drive that is lit when a diskette is being used. Diskettes should never be taken out when the LED light is on because information may be lost.

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 incremented (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 (> < ≥ ≤ ≠)

lookup functions - in Spreadsheet, functions used to create a table in a spreadsheet that acts like a database source of information

Main Menu - the first screen you see when you turn on the machine, containing icons for the applications, tools, and accessories such as Word Processor, Calculator, and Scrapbook

map - to change the order of fields in a spreadsheet; in Addressbook, to choose which fields you want to import and where to put them

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 or in a section of 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. When you click one of the menu names, you can bring down a menu.

merge - to combine data from one application with data from another. For example, addresses from Addressbook can be inserted into a form letter created in Word Processing.

minimize a window - to reduce a window to the size of an icon

modem - a device for connecting Ensemble to a telephone line for the electronic transfer of information

modem connection port - the plug-in location on the side of the keyboard/printer for the modem

monitor - the CRT (Cathode Ray Tube) screen and its housing

monospacing - a type of letter spacing in which each letter takes up the same amount of space. Typewriters use monospacing. See *proportional spacing*.

mouse - a hand-held device for creating, editing, etc. to select items on the monitor screen

mouse command - any function in which you use the mouse to point or click

New/Open dialog box - a dialog box that asks you to choose the document or template that you want to open

On-line Help - a source of quick information on how to use the Ensemble system accessed through the **HELP** function key

operators - symbols that show a mathematical operation, such as +

paper adjustment lever - a lever used to allow you to manually adjust the top edges of the paper

paper support - a shelf-like piece of plastic that can be opened on the back of the keyboard/printer unit in order to hold single sheets of paper for printing

parent folder - a folder that contains the current folder

parity - a feature of the Communication application 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

platen - the roller that holds the paper

protocol - a set of rules

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 - taking a pull-down menu and moving it to another part of the screen so that it will not obscure the area you are working on

pixel – the smallest dot on the monitor screen

pixel view tool – a bitmap tool that allows you to see and change individual pixels

Planner – one of the Ensemble applications available from the Main Menu that allows you to plan appointments and projects

platen – the roller around which the paper turns

platen knob – the knob on the side of the Ensemble keyboard/printer unit that turns the platen. The platen knob can be used to insert or remove paper.

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.

power indicator – a small light near the on/off switch that is lit when the unit is on

proportional spacing – a type of letter spacing in which each letter takes up an amount of space proportional to the size of the letter

radio button – a type of menu button that allows for only one choice to be turned on at a time. When a choice is turned on, the button is darkened.

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 where Ensemble stores information and applications

range – a group of cells in a spreadsheet

read-only – a type of file or diskette that can be opened, but not changed

redraw – a special function for recreating or “updating” the image on the screen so that all of the text and graphics appear more accurately

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, such as “two cells up and one cell to the right”

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

scanner – an optional accessory used to transfer images from a printed page and placing them into your electronic documents

Scrapbook – an Ensemble application used to store graphics and bits of text so that they are readily available

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, moving from page to page, or from side to side. They are located on the right side and at the bottom of the screen.

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 choose by using the cursor and mouse or keyboard. Selected items will darken.

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

Solitaire – a card game for one person on diskette

Special Characters keyboard – a special keyboard that appears on the screen allowing you to choose special character keys and symbols

Spreadsheet – an Ensemble application in which you create documents for calculations

spreadsheet – a document containing cells for entering data, allowing you to make automatic calculations with the data you enter

startup document – a document that automatically opens when you open Addressbook, Planner, or Scrapbook

stop bits – a setting in the Communications application that acts as a “traffic controller,” telling Ensemble when to send or receive a character. It is normally set at “1.”

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 – a tool bar that contains the tools used 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

terminal – a monitor and keyboard that does not do its own computing, but operates from a central computer

Text File Editor – an Ensemble application (on diskette) that allows you to create and edit DOS text

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

Turnabout – an Ensemble electronic game of strategy

user dictionary – a special dictionary that you create with terms common to the kind of desktop publishing that you do. For example, your company name, FOTO, Inc. could be included in your dictionary so that the spell checking system would not consider “FOTO” a misspelling of “photo.”

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

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 Processing - one of the Ensemble applications you can open from the Main Menu that allows you to create, edit, and print letters, newsletters, and other documents with graphics included on the page

word wrap - a feature of word processing in which words that cannot fit on one line of text are automatically 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

INDEX

A

abbreviated phrase, 131
ABORT command, communication, 329
ABS(value) mathematical function, 354
absolute references, spreadsheet, 151
AC adaptor, 2
ACOS(value) trigonometric function, 362
ACOSH(value) trigonometric function, 362
acoustic cover, 2
addressbook
 adding cards, 255
 cards
 adding notes, 258
 copying, 257
 deleting, 258
 editing, 257
 searching, 259
 creating, 262
 creating cards, 254
 exiting, 260
 exporting, 265
 flipping through cards, 257
 importing, 263
 mail merge, 124
 opening, 263
 first-time, 253
 phone numbers, type, 256
 printing, 261
 safeguarding, 260
 saving, 260
align text
 drawing, 236
 word processing, 71 , 89
AND function
 logical1, logical2,..., 353
 spreadsheet, 176
append a graphic layout, 117
applications
 exiting, 27
 listing, 26
 starting, 27
Apply button, 44
arc
 changing, drawing, 219
 tool, drawing, 206

area
 attributes
 drawing, 215 , 216 , 218
 word processing, 114
 charts, spreadsheet, 178 , 181
 fill tool, drawing, 217
 pattern tool, drawing, 217
 shading tool, drawing, 217
arguments
 built-in functions, 153
 in functions, 347
 placeholder, 154
arrow keys, 44
 typewriter, 296
 using, 40 , 44
ASIN(value) trigonometric function, 362
ASINH(value) trigonometric function, 362
assembly of equipment, 4
ATAN(value) trigonometric function, 362
ATAN2(x,y) trigonometric function, 362
ATANH(value) trigonometric function, 362
attributes
 tool bar, drawing, 216
 word processing
 area, 114
 line, 114
 setting, 114
 text character, 84
AVG(value1,value2,...) statistical function, 356

B

background color
 drawing, 215 , 218
 preferences, 25
backspace
 correcting as you type, 79
 key
 calculator, 285
 word processing, 81
bar charts, spreadsheet, 178 , 180
BELL command, communication, 329
bibliography, creating, 129
bitcount option, 239
bitmap, 241
 ellipse, 244

- erase, 245
- format, color, 246
- formats
 - bitmap (BMP), 238
 - PC paintbrush (PCX), 238
 - tag image formats (TIF), 238
- frame, creating, 241
- freehand, 244
- images, editing, 244
- objects, drawing, 241
- pixel view tool, 245
- resolution, 246
- selection region, 244
- shapes, drawing, 242
- tool
 - color, 245
 - ellipse, 207
 - fill, 245
 - line, 207
 - rectangle, 207
- bitmap (BMP) format, drawing, 238
- bold text
 - spreadsheet, 163
 - word processing, 86
- book reader, 305
 - close, 306
 - copy, 307
 - find, 307
 - open, 305
 - print, 308
 - read, 306
- border
 - anchor, 95
 - color, 96
 - pattern, 96
 - shading, 96
 - tools, 96
 - customizing, 95
 - double line width, 95
 - paragraphs, 95
 - shadow width, 95
 - sides, 95
 - spacing, 95
 - types, 95
 - width, 95
- breaking out pasted objects, drawing, 230
- brightness control, monitor, 3
- brush tool, drawing, 207
- built-in, functions
 - formulas, 149
 - spreadsheet, 153
- bullet character, 71
- buttons
 - apply, 44

- cancel, 44
- close, 44
- mouse, left, 37
- OK, 44
- reset, 44
- stop, 44
- template, 52
- Window Control, 42

C

- C/CE button, calculator, 287
- calculator, 283
 - C/CE button, 287
 - buttons & keys, 284
 - backspace button, 285
 - calculation buttons, 284
 - clear button, 285
 - calculating, 285
 - converting measurements, 289
 - cut and paste, 287
 - error conditions, 287
 - functions, 284
 - hierarchy of operations, 286
 - keyboard usage, 286
 - memory, 288
 - memory buttons, 285
 - mouse usage, 286
 - NUM LOCK, 286
 - starting, 283
 - stopping, 283
 - window, 283
 - worksheets, 290
- calendars
 - creating, planner, 281
 - opening, planner, 282
- Cancel button, 44
- care and maintenance, 5
- cell, 139
 - address, 139
 - active, 140
 - borders, spreadsheet, 164
- center, spreadsheet
 - horizontally, 192
 - vertically, 192
- CHAR(value) string function, 358
- character
 - spacing, 84
 - typewriter, 301
 - weight, 84
 - width, 84
- characters, special, 24

C (cont'd.)

- charts
 - area, 181
 - axis markings, changing, 187
 - bar, 180
 - categories, 178
 - chart title, 186
 - column, 179
 - copying, another application, 185
 - creating, 178
 - deleting, 185
 - elements, 178
 - changing, 185
 - grid markings
 - adding, 187
 - changing, 187
 - handles, 184
 - high/low, 182
 - legend, 186
 - legends, 186
 - line, 180
 - maintaining aspect ratio, 184
 - markers, changing, 188
 - moving, 184
 - pie, 182
 - resizing, 184
 - scatter plot, 181
 - spreadsheet, 178
 - text properties, changing, 185
 - titles, 186
 - changing, 186
 - tools for creating, 190
 - types, 179
 - X-axis title, 186
 - x-y plot, 181
 - Y-axis title, 186
- check boxes, 43
 - menus, 38
- checksum, communication, 335
- CHOOSE(index,value1,value2,...)information function, 351
- circular references, spreadsheet, 173
- CLEAN(string) function, 358
- Clear button, calculator, 285
- CLEAR command, communication, 329
- clicking, 27
 - menus, 37
 - mouse, 21
 - submenus, 39
- clip art, using, 114
- clipboard, 81, 124
 - typewriter, 299
- closing, documents, 36
- CODE, function (string), 358
- Code key, 40
- color
 - background, 91
 - filled option, 91
 - pattern, 91
 - shading, 91, 166
 - tools, 91
 - unfilled option, 91
 - printing, 48
 - shading, 90, 167
 - shading option, 166
 - spreadsheet, 165
 - text
 - drawing, 236
 - word processing, 90
 - tools, 90, 166, 167
 - attribute, 217
- COLS(range) function, 351
- column
 - breaks, 136, 138
 - changing, 137
 - create, 75
 - word processing, 75
 - inserting breaks, 138
 - spacing, 75
 - spreadsheet
 - charts, 178, 179
 - width, 161
 - word processing, 136
- COMM command, communication, 329
- comma, spreadsheet, 145
 - comma-separated value (CSV), 198
- communication
 - auto linefeed, 322
 - baud rate, 320
 - checksum, 335
 - connection, 2
 - CR/LF, 334
 - CRC (Cyclic Redundancy Check), 335
 - cursor, 320
 - data bits, 320
 - duplex, 322
 - handshake, 320
 - host code page, 322
 - line status, 319
 - lines per screen, 318
 - modem configuration, 321
 - parity, 320
 - protocol settings, 320
 - receiving
 - copying text to the clipboard, 332
 - CRC, 335
 - file types, 335

- information, 332
- saving screen text, 333
- saving scroll—back buffer text, 333
- saving text, 334
 - using XMODEM, 335
- script commands, 329
 - ABORT, 329
 - BELL, 329
 - CLEAR, 329
 - COMM, 329
 - DIAL, 329
 - END, 330
 - label, 329
 - MATCH, 330
 - PAUSE, 330
 - PORT, 330
 - PRINT, 331
 - PROMPT, 330
 - PULSE, 331
 - SEND, 331
 - TERM, 331
 - TONE, 331
- scripts, 327
 - creating, 328
 - syntax, 328
- sending
 - brief messages, 324
 - DOS text files, 324
 - files using XMODEM, 324
 - information, 324
 - text on clipboard, 324 , 325
- stop bits, 320
- terminal emulation, 321
- text size, 319
- window, 318
- window settings, 318
- wrap lines, 322

compression, 240

- options, 240

continuous printing, spreadsheet, 192

contrast control, monitor, 3

convert

- graphic, drawing, 225
- measurements, calculator, 289

copy

- addressbook , single record, 124
- book reader, 307
- diskette, 69
- file, 64
- folder, 64
- spreadsheets, 157
- word processing, 82

COPY command, 82

COPY TO command, 35

Copy tool, drawing, 206

copying text, dragging and dropping, 82

correcting, typewriter, 296

COS(angle) function, 363

COSH(value) function, 363

COUNT(value1,value2,...) function, 351

counters

- number, inserting, 133
- recalculating, 131 , 138
- viewing, 131

cover, acoustic, top, 2

CR/LF, communication, 334

CRC (Cyclic Redundancy Check), GeoComm, communication, 335

crossed arrows

- diagonal, drawing, 208
- vertical/horizontal, drawing, 207

crossed I—beams tool, drawing, 208

crosshairs tool, drawing, 208

CTERM(interest,future_value,present_value)function, 348

current time, inserting, 133

cut and paste, calculator, 287

CUT command, 81

cut sheet feeder, 10 , 60

- installation, 10
- paper insertion
 - automatic, 12
 - manual, 14
- reinstalling paper support, 15
- removal, 14

cut tool, drawing, 206

D

data modem, 60

date

- format, spreadsheet, 195
- functions (list), 360
- longhand format, 132
- numeric format, 132
- preferences, 25

DATEVALUE(string) function, 360

DAY(date_value) function, 360

DDB(cost,salvage,life,period) function, 348

delete

- files, file manager, 70
- key, 81
- rows/columns, spreadsheet, 159

D (cont'd.)

- tool, drawing, 207
 - delete , graphic layout, 117
 - deleting, text, word processing, 81
 - demonstration, 20
 - desktopreference
 - hyphenation, 337
 - jumble, 338
 - spelling, 337
 - synonyms, 337
 - user dictionary, 338
 - destination disk, 69
 - DIAL command, communication, 329
 - dialog boxes
 - apply button, 44
 - cancel button, 44
 - check boxes, 43
 - clicking, 44
 - close button, 44
 - do-not pointer, 42
 - ellipsis, 43
 - keyboard response, 44
 - New/Open, 29
 - OK button, 44
 - print, 46
 - radio buttons, 43
 - reset button, 44
 - stop button, 44
 - value selector, 43
 - dictionary
 - user, editing, 119 , 120
 - word processing, 118
 - disk
 - drive, 2
 - eject button, 2
 - diskettes, 2
 - how to handle, 19
 - precautions, 19
 - do-not pointer, 42
 - document, 28
 - closing, 36
 - creating, 28 , 72
 - exporting, 58
 - formatting, 92
 - graphics, 108
 - importing, 58
 - naming, 33
 - opening, 28 , 73
 - not Brother word processing, 73
 - printing, 46
 - color, 48
 - document options, 46 , 47
 - orientation (portrait and landscape), 49
 - paper options, 48
 - paper size, 49
 - paper type, 49
 - paper width and height, 49
 - printer options, 46 , 48
 - standard settings, 47
 - safeguarding, 55
 - save as, 34
 - saving, 33 , 34
 - window, 30
- DOS
- file
 - extensions, 59
 - names, 59
 - file names, text file editor, 375
 - text files, 373
 - communication, 324
 - sending, communication, 325
- double-clicking mouse, 21
- drag and drop pointer, 159
- dragging
 - menus, 37
 - mouse, 21
 - multiple icons, 64
 - submenus, 39
- dragging and dropping, 82
 - spreadsheet, 158
 - typewriter, 300
- drawing
 - arcs, 213
 - arrange objects, 226
 - custom moving, 227
 - front to back, 226
 - moving, 227
 - arrowhead, 210
 - attributes, 215
 - bitmap, 241
 - frame creating, 241
 - shapes, 242
 - breaking out pasted objects, 230
 - circle, 209
 - convert graphic, 225
 - creating, 208
 - deleting objects, 212
 - draw mode
 - attribute, 217
 - using, 221
 - editing, 208
 - ellipse, 208
 - exporting graphics, 239
 - grids, 231
 - line, 209
 - nudging inside, 230
 - objects, 213
 - open, 205
 - pasting inside, 229

- polygon, 214
 - rectangle, 208
 - resizing objects, 211
 - rulers, 231
 - selecting objects, 210
 - square, 209
 - star, 214
 - straight lines, 213
 - text
 - align, 236
 - color, 236
 - text usage, 234
 - tools, 206
 - arc, 206
 - bitmap
 - ellipse, 207
 - line, 207
 - rectangle, 207
 - brush, 207
 - copy, 206
 - crossed arrows
 - diagonal, 208
 - horizontal/vertical, 207
 - crossed I–beams, 208
 - crosshairs, 208
 - cut, 206
 - delete, 207
 - ellipse, 206
 - eraser, 207
 - fill, 207
 - frame, 207
 - I–beams, 208
 - line, 206
 - paste, 207
 - pixel view, 207
 - pointer, 206 , 207
 - rectangle, 206
 - rotate, 208
 - select all, 207
 - selection, 207
 - text, 206
 - turn, 206
 - undo, 206
 - zoom, 206 , 208
 - type
 - size, 235
 - style, 235
 - unfilled object, 209
- dual document mode, 55
- duplicating objects, drawing, 224

E

- ellipse tool, drawing, 206
- ellipsis in dialog boxes, 43

- em dash, 71
- END command, communication, 330
- Enter key, 40
- envelope, printing, 74
- eraser tool, drawing, 207
- ERR() function, 351
- error
 - calculator, 287
 - memory full , 33
 - scanner, 394
- Esc (escape) key, 41
- EXACT(string1,string2) function, 358
- EXP(value) function, 354
- export
 - BMP format, 240
 - documents, 58
 - entire document, 240
 - Lotus format, 198
 - selected objects, 240
 - spreadsheet, 198
 - changing column order, 199
- exporting
 - addressbook, 265
 - graphics, drawing, 238 , 239

F

- FACT(value) function, 354
- FALSE() function, 353
- FAX modem, 60
- file
 - deleting, 70
 - information, 66
 - renaming, 70
- FILENAME() function, 355
- fill
 - option
 - color, background, 166
 - incremental values, 160
 - tool, drawing, 207
- filled, attribute, drawing, 217
- financial
 - functions
 - list, 348
 - spreadsheet, 175
 - worksheets, calculator, 292
- find
 - and replace text, 97
 - book reader, 307

F (cont'd.)

- next, 98
 - previous, 98
 - FIND(substring,string,start) function, 358
 - flipping objects, drawing, 222
 - folders, 28 , 61
 - creating, 63
 - deleting, 70
 - information, 66
 - multiple, 55
 - renaming, 70
 - resizing, 56
 - switching between, 55 , 56
 - tiling, 56
 - viewing, list, 68
 - window, 61
 - fonts
 - changing, 85
 - changing size, 85
 - changing style, 86
 - proportional, word processing, 71
 - footers
 - printing spreadsheet, 192
 - set up, 101
 - spreadsheet, 165
 - word processing, 100
 - footnotes, description, 127
 - formatting
 - borders, 95
 - diskette, 69
 - document, 92
 - hyphenation, 96
 - leading, manual, 92
 - tabs, 93
 - text
 - character spacing, 84
 - character weight, 84
 - character width, 84
 - custom size, 86
 - formulas
 - absolute references, 151
 - arguments, 153
 - built – in functions, 149 , 153
 - inserting by formula menu, 154
 - inserting by typing, 155
 - changing cell or range name definition, 171
 - copying to adjacent cells, 157
 - deleting cell or range names, 172
 - elements, 149
 - entering, 150
 - with keyboard and mouse, 150
 - with keyboard only, 150
 - function within a function, 155
 - inserting, names, 171
 - moving, 156
 - naming ranges, 169
 - operators, 149
 - placeholder arguments, 154 , 155
 - references, 149
 - relative, 151
 - relative references, 156
 - renaming named cells or ranges, 171
 - show/hide, 169
 - spreadsheet, 144 , 149
 - values, 149
 - frame tool, drawing, 207
 - functions, 347
 - arguments, 347
 - date (list), 360
 - keyword, 347
 - logical (list), 353
 - mathematical (list), 354
 - print (list), 355
 - time (list), 360
 - trigonometric (list), 362
 - FV(payments,interest,term) function, 348
- ## G
- games
 - solitaire, 386
 - Turnabout, 385
 - GOTO command, communication, 330
 - graphic
 - adding, spreadsheet, 196
 - create, 208
 - edit, 208
 - frame, changing size, 113
 - frames
 - align to ruler, 113
 - deleting, 113
 - description, 111
 - deselect, 113
 - moving, 113
 - grouping, drawing, 228
 - images, copy to other applications, scrapbook, 249
 - located in documents, 108 , 111
 - objects
 - charts, 183
 - moving, 115
 - pasting, 114
 - resizing, 115
 - setting attributes, 215
 - wrapping text, 116
 - grid
 - drawing, 231
 - show/hide lines, 163
 - snapping objects, drawing, 233

grid lines, printing spreadsheet, 192

H

handles, text regions, 110

headers

printing spreadsheet, 192

set up, 101

spreadsheet, 165

word processing, 100

Help, 50

high/low charts, spreadsheet, 178 , 182

HLOOKUP(value,range,offset) function, 351

home and family worksheets, calculator, 291

HOUR(time_value) function, 360

hyphenation, 96

desktop reference, 337

maximum lines, 97

prefix, shortest, 97

shortest word, 97

suffix, shortest, 97

I

I-beam tool, drawing, 208

icons, 61

dragging multiple, 64

folder, 61

using, 29

IF function

(logical, true value, false value), 353

spreadsheet, 176

importing

addressbook, 263

documents, 58

graphics

bitmap (BMP) format, 238

drawing, 238

images, scrapbook, 251

PC paintbrush (PCX), 238

tag image (TIF) format, 238

spreadsheet, 198

changing column order, 202

incremental values, spreadsheet, 160

indent

first-line, 88

hanging, 88

hanging left, 88

left, 88

paragraphs, 88

right, 88

INDEX(range,column_offset,row_offset) function, 352

information

bar, file manager, 61

functions

list, 351

spreadsheet, 177

information bar, 62

Ink Saver option, 49

ink-jet cartridge, 2

cleaning

bracket contacts, 18

nozzles and contacts, 18

print head, 18

installation, 16

precautions, 16

insert

graphic layout, 117

key

typewriter, 296

word processing, 78

mode, word processing, 78

row/column, spreadsheet, 159

insertion point, 296 , 297

moving with keyboard, 78

moving with mouse, 78 , 296

word processing, 78 , 79

INT(value) function, 354

invisible characters

special effects, 130

displaying, 130

IRR(guess,range) function, 349

ISERR(value) function, 352

ISNUMBER(value) function, 352

ISSTRING(value) function, 352

italic text, 71 , 76 , 86

spreadsheet, 163

iteration, spreadsheet, 173

J

jumble, desktop reference, 338

justifying cells, spreadsheet, 162

K

key

arrow keys, 296

backspace, 81

delete, 81

key combinations, selecting spreadsheet cells, 143

- keyboard, 2 , 22
 - calculator, 286
 - character keys, 22
 - dialog boxes, 44
 - function and control keys, 22 , 23
 - mnemonics in menus, 40
 - navigation keys, 22 , 23
 - symbols, 24

L

- labels
 - entering, spreadsheet, 145
 - spreadsheet, 144
- leading
 - manual, 92
 - relative, style sheets, 105
- LED light, 2
- left mouse button, 37
- LEFT(string,num) function, 358
- LENGTH(string) function, 359
- lights out, preferences, 25
- line
 - attributes
 - drawing, 215
 - word processing, 114
 - charts, spreadsheet, 178 , 180
 - modifying, drawing, 219
 - spacing, 89
 - typewriter, 304
 - straight, drawing, 243
 - tool, drawing, 206
- lines per screen, communication, 318
- locking rows/columns, spreadsheet, 197
- logical
 - functions
 - list, 353
 - spreadsheet, 175
 - operators, spreadsheet, 176
- lookup function, spreadsheet, 177
- LOWER(string) function, 359

M

- mail merge, 122
 - addressbook, 124
- Main menu, changing appearance, 25
- maintenance, system, 5
- malfunction, 5

- margins
 - relative, style sheets, 105
 - word processing, 75
- master pages
 - changing, 109
 - columns, 110
 - headers and footers, 110
 - text regions, 110
- MATCH command, communication, 330
- mathematical, functions
 - list, 354
 - spreadsheet, 175
- MAX(value1,value2,...) function, 356
- measuring units, changing, 32
- memory
 - calculator, 288
 - full message, 33
- menu
 - arrow keys, 40
 - bar, 37
 - check boxes, 38
 - choices in, 37
 - choosing, 37
 - dimmed choices, 37
 - ellipsis, 38
 - ellipsis in, 37
 - key, 40
 - mnemonics, 40
 - opening, 37 , 40
 - operation, 37
 - pinning, 39
 - radio buttons, 38
 - submenus, 38
 - underlined letters, 40
 - window control, 42
- merging, 122
 - adding fields, 123
 - clipboard, 124 , 126
 - data document, 122
 - field names, 123
 - merge document, 122
 - merge fields, 122
 - printing, 126
 - sequence for creating, 122
 - set up document, 123
 - spreadsheet, 125
- MID(string,start,num) function, 359
- MIN(value1,value2,...) function, 356
- MINUTE(time_value) function, 360
- MOD(value,divisor) function, 354
- modem
 - connection, 2

- preferences, 25
- monitor, 3
 - brightness control, 3
 - connection, 2
 - contrast control, 3
 - power cord, 3
 - power indicator, 3
 - power switch, 3
 - set up, 4
 - signal cable, 3
 - stand, 3
- MONTH(date_value) function, 360
- mouse
 - left button, 37
 - operation, 21
 - pointer, 37
 - pointers, 21
 - port, 2
- move
 - objects, 227
 - custom moving, 227
 - front to back, 226
 - text, 82

N

- N(range) function, 352
- NA() function, 352
- name option, style sheets, 105
- New/Open dialog boxes, 34
- notes
 - attaching, 167
 - indicators, show/hide, 168
 - printing, 168
 - spreadsheet, 167
- NOW() function, 361
- NPV(interest,range) function, 349
- nudging inside, drawing, 230
- NUM LOCK, calculator, 286
- number
 - copies option, 48
 - creating format, spreadsheet, 195
 - pages, displaying, 133
 - star points, 214

O

- OK button, 44

- operators
 - formulas, 149
 - spreadsheet, 152
- OR function, spreadsheet, 176
- OR(logical1,logical2,...) function, 353
- other applications, spreadsheet, 198
- overstrike mode
 - typewriter, 296
 - word processing, 78

P

- page
 - breaks, 136
 - hard, 136
 - inserting, 132
 - soft, 136
 - define, 28
 - height and width, 28
 - number, inserting, 133
 - numbering
 - spreadsheet, 165
 - word processing, 101
 - set up, word processing, 75
 - size
 - definition, 28
 - word processing, 74
- page numbering, 101
- PAGE() function, 355
- PAGES() function, 355
- paper
 - adjustment lever, 2
 - inserting, 9
 - automatic, 12
 - manual with cut sheet feeder, 14
 - support, 2
 - reinstalling, 15
- paragraph borders, 95
- parentheses, spreadsheet, 155
- paste
 - inside, drawing, 229
 - text, 82
 - tool, drawing, 207
- PASTE command, 81
- pattern attribute, drawing, 217
- PAUSE command, communication, 330
- PC paintbrush (PCX) format, drawing, 238
- PI() function, 363
- pie charts, spreadsheet, 178 , 182

pinning, menu, 39

P (cont'd.)

pixel

- defined, 241
- view tool
 - bitmap, 245
 - drawing, 207

placeholder arguments, spreadsheet, 155

plain text, spreadsheet, 163

planner

- creating new calendars, 281
- day template, scheduling events, 272
- exiting, 281
- opening, 282
- printing
 - calendar, 278
 - events, 279
 - page size changing, 279
- repeating events, 274
- scheduled events
 - adding, 273
 - changing, 272
 - removing, 273
- scheduling events, 272
 - copying event description, 274
 - particular time, 273
- searching events, 277
- starting, 267
- switching, calendar and events, 270
- viewing calendar, 268
 - months, 268
 - switching, 268
 - years, 268
- viewing events, 269
 - range of days, 271
 - single day, 270

platen knob, 2

PMT(principal,interest,term) function, 350

point size relative, style sheets, 105

pointer

- mouse, 37
- tool, drawing, 206, 207

polygon radius option, 214

PORT command, communication, 330

power

- cord
 - monitor, 3
 - safety, 5
- indicator, monitor, 3

- switch, 2
 - monitor, 3

precautions, diskettes, 19

Preferences, 25

preferences

- date & time, 25
- lights out, 25
- look & feel, 25
- modem, 25
- sound, 25

print

- book reader, 308
- functions, spreadsheet, 177
- merge documents, 126

PRINT command, communication, 331

print functions, GeoFile (list), 355

printer, location, 2

printing

- calendar, planner, 278
- dialog boxes, 46
- envelope, 74
- envelopes, 49
- head, cleaning, 18
- page option, 48
- quality option, 48
- sideways, spreadsheet, 192
- spreadsheet, 191
- spreadsheet options
 - center horizontally, 192
 - center vertically, 192
 - continuous printing, 192
 - footers, 192
 - print grid lines, 192
 - print headers, 192
 - print row/column titles, 192
 - scale to fit, 192
 - starting page number, 192
- text file editor, 375
- transparencies, 47, 49

PRODUCT(value1,value2,...) function, 354

progression option, incremental values, 160

PROMPT command, communication, 330

PROPER(string) function, 359

prototype, master page, 108

PULSE command, communication, 331

Q

quick dial, communication, 323

Quick Start, 6

R

- radio buttons, 43
 - menus, 38
- RANDOM() function, 356
- RANDOMN(value) function, 356
- RATE(future_value,present_value,term) function, 350
- read, book reader, 306
- recalculation
 - spreadsheet, 172
 - turning on and off, 172
- rectangle
 - drawing, 243
 - tool, drawing, 206
- redo, 83
- Redraw button, 32
- references
 - absolute, spreadsheet, 151 , 170
 - formulas, 149
 - realative, spreadsheet, 151
 - relative, spreadsheet, 151 , 170
 - spreadsheet, 151
- relative, references, spreadsheet, 156
- REPEAT(string,num) function, 359
- replace, all option, 98
- replace text, 82
- REPLACE(original,start,num,replace) function, 359
- replacing, text, existing, 82
- Reset button, 44
- resolution, bitmap, 246
- retail worksheets, calculator, 291
- reverse, 83
- RIGHT(string,num) function, 359
- rotate tool, drawing, 208
- rotating objects, drawing, 223
- ROUND(value,places) function, 354
- row/column titles, printing spreadsheet, 192
- ROWS(range) function, 352
- rule width, word processing, 75
- rulers, 87
 - changing, 32
 - drawing, 231
 - showing, 32
 - spreadsheet, 196
 - typewriter, 303

S

- safeguarding, 55
 - planner, 281
 - scrapbook, 252
- SAVE AS command, 34 , 35
- SAVE command, 33
- scale to fit, spreadsheet, 192
- scanner, 60
 - parts, 391
 - brightness controller, 392
 - image size, 392
 - photo/text switch, 391
 - resolution selector, 392
 - scanning speed indicator, 391
 - viewing window, 391
 - port, 2
 - usage, 393
 - copying, 393
 - errors, 394
- scatter plot, 181
- scheduling, repeating events, planner, 274
- scientific notation, spreadsheet, 145
- scrapbook
 - adding, 249
 - copying to other applications, 250
 - creating, 252
 - default, 248
 - exiting, 252
 - previous button, 249
 - retrieving a deleted page, 250
 - safeguarding, 252
 - starting, 247
- screen saver, preferences, 25
- script commands, GOTO, 330
- scroll bar, 31
- scrolling, spreadsheet, 141
- SECOND(time_value) function, 361
- selecting
 - all tool, drawing, 207
 - canceling a selection, 80
 - extending a selection, 80
 - folder and format, export option, 238 , 240
 - from a menu, 37
 - reducing a selection, 80
 - text, 79
 - keyboard, 80
 - mouse, 79
 - tool, drawing, 207
- SEND command, communication, 331

S (cont'd.)

- set up
 - equipment, 2
 - page, 75
- shading attribute, drawing, 217
- shortcut keys, 40
 - calculator
 - backspace and clear, 285
 - calculations, 284
 - memory, 285
 - redo, 83
 - undo, 83
- signal cable, monitor, 3
- SIN(angle) function, 363
- SINH(angle) function, 363
- skewing objects, drawing, 223
- SLN(cost,salvage,life) function, 350
- snapping to grid, drawing, 233
- solitaire, games, 386
- sorting
 - date and time, modification, 65
 - name, 65
 - size, 65
 - spreadsheet, 193
- sound, preferences, 25
- spacebar, 40 , 45
- special
 - character, 24 , 83
 - bullet, 71
 - em dash, 71
 - searching, 99
 - dates
 - date of printing, 134
 - document creation, 134
 - inserting, 134
 - last revision, 134
 - today's date, 134
 - effects, invisible characters, 130
 - times
 - document creation, 135
 - last revision, 135
 - now (current time), 135
 - printing, 135
- spell checking, 118
 - desktop reference, 337
- spreadsheet
 - absolute references, 170
 - AND function, 176
 - apostrophe, 145
 - automatic recalculation, on and off, 172
 - basic functions bar, 189
 - calculating, 191
 - cell, 139
 - address, 139
 - charting, 178
 - color, 165
 - background, 166
 - cell borders, 167
 - column width
 - changing by dragging, 161
 - changing with Cell menu, 161
 - standard, 161
 - comma, 145
 - copying
 - adjacent cells, 157
 - cell contents, 156 , 158
 - formula to adjacent cells, 157
 - create, 139
 - data entering, selected range, 149
 - date
 - entered as formula, 147
 - format, 148 , 195
 - changing, 148
 - functions, 175
 - defining
 - cell name, 170
 - range name, 170
 - deleting
 - cell contents, 156
 - row or column, 159
 - editing contents, 156
 - entering
 - formulas, 144
 - labels, 144
 - values, 144 , 145
 - floating point math, 149
 - footers, 165
 - formatting, 163
 - column width, 161
 - row height, 161
 - formulas, 144
 - grid, 139
 - show/hide, 163
 - header, 139 , 165
 - incremental values, 160
 - inserting row or column, 159
 - justifying cells, 162
 - labels, 144
 - locking rows/columns, 197
 - lookup function, 177
 - merging, 125
 - moving, cell contents, 156 , 158
 - multiple additions and deletions, rows and columns, 159
 - number format, 146
 - changing, 146
 - open existing, 140
 - operators, 152
 - OR function, 176

S (cont'd.)

- organization, 139
- page numbering, 165
- print options, 191
- printing, 191
- quotation marks, 145
- relative references, 170
- row height, setting a value, 162
- scientific notation, 145
- scrolling, 141
- select all, 143
- selecting
 - cells, 141
 - entire row/column, 142
 - multiple rows/columns, 142
 - range of cells, 142 , 143
 - single cells, 142
- sorting, 193
- string functions, 174
- text style, changing, 163
- time functions, 175
- values, 144

spreadsheets, 139

- entering, text, 144
- logical operators, 176
- moving around, 144
- selecting
 - cell with keyboard, 143
 - range of cells with keyboard, 143

SQRT(value) function, 354

stand, monitor, 3

star

- inner radius, 215
- outer radius, 214

statistical functions

- listing, 356
- spreadsheet, 175

STD(value1,value2,...) function, 356

STDP(value1,value2,...) function, 356

step value option, incremental values, 160

Stop button, 44

string functions, spreadsheet, 174

STRING(value,N) function, 359

style sheets, 102

- applying, 103
- changing format, 105
- default styles, 103
- defining new, 104
- deleting, 107
- footer , 103
- header, 103
- normal, 103

- recalling temporarily stored, 104
- reverting to base, 107
- storing temporarily, 104
- using from other documents, 107

submenus, 38

SUM(value1,value2,...) function, 354

SYD(cost,salvage,life,period) function, 350

symbols, 83

synonyms, desktop reference, 337

T

tab, 93

- changing, 94
- creating, 93
- deleting, 94
- deleting all, 94
- key, word processing, 71
- leader option, 93
- list option, 93
- position option, 93
- setting default stops, 94
- types, 93
- typewriter, 302
- vertical line option, 93

table of contents, creating, 129

tag image file (TIF) format, 240

- drawing, 238

TAN(angle) function, 363

TANH(angle) function, 363

template, 54

- button, 52
- create, 53
- drawing, 52
- Ensemble, 54
- opening, 73
- spreadsheet, 52
- standard, 52
- word processing, 51

TERM

- command, communication, 331
- function, (payments,interest,future value), 350

terminal

- emulation, communication, 321
- settings, communication, 322

text

- aligning, typewriter, 303
- attributes, drawing, 215
- character attributes, typewriter, 301
- character spacing, typewriter, 301
- character weight, typewriter, 301

T (cont'd.)

- character width, typewriter, 301
 - copying, 81
 - typewriter, 299 , 300
 - correcting as you type, 296
 - cutting, 81
 - typewriter, 299
 - dragging and dropping, typewriter, 300
 - drawing, 234
 - entry boxes, 43
 - fonts, 84
 - insertion point, key combinations (table), 296
 - line spacing, typewriter, 304
 - moving, 81
 - typewriter, 299 , 300
 - naming DOS text files, 59
 - overstrike mode, 296
 - paragraphs, new, 296
 - paste, typewriter, 299
 - pasting, 81
 - typewriter, 299
 - replacing, typewriter, 299
 - special characters. *See* special characters
 - style and format, typewriter, 301
 - style sheets, 102
 - tool, drawing, 206
 - typewriter, 296
 - wrapping, 117
- text file editor
- capabilities, 374
 - DOS text files, 373
 - naming, 375
 - file names, 375
 - limitations, 374
 - line endings, 374
 - printing, 375
 - TXT extension, 375
 - window, 373
 - word wrap, 374
- thesaurus, 120
- time, preferences, 25
- time functions, list, 360
- TIME(hour,minute,second) function, 361
- TIMEVALUE(string) function, 361
- tips, word processing, 71
- title
- bar, 42
 - page, 102
- title bar, menus, 39
- TODAY() function, 361
- TONE command, communication, 331
- tool, bar
- advanced functions, word processing, 76
 - attributes, drawing, 216
 - graphics, 77
 - typewriter, 295
 - word processing, basic functions, 76
- top cover, 2
- transforming objects, drawing, 222
- transparencies, printing, 47
- trigonometric functions
- listing, 362
 - spreadsheet, 175
- TRIM(string) function, 359
- TRUE() function, 353
- TRUNC(value) function, 354
- turn tool, drawing, 206
- Turnabout, Games, 385
- tutorial, 20
- TXT extension, text file editor, 375
- type
- size, drawing, 235
 - style, drawing, 235
- typewriter
- finding your position, 297
 - menu and tool bar, 295
 - open, 293
 - paper insert, 293
 - paper removal, 294
 - style and format, 301
 - tabs, 302
 - text, 296
 - word wrap, 297

U

- underline text, spreadsheet, 163
- underlined letters, menus, 40
- undo, 83
 - objects, drawing, 224
 - tool, drawing, 206
- unfilled
 - attribute, drawing, 217
 - color option, background, 166
- ungroup graphic, drawing, 228
- units option, incremental value, 160
- untransforming objects, drawing, 224
- UPPER(string) function, 359

user dictionary, 119
desktop reference, 338

V

value selector, 43

VALUE(string) function, 359

values

entering, 145

formulas, 149

VAR(value1,value2,...) function, 357

VARP(value1,value2,...) function, 357

view options, 68

names and details, 68

windows, 31

VLOOKUP(value,range,offset) function, 352

W

WEEKDAY(date_value) function, 361

wild cards, searching for, 99

windows

changing the view, 31

Control button, 42

Control menu, 42

overlapping, 55

word processing

headers, 100

aligning, 71

changing columns, 137

color, 90

column, create, 75

counters, 131

deleting, 81

deleting with key combinations (table), 81

dictionary editing, 119, 120

em dash, 71

finding and replacing text, 97

fonts, proportional, 71

footers, 100

footnotes, 127

formatting text, 84

insert mode, 78

italic, 71

master pages, 108

overstrike mode, 78

page, numbering, 101

page layout, 108

page set up, 75

page setup, 108

page size, 74

pagination, 136

paragraphs, new, 79

sections, 108

selecting, 79

selecting with mouse, 79

spell checking, 118

style sheets, 102

templates, 108

thesaurus, 120

title page, 102

word wrap, 71, 78

word wrap

text file editor, 374

typewriter, 297

word processing, 71

X

x-y plot charts, spreadsheet, 178, 181

XMODEM, communication, 324, 326, 335

Y

YEAR(date_value) function, 361

Z

zoom, 31

tool, drawing, 206, 208

