MICROGRAFX

Windows DRAW

THE Drawing System for Windows

Compatible with Microsoft Windows

Micrografx, Inc.

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Micrografx Windows DRAW User's Guide

A Microsoft Windows Application

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WDR-B

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Welcome

Welcome to MICROGRAFX Windows DRAW, the interactive graphics program designed to help you create professional presentation materials.

DRAW is a Windows application with full text and word charting capabilities combined with free-form drawing and editing functions, and the ability to merge Lotus graphs.

DRAW was developed with the unique Microsoft Windows graphic interface that uses pull-down menus, icons, data transfer, and the optional mouse. Its overall ease of use makes it the natural first choice in a presentation graphics program.

You can create and manipulate symbols in a drawing window almost immediately. Make symbol libraries for storing frequently used symbols. There are no complex commands and instructions to memorize. Everything you need is on the display screen as quickly as you can point with a mouse or press a key.

About This Guide

This guide shows you how to get started with DRAW and offers step by step procedures for every aspect of the program. It provides separate tutorials for learning to use DRAW with the keyboard and with the mouse.

The manual is divided into seven chapters designed to help you explore and use DRAW.

1 Learning to DRAW	Read this chapter if you want a tutorial to help you create a practice drawing using the keyboard.
2 Learning to DRAW with the Mouse	Read this chapter if you want a tutorial to help you create a practice drawing using a mouse.
3 The Basics	Read this chapter to learn about the features of the drawing window and the ways you can view a drawing. You learn how to choose commands and how to open and save drawings.
4 Editing a Drawing	Read this chapter if you want instructions for creating and editing symbols, including text, and for merging graphs from Lotus 1-2-3 and Symphony.

5 Exchanging Data	Read this chapter to learn how to transfer symbols between DRAW windows, symbols from DRAW into other applications, and text from other applications into DRAW. Learn how to use symbol libraries.
6 Printing a Drawing	Read this chapter if you want instructions for printing a drawing.
7 Command Summary	Read this chapter if you want a brief description of what each command does.

What You Need

To use DRAW, you need:

- Any computer running Microsoft Windows,

  MS-DOS 2.0 (or higher), and
  two disk drives or one disk drive and a hard disk;
  a hard disk is recommended

- 320K RAM, minimum; 512K is recommended

- A graphics adapter card; for color, an enhanced graphics adapter card, or compatible card

- A monochrome graphics monitor or color monitor compatible with the card installed

Note Be sure to read the README.DOC file on the DRAW Program disk. README.DOC contains updated information not available in this manual.

Getting Started

Use these installation instructions if you are already running Microsoft Windows. If you do not have Microsoft Windows, use the instructions in the *Guide to Getting Started and Learning the Windows Environment.*

You can run DRAW as a Windows application on a two-drive system or a hard disk system.

It is always a good idea to make a backup copy of the original DRAW disk in case of damage to the original. Use the DOS Copy command to make a backup, and then use the backup copy and keep the original in a safe place.

If you are using a two-disk drive system, label a blank, formatted disk ''DRAW Data disk'' and use it to save your drawings.

Running DRAW on a Two-Drive System

Running DRAW on a two-drive system

To Run DRAW on a two-drive system:

1. If you have not started Windows, insert the Windows Startup disk in drive A and the Windows System disk in drive B.

2. At the A> prompt, type *win*. Windows starts and the MS-DOS Executive Window appears.

3. Take the Startup disk out of drive A and insert the DRAW disk.

4. Select drive A in the MS-DOS Executive window.

5. Select and run DRAW EXE.

Note to two-disk drive users There may not be room on a floppy disk for the Graphics fonts (Roman, Script, and Modern). Open the DRAW Text menu and if you find that Windows did not install the Graphics fonts, you can install them in the Control Panel. Use your backup Program disk with the following procedures.

1. Make room on the DRAW Program backup disk by copying the sample drawing files (with .PIC extensions) to a data disk.

2. Delete the sample files from the Program backup disk.

3. Open the Control Panel window (CONTROL.EXE).

4. Choose the Add New Font command from the Installation menu. You will be prompted to insert the Windows Utilities disk into drive A (the Utilities disk contains the graphics fonts).

5. Select ROMAN.FON and choose Ok.

6. Insert the DRAW Program backup disk into drive B and press ENTER.

7. Repeat steps 4 through 6 to copy SCRIPT.FON and MODERN.FON to the Program backup disk.

8. Restart Windows for the graphics fonts to appear in DRAW.

Installing DRAW on a Hard Disk System

Installing DRAW on a hard disk system

To install DRAW on a hard disk system, start from the DOS prompt and your Windows subdirectory:

1. Insert the DRAW Program disk into drive A.
2. Type *copy a:*.**
3. Press ENTER. All of the DRAW files are copied to your Windows subdirectory.

Starting DRAW on a Hard Disk System

Starting DRAW on a hard disk system

To start DRAW on a hard disk system from the MS-DOS Executive window,

With the keyboard:

- Use the DIRECTION keys to highlight DRAW.EXE.
- Press ENTER.

With a mouse:

- Double click the filename DRAW.EXE.

1 Learning To Draw

The exercises in this chapter give you hands-on experience with DRAW. The exercises are for users who work from the keyboard. If you have a mouse, read Chapter 2, ''Learning to DRAW with the Mouse,'' for exercises designed for use with the mouse.

If you are a new user, this chapter is especially for you. The step-by-step instructions tell you exactly what to do to create a drawing.

In this chapter, you learn how to

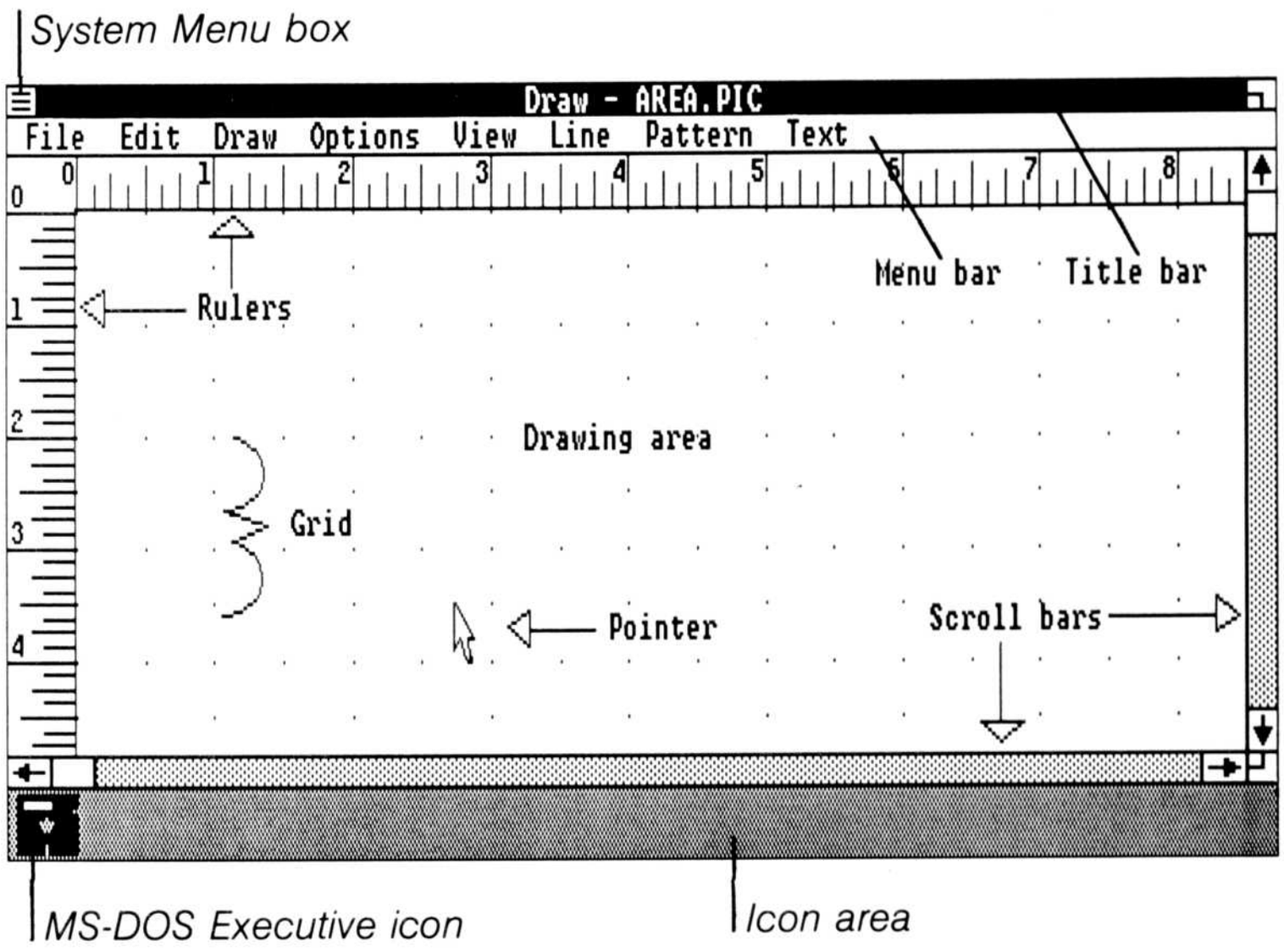
- Create Symbols
- Use Undo
- Save a Drawing
- Move and Copy Symbols
- Fill and Unfill Symbols
- Block Select and Combine Symbols
- Add Text
- Stretch a Symbol
- Create Lines and Jointed Lines
- Print a Drawing

To start DRAW, you should have the MS-DOS Executive window displayed. If it is not, expand the MS-DOS Executive icon into a window. (If you need help, see the "Getting Started" section of this manual or the *Microsoft Windows User's Guide*.)

Although you can run DRAW simultaneously with other applications, for the purpose of this tutorial you may want to close other applications. The supporting illustrations show only MICROGRAFX Windows DRAW.

From the MS-DOS Executive Window:

1. Change to the subdirectory or disk drive where DRAW is located.
2. Use the DIRECTION keys to highlight DRAW.EXE.
3. Press ENTER. DRAW is loaded and you see the DRAW window.



The Story

You have recently started your own company and will open for business soon. Though you currently have only four employees, the business plan calls for rapid growth. You are meeting with your investors soon to make a business presentation. The presentation will include an overview of your company's personnel structure.

Because you want to start your new business with the proper tools, you purchased DRAW in order to prepare this presentation.

The first task for you and for DRAW is to design the personnel organizational chart. On the chart, you need places for the President, the Director of Marketing, the Director of Finance, one sales representative, and one accountant. You want the chart to be clean and attractive, yet functional. It should be easy to add more levels as the company grows.

To make the chart, you create symbols, move and copy symbols, fill some symbols with color and pattern, choose text attributes, and type labels on the symbols.

As you create the drawing, you learn to delete symbols and to use the Undo command to reverse actions you wish to redo. You learn to save a drawing and, finally, you print the drawing.

When you have completed ''Learning to DRAW,'' you will be knowledgeable about all of DRAW's basic functions.

Creating Symbols

Everything you create in DRAW is a symbol, whether it is a circle, a line, or text. In this section, you create symbols for the organizational chart. You also have a chance to delete a symbol and create it again.

Take your time as you learn to draw symbols. Experiment with the DIRECTION keys. The DIRECTION keys are the RIGHT arrow, LEFT arrow, UP arrow, DOWN arrow, HOME, PGUP, PGDN, and END keys located on the numeric keypad.

When you press and hold the SPACEBAR (or the 5 key on the numeric keypad) and press a DIRECTION key at the same time, the pointer moves. You move the pointer and manipulate symbols in this way. The SPACEBAR and the 5 key are interchangeable. Use the one that is most comfortable for you.

Note When used without the SPACEBAR or the 5 key, the HOME and END keys move the pointer quickly to the upper left and lower right corners of the drawing window, respectively. The PGDN and PGUP keys move the drawing area down one screen and up one screen, respectively. The TAB key moves the drawing area one screen to the right. Pressing and holding the SHIFT key and pressing the TAB key moves the drawing area one screen to the left.

Exercise 1: Creating an Ellipse

Choose the Ellipse command and create an ellipse, placing it in the top center of the drawing window.

To choose the Ellipse command

Follow these steps to choose the command:

1. Press ALT-SPACEBAR. The System menu appears.
2. Release the keys. The menu stays open.
3. Press the RIGHT key. The File menu appears.
4. Press the RIGHT key again. The Edit menu appears.
5. Press the RIGHT key a third time. The Draw menu appears.
6. Press the DOWN key to highlight the word "Ellipse."
7. Press ENTER. The menu closes and the arrow pointer becomes a pencil with an ellipse.

Wrong menu? Press the ESC key.

Note To cancel a menu (make it close without choosing a command), press the ESC key.

To create an ellipse

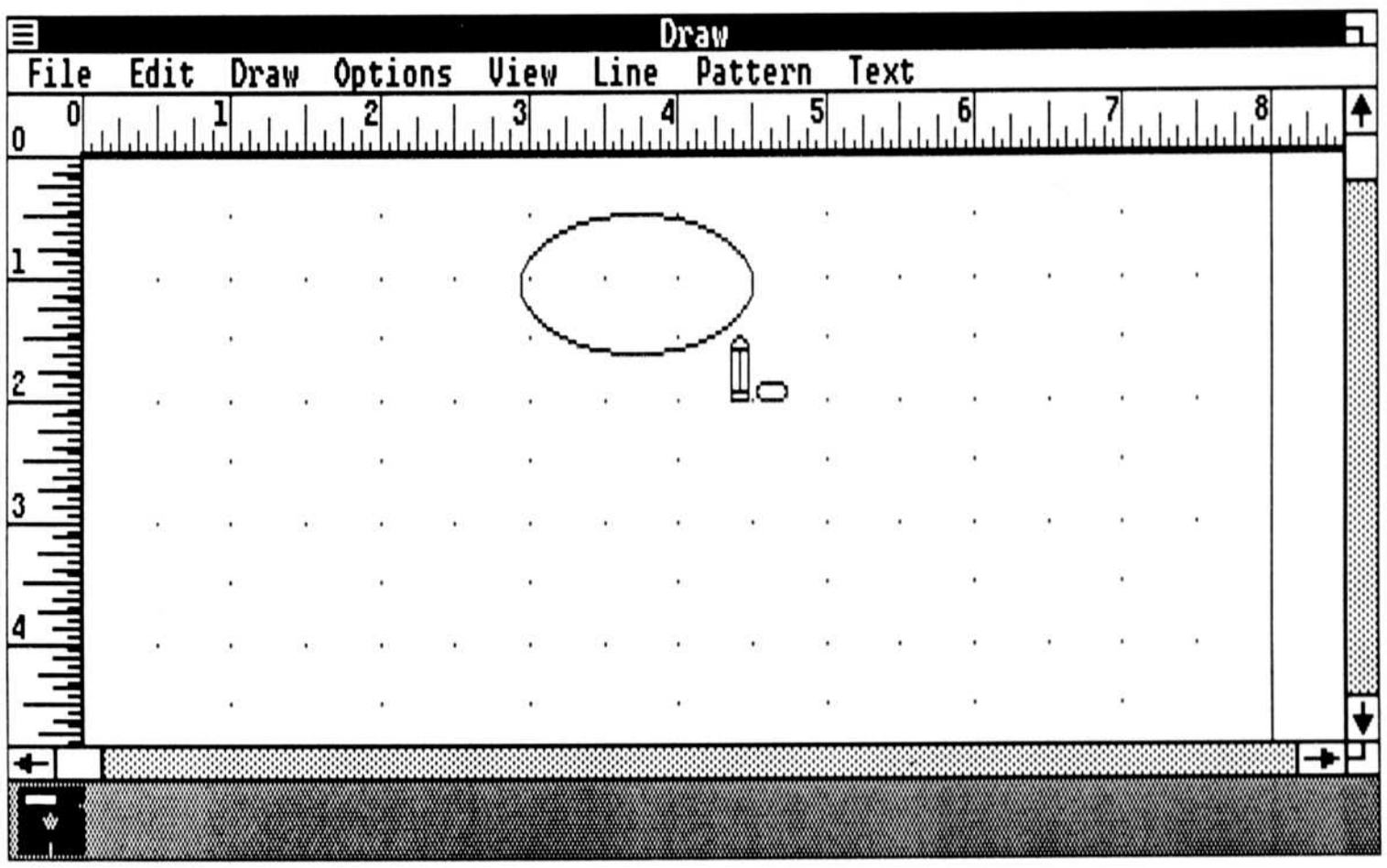
Follow these steps to create an ellipse:

1. Press the DIRECTION keys to move the pointer to the top center of the drawing area.

2. Press and hold the SPACEBAR and press the PGDN key to rubberband an ellipse. Press the DIRECTION keys (RIGHT arrow, LEFT arrow, UP arrow, DOWN arrow, HOME, PGUP, PGDN, and END) to adjust the ellipse to the size and shape you want.

3. With the SPACEBAR still held down, press and hold the 2 key (on the top row of the keyboard), and use the DIRECTION keys to place the ellipse exactly where you want it. After releasing the 2 key, you can continue rubberbanding the ellipse to the proper size.

4. Release the SPACEBAR to end creation of the ellipse.



Note An hourglass replaces the pointer while the program is working. As soon as the pointer returns, you may resume drawing.

Exercise 2: Creating a Rounded Rectangle

Choose the Rounded Rectangle command and create a rounded rectangle, placing it to the lower left of the ellipse.

Note The following way of choosing a command is somewhat faster than the way you chose the Ellipse command.

To choose the Rounded Rectangle command

Follow these steps to choose the command:

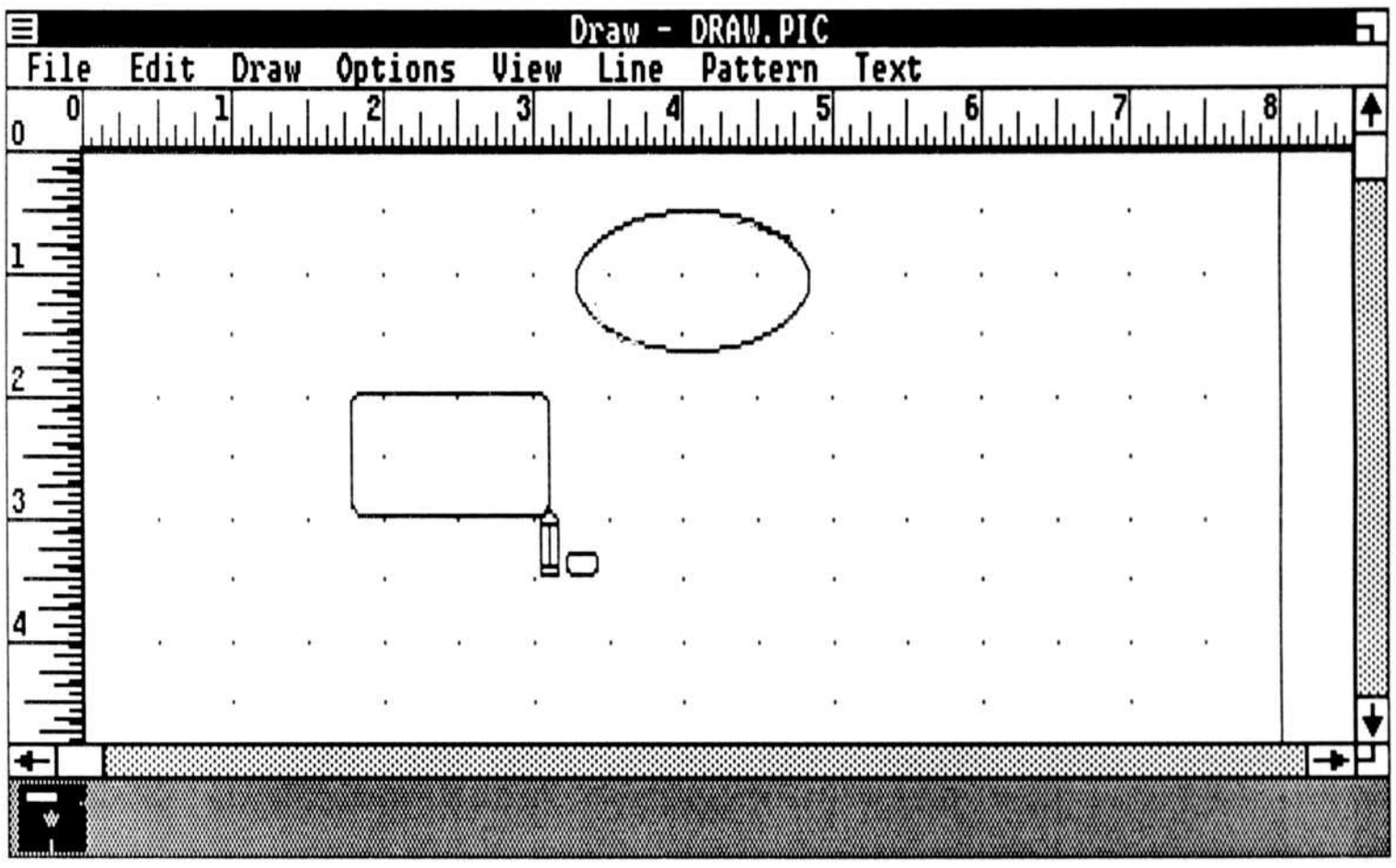
1. Hold down the ALT key and type *D*. The Draw menu is displayed.
2. Type *R*. The Rounded Rectangle command is highlighted.
3. Release the ALT key. The pointer shows a rounded rectangle.

To create a rounded rectangle

Follow these steps to create a rounded rectangle:

1. Press the DIRECTION keys to move the pointer to the lower left of the ellipse.
2. Press and hold the SPACEBAR and press the PGDN key to rubberband a rounded rectangle. Press the other DIRECTION keys to adjust the rounded rectangle to the size and shape you want.
3. With the SPACEBAR still held down, press and hold the 2 key (on the top row of the keyboard), and use the DIRECTION keys to place the rounded rectangle exactly where you want it. After releasing the 2 key, you can continue rubberbanding the rounded rectangle to the proper size.

4 Release the SPACEBAR to end creation of the rounded rectangle.



Exercise 3: Creating a Polygon

Create a polygon in the shape of a triangle and place it to the left and below the rounded rectangle.

Note You know two ways to choose a command. A third, even faster, way is to use Accelerator keys. (A list of commands that have Accelerator keys is in Appendix A.) You use Accelerator keys in the next step.

To choose the Polygon command

Do this step to choose the command:

Note In the menus, the CTRL key is represented by the symbol ^. When you see ^ and a letter, press and hold down the CTRL key, type the letter, then release the CTRL key.

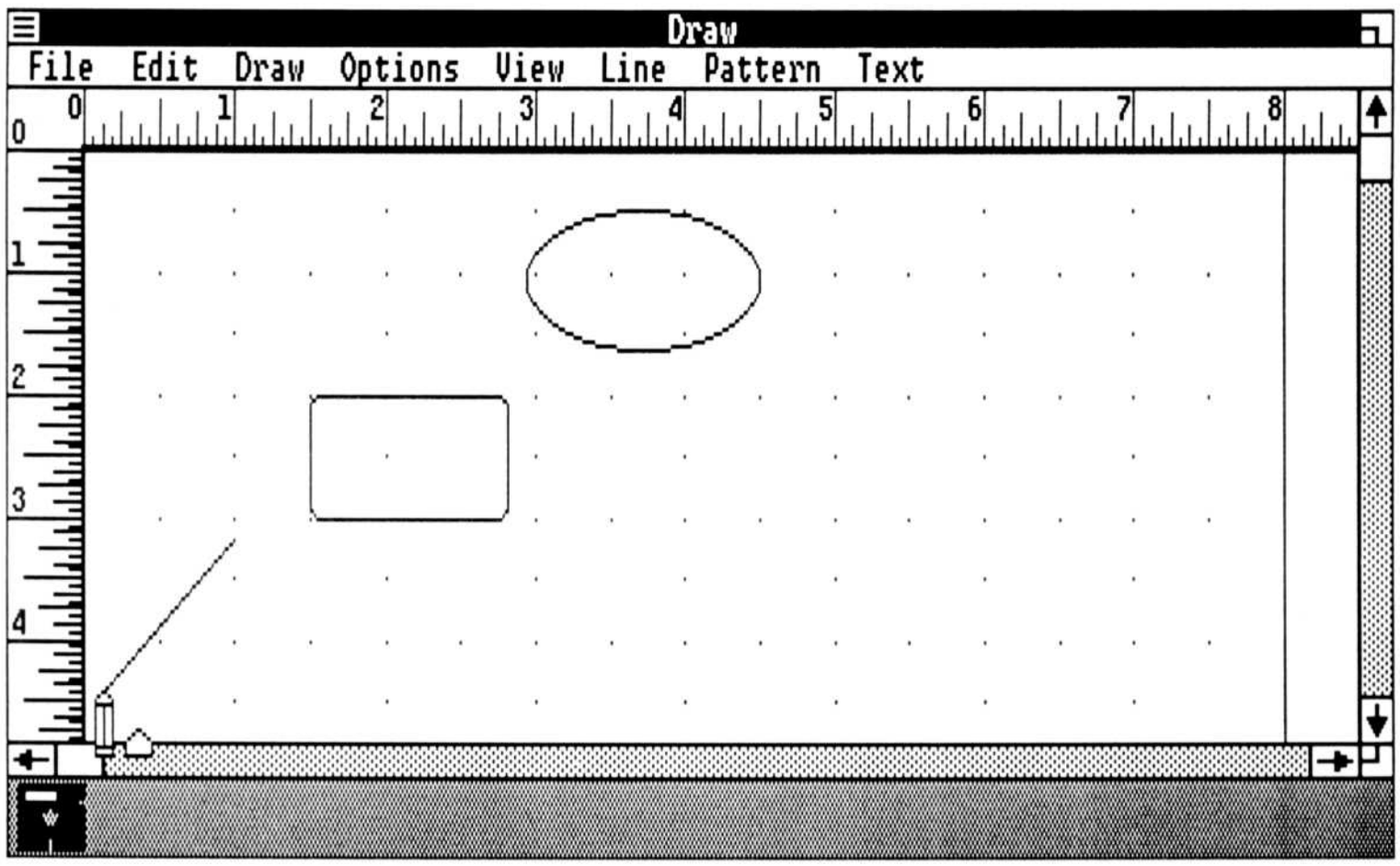
▣ Press ^P. Notice that the Draw menu is not displayed. The pointer displays a pencil with a polygon, indicating the polygon drawing mode. Much faster!

To create a polygon

Follow these steps to create a polygon:

1 Press the DIRECTION keys to move the pointer to the left and below the rounded rectangle.

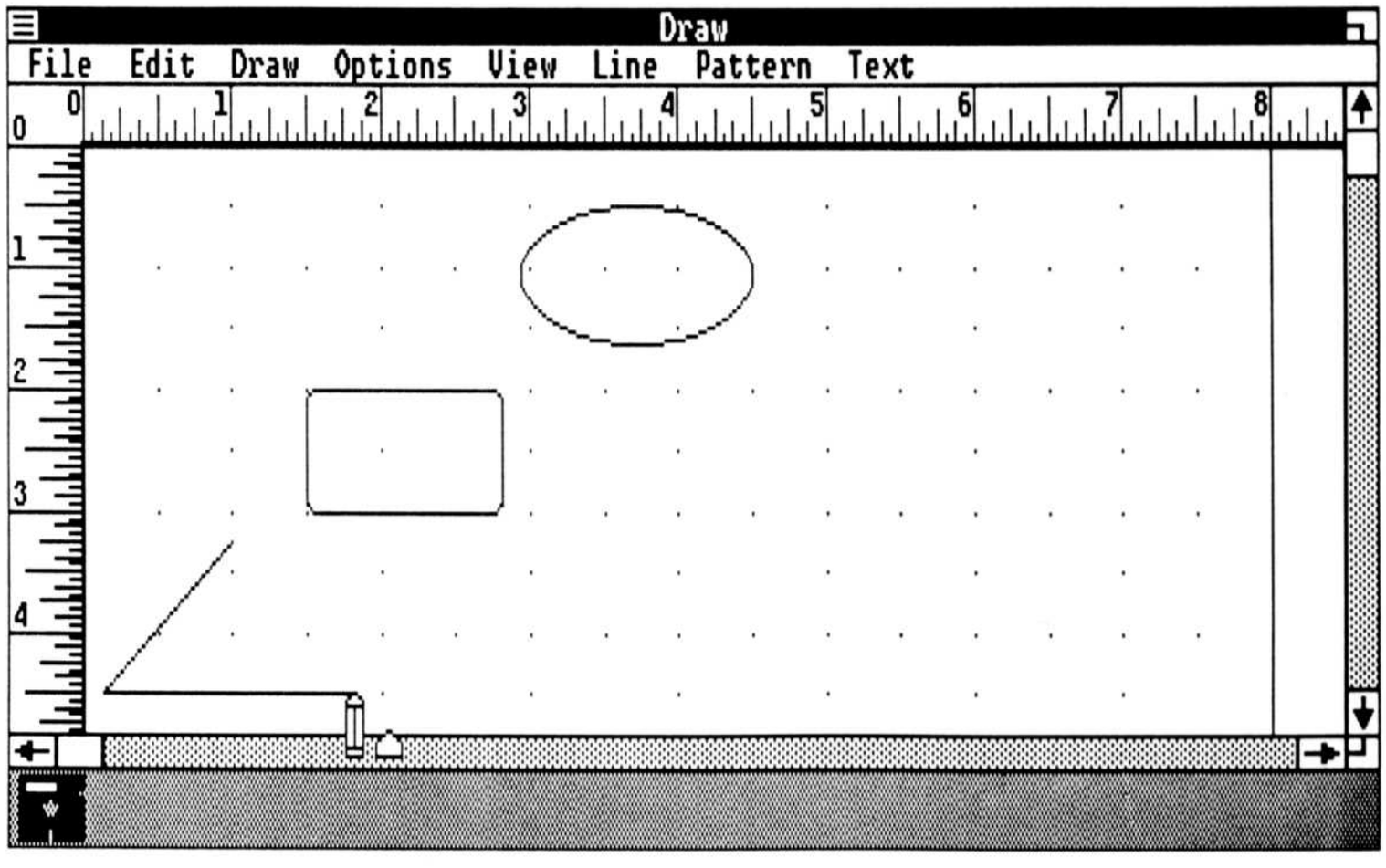
2 Press and hold the SPACEBAR and press the END key to rubberband one side of a polygon. Use the DIRECTION keys to adjust the length and angle of the side.



3 Press and hold the 2 key without releasing the SPACEBAR, and use the DIRECTION keys to place the first side of the polygon exactly where you want it. After releasing the 2 key, you can continue rubberbanding the polygon to the proper size.

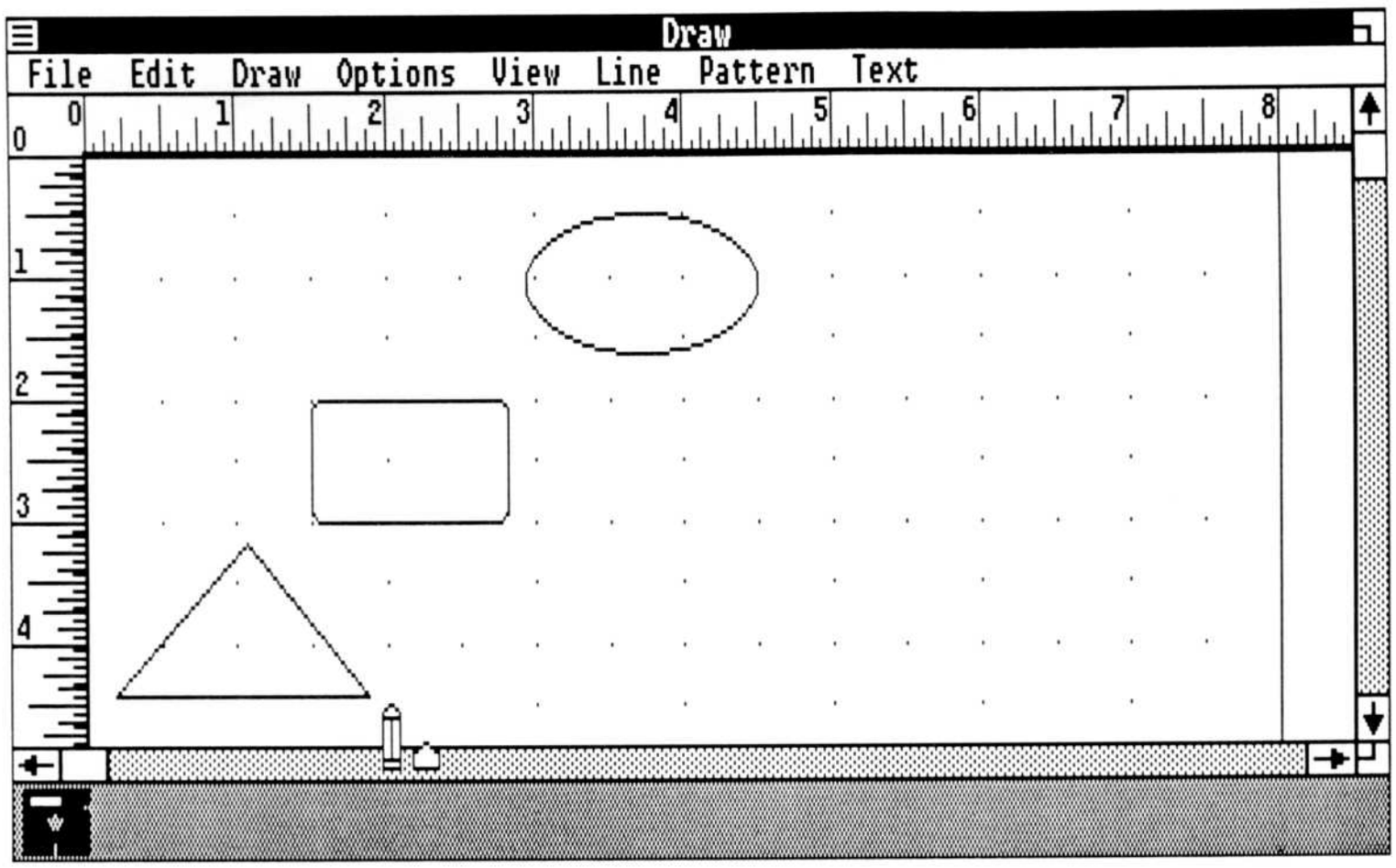
4 Release the SPACEBAR to end creation of the first side.

5 Press and hold the SPACEBAR and press the RIGHT key to rubberband the second side of the polygon.



6 Release the SPACEBAR to complete side 2.

7 Quickly press and release the SPACEBAR to automatically complete side 3. If the third side is not drawn, press and release the SPACEBAR a little more quickly.



Deleting a Symbol

If you don't like the way the polygon looks, delete (erase) the symbol and create another in its place.

To delete a symbol

Follow these steps to delete a symbol:

1. Use the DIRECTION keys to move the pointer to the inside of a symbol and quickly press and release the SPACEBAR to select the symbol you want to delete. Handles appear around the symbol and the pointer leaves the drawing mode and becomes an arrow.

2. Hold down the ALT key and type *E* to display the Edit menu.

3. Type *D* to choose the Delete command.

4. Release the ALT key. The symbol disappears. The pointer remains an arrow.

5. Quickly press and release the SPACEBAR to return to the previous drawing mode (in this case, the polygon mode, as indicated by the pointer).

Note The Accelerator key ^ D also chooses the Delete command.

Using Undo

Oops! Change your mind and want it back? Choose the Undo command from the Edit menu or press and hold the SHIFT key and press the ESC key to reverse the last change to the drawing.

The Undo command cancels only the action performed immediately before selecting Undo. Choosing Undo cancels changes made from the Draw, Edit, Line, Options, Pattern, and Text menus.

To undo the last action

Do this step to reverse the last change to the drawing:

- Choose the Undo command from the Edit menu or press SHIFT-ESC.

Saving a Drawing

It is a good idea to save your work frequently when you work with any program. The File menu has two commands for saving drawings. The Save command saves the current drawing on the disk, overwriting the previous version. The Save As command saves a new drawing or a new version of a drawing.

To save a drawing

Follow these steps to save a drawing:

1. Press and hold the ALT key and type *F*. The File menu is displayed.
2. Type *S* to highlight the Save command.
3. Release the ALT key. The Save dialog box appears.
4. Type a new filename (no more than eight characters long) in the text box.

Note Use the BACKSPACE key to correct typing errors.

If you have a hard disk, do this step:

5. Press ENTER. The drawing is saved in the DRAW subdirectory.

If you have two disk drives, do these steps:

5. Remove the Program disk from Drive A.
6. Insert a blank, formatted disk into Drive A.
7. Press ENTER. The drawing is saved on the disk. (You can label the disk "DRAW Data Disk.")
8. Return the Program disk to Drive A.

To save changes you have made to a drawing, choose the Save command from the File menu. You may want to save the drawing at the end of each section in the tutorial and then again before you print it.

Note If you have two disk drives, remember to insert the Data disk to receive the file you are saving and then to replace the Program disk.

To save changes to a drawing:

To save changes to a drawing

1. Press ALT-F and type *S* to choose the Save command from the File menu.
2. Release the ALT key. The drawing is saved under the same name.

Moving and Copying Symbols

You can easily move and copy the symbols you created. Move symbols by selecting them and dragging them to a new location. Copy symbols by using the Duplicate command in the Options menu or by using the SHIFT key and dragging a copy of the symbol to a new location.

You have learned three ways to choose commands. In the following exercises, use any of the procedures to choose a command from a menu. The following instructions assume you know how to choose a command. Refer to the previous exercises if you need help.

Remember that the SPACEBAR and the 5 key on the numeric keypad are interchangeable.

Exercise 1: Moving a Symbol

If the symbols are not quite where you want them to be in the drawing, you can easily relocate them. You can make minute adjustments, or move a symbol across the drawing area.

To move a symbol

If you like the ellipse where it is, move it for practice, then move it back. Follow these steps to move the ellipse:

1. Press the DIRECTION keys to move the pointer onto the ellipse.

2. Quickly press and release the SPACEBAR (or the 5 on the numeric keypad) to select the ellipse. Handles appear around the ellipse to show it is selected.

3. Press and hold the SPACEBAR and press a DIRECTION key, moving the pointer to drag the ellipse to a new location.

4 Release the SPACEBAR and move the pointer outside of the symbol.

5 Quickly press and release the SPACEBAR to deselect the symbol.

Note Selecting another symbol will also deselect the first one.

Exercise 2: Copying with the Duplicate Command

Make a duplicate of the ellipse and the rounded rectangle. Place each duplicate on top of the original symbol and slightly off-center.

Follow these steps to duplicate a symbol:

To make a duplicate

1 Press the DIRECTION keys to move the pointer onto the ellipse.

2 Quickly press and release the SPACEBAR to select the ellipse.

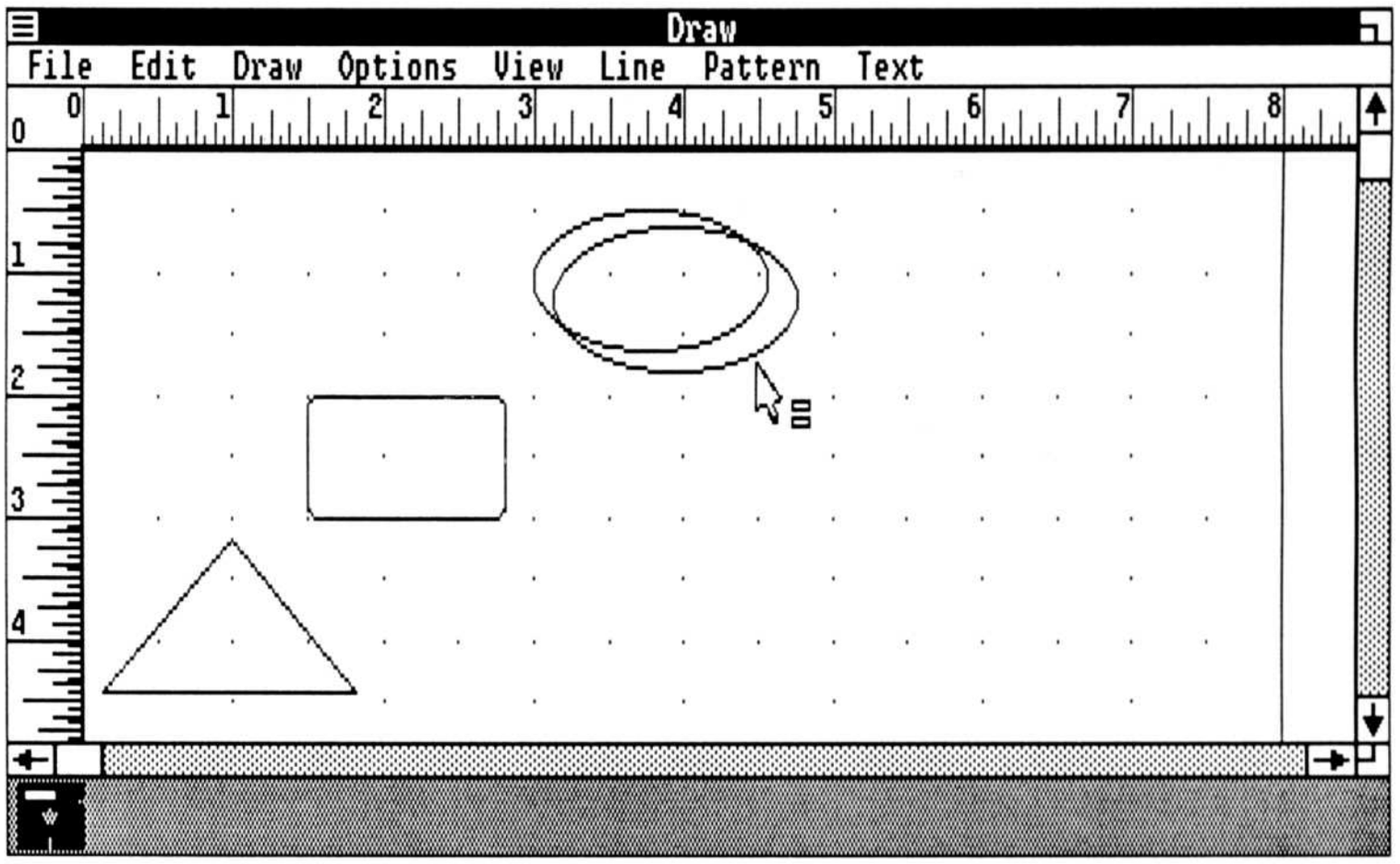
3 Choose the Duplicate command from the Options menu.

Note If you need help with choosing a command, see the previous exercises.

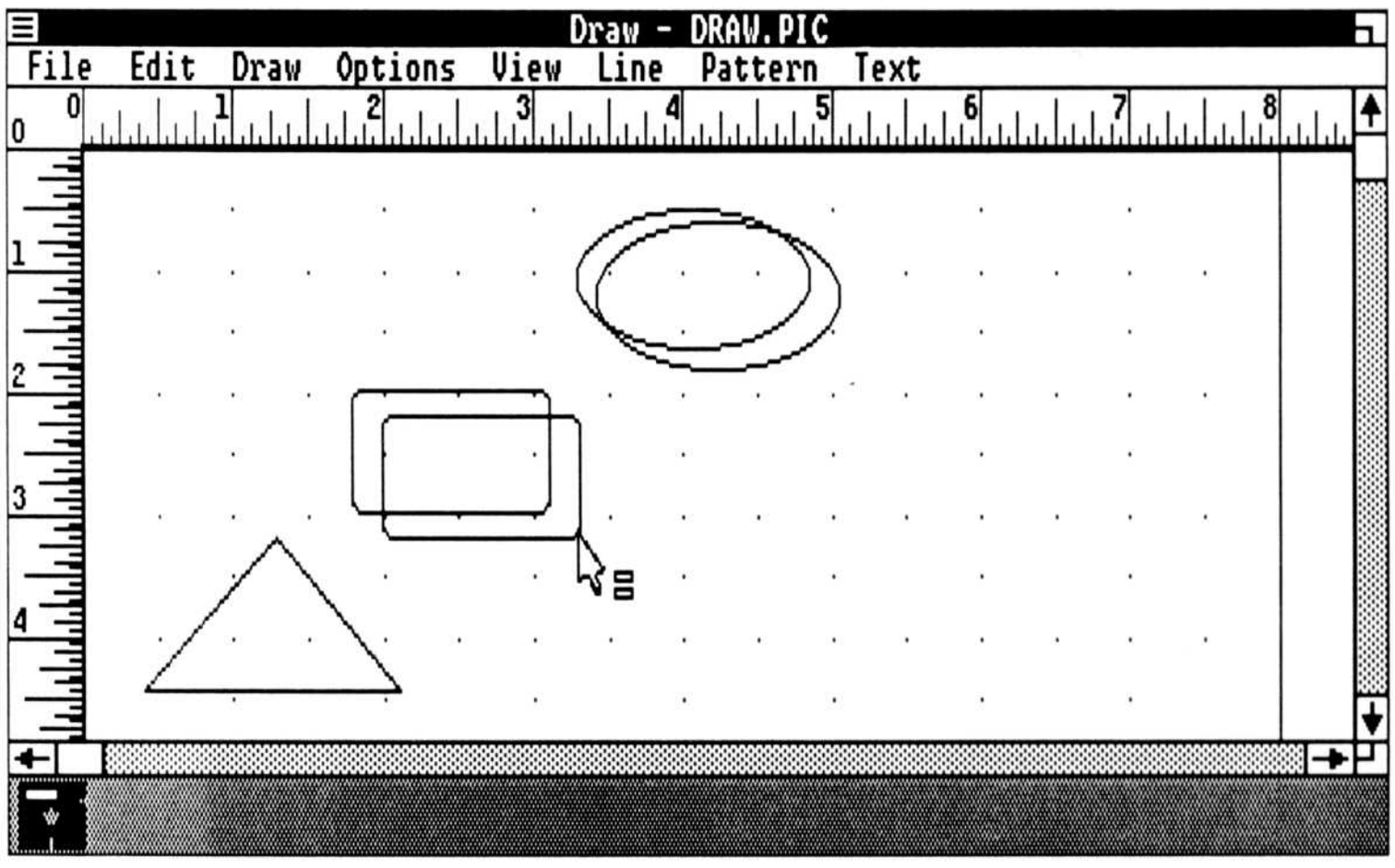
4 Press and hold the SPACEBAR. The symbol's bounding box (a box that encloses the symbol) appears.

5 Press the PGDN key to drag the bounding box of the ellipse down and to the right.

6 Release the SPACEBAR. A copy of the ellipse overlaps the original ellipse.



7 Repeat steps 1 through 6 to copy the rounded rectangle.



Exercise 3: Duplicating with the SHIFT key

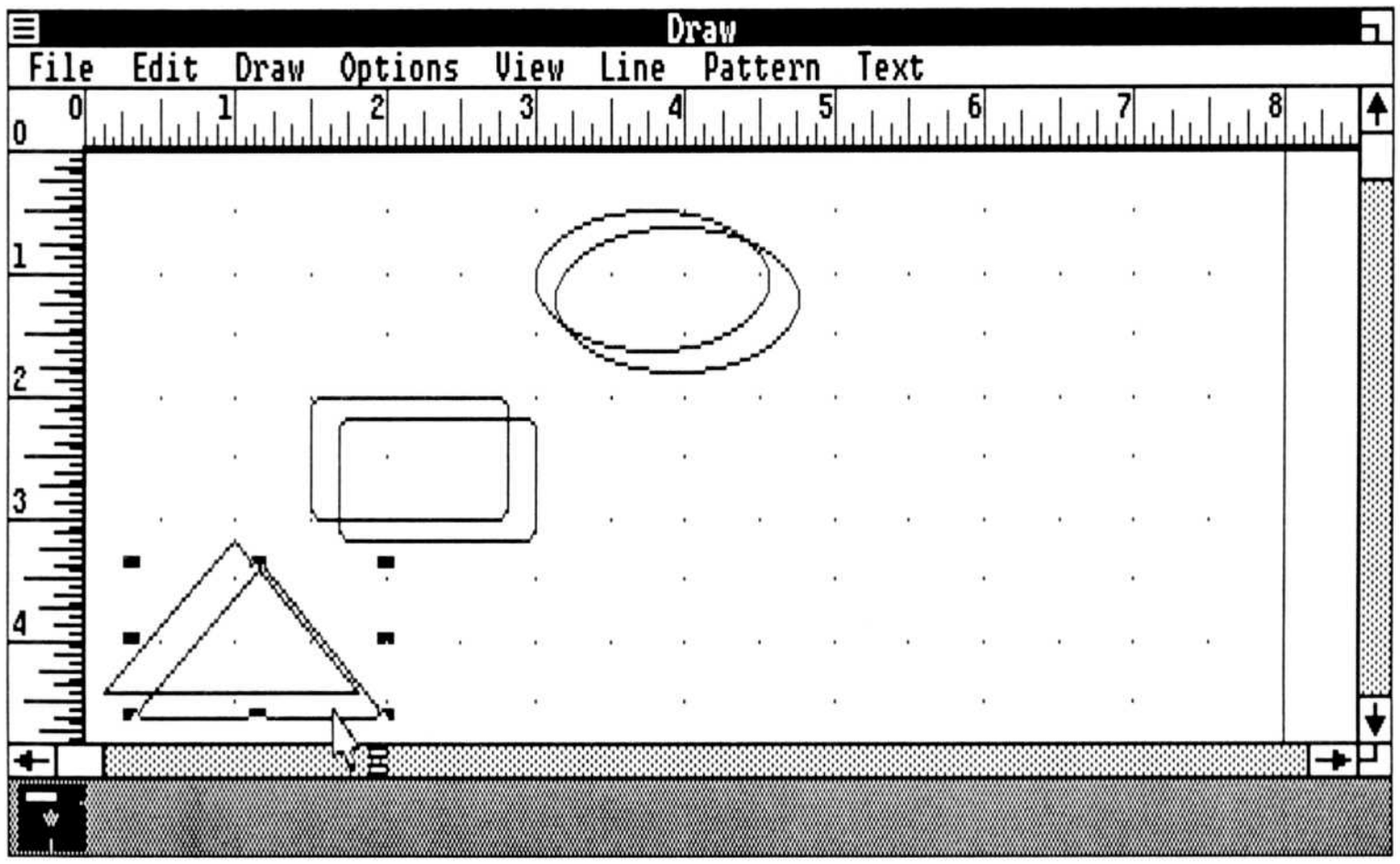
You can use the SHIFT key, instead of the Duplicate command, to make a copy of a symbol.

Note To see how to select a symbol, review steps 1 and 2 in the previous exercise.

To make a duplicate with the SHIFT key

Follow these steps to duplicate the polygon using the SHIFT key:

1. Select the polygon.
2. Press and hold the SHIFT key and press and hold the SPACEBAR at the same time.
3. Press the PGDN key to drag the bounding box of the polygon down and to the right.
4. Release the SPACEBAR and the SHIFT key.



Filling Symbols

You can fill the symbols you create with solid colors, hatch patterns, more elaborate patterns (called bitmap patterns), or remove the color or pattern. You can set the color to use for filling symbols.

Exercise: Filling a Symbol

Fill the ellipse on top with solid color white and fill the ellipse under it with solid color black.

To fill a symbol

Follow these steps to fill symbols:

1. Select the ellipse on top.

Note Repeatedly pressing the SPACEBAR alternately selects each overlapping symbol.

2. Choose the Color command from the Pattern menu. A dialog box appears.

3. Press the RIGHT key to move to the color white.

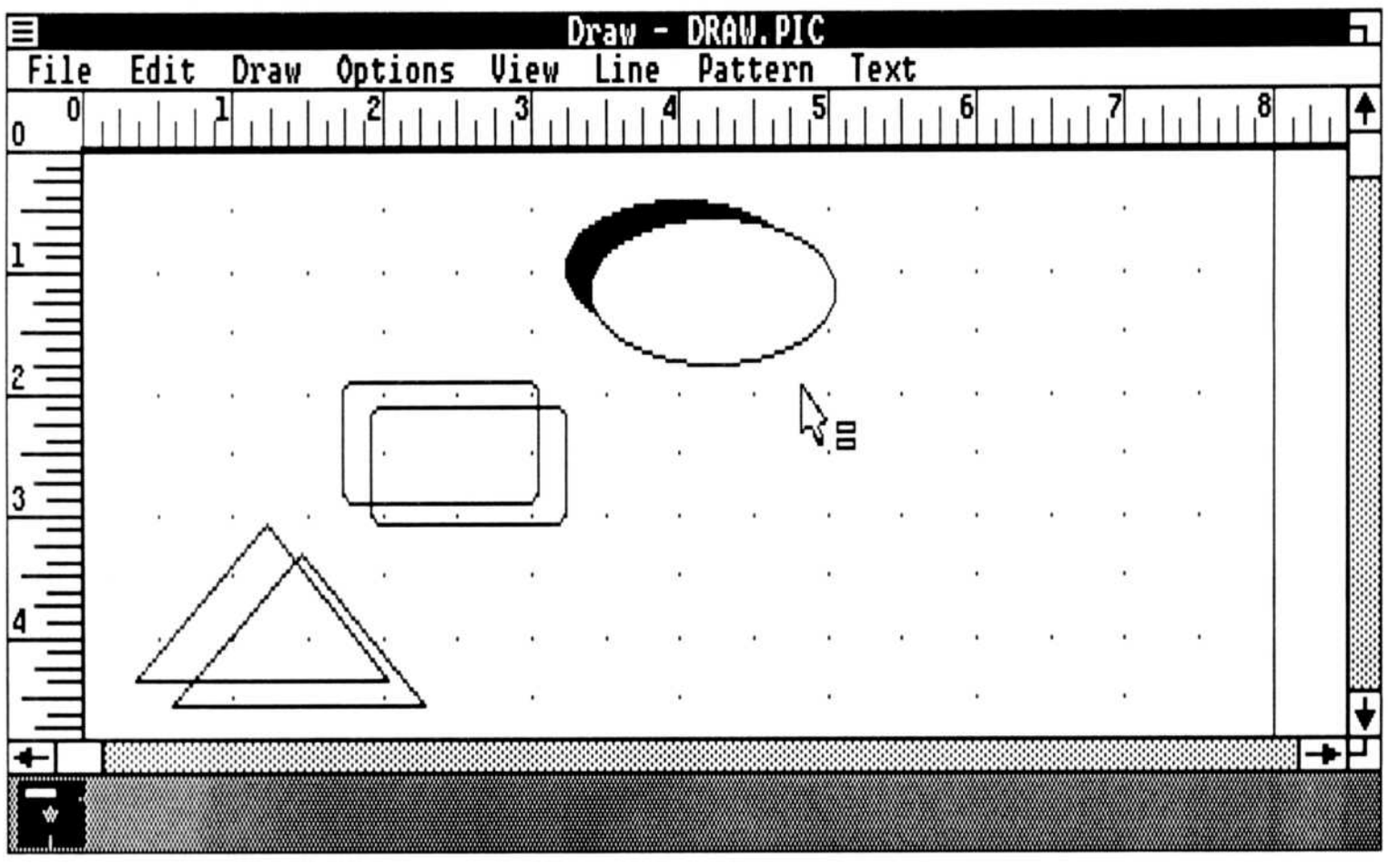
4. Press ENTER. The selected symbol fills with solid white.

5 Select the ellipse on the bottom.

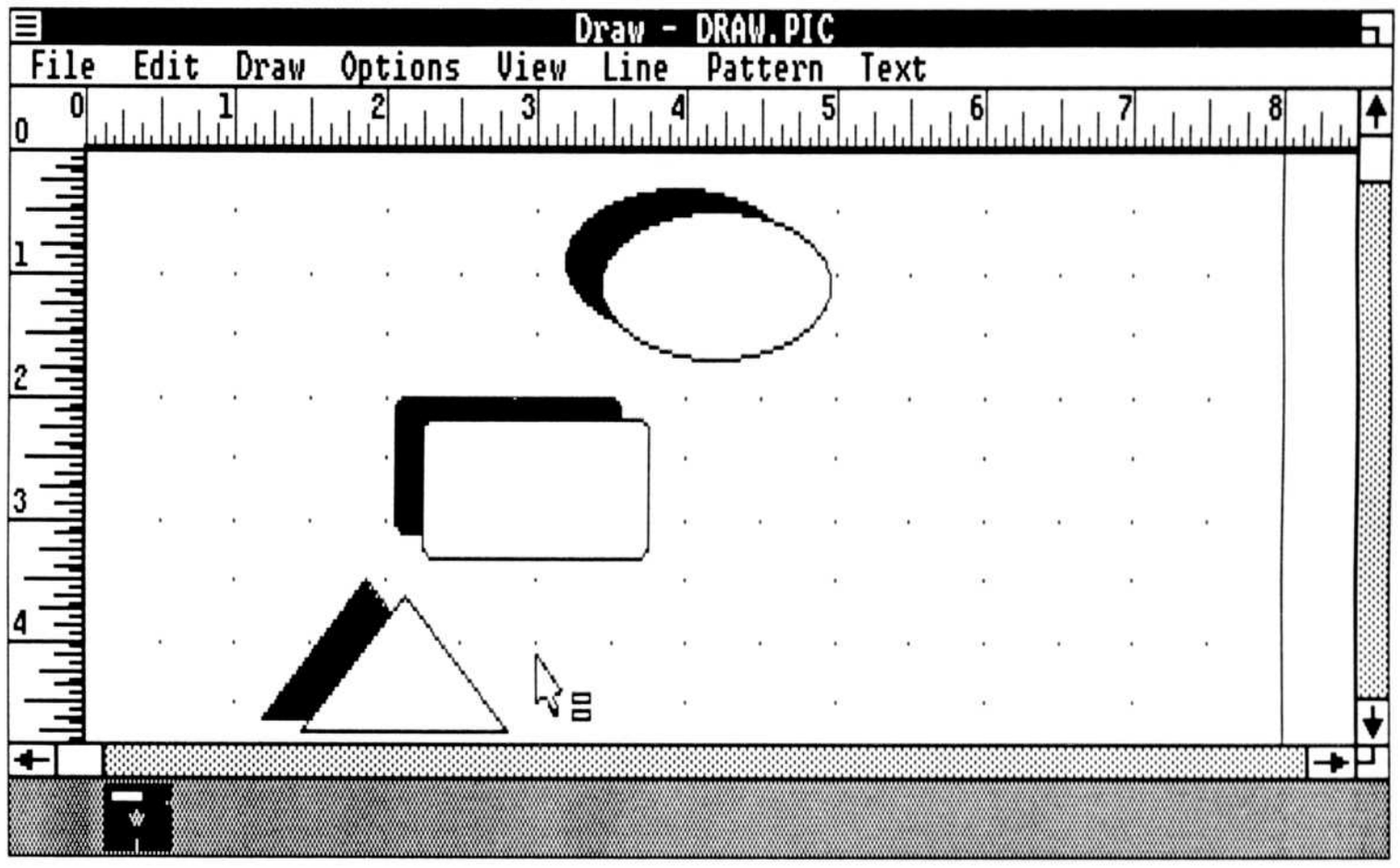
6 Choose the Color command from the Pattern menu.

7 Press the LEFT key to move to the color black.

8 Press ENTER. The bottom ellipse fills with black.



9 Repeat steps 1 through 8 to fill the rounded rectangles and the polygons in the same way.



Reminder Choose the Undo command immediately to reverse any action.

Unfilling a Symbol

If, for any reason, you want to remove the fill color or pattern from a symbol, use the None command from the Pattern menu.

To unfill a symbol

Follow these steps to unfill a symbol:

1. Select the symbol to unfill.
2. Choose the None command from the Pattern menu.

Selecting and Combining a Block

You can select symbols in a group to make them temporarily perform as one symbol, or you can combine the symbols to make them permanently perform as one symbol. Symbols you want to combine must be block selected first. You can reverse the Combine command with the Break Apart command.

Exercise 1: Block Selecting and Combining Symbols

Block select and then combine the overlapping rectangles in the drawing to have them behave as one symbol. Then do the same to the overlapping polygons.

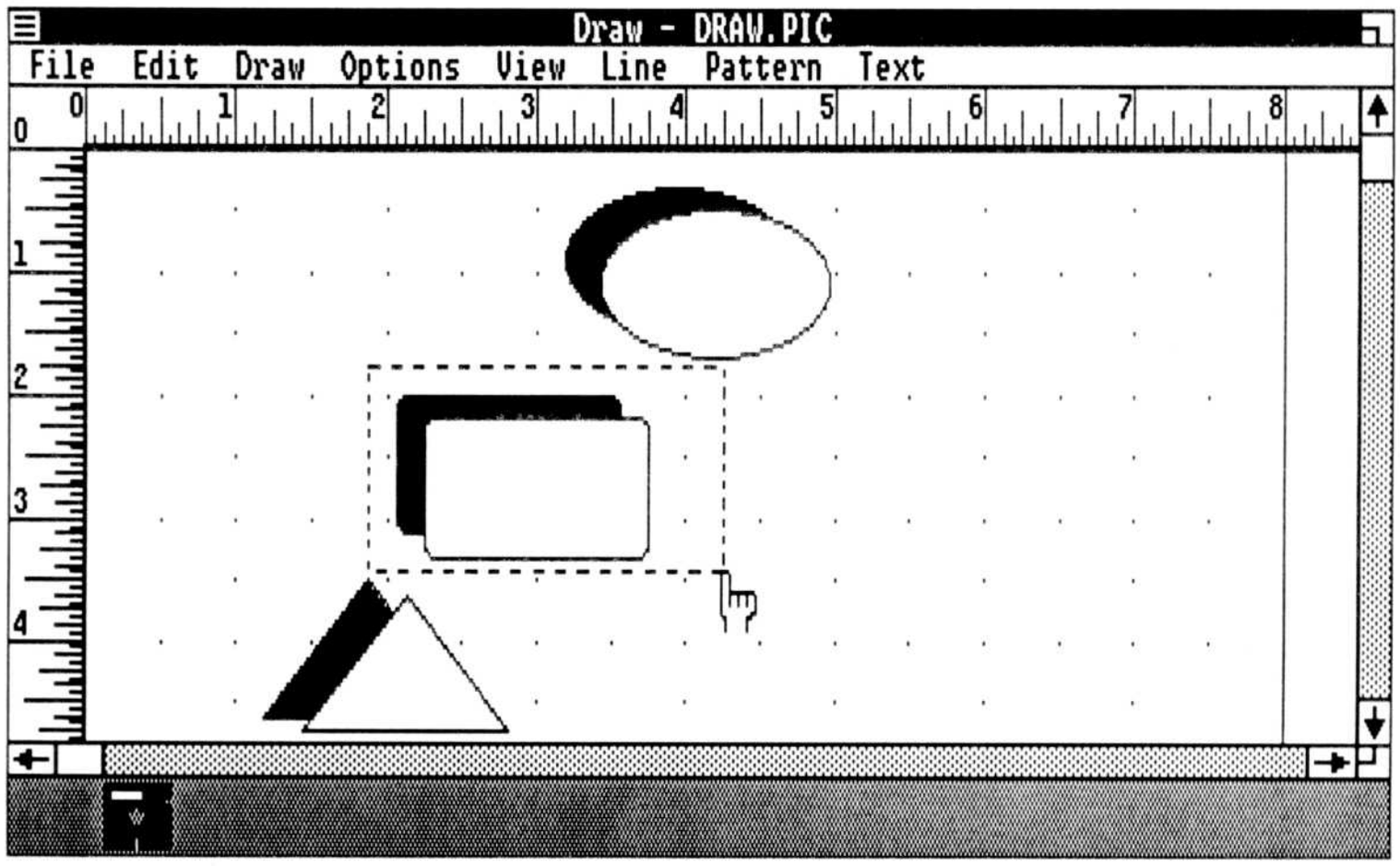
To block select symbols

Follow these steps to select a group of symbols:

1. Choose the Block Select command from the Edit menu. Notice the pointer becomes a hand with a pointing index finger.

2. Use the DIRECTION keys to move the pointer just outside of the upper left corner of the rounded rectangles.

3. Hold down the SPACEBAR and the PGDN key to drag the pointer to rubberband a dotted rectangle around the overlapping rounded rectangles. Make sure the rectangle completely encloses the symbols without touching the edges of the symbols.



4. Release the PGDN key and the SPACEBAR. Notice the handles indicating that the symbols are block selected.

5. Choose the Combine command from the Options menu. The symbols combine as one symbol until you break them apart.

6. Move the pointer away from any symbols and quickly press and release the SPACEBAR to return to the Block Select mode.

7. Repeat steps 2 through 6 to block select and combine the overlapping polygons.

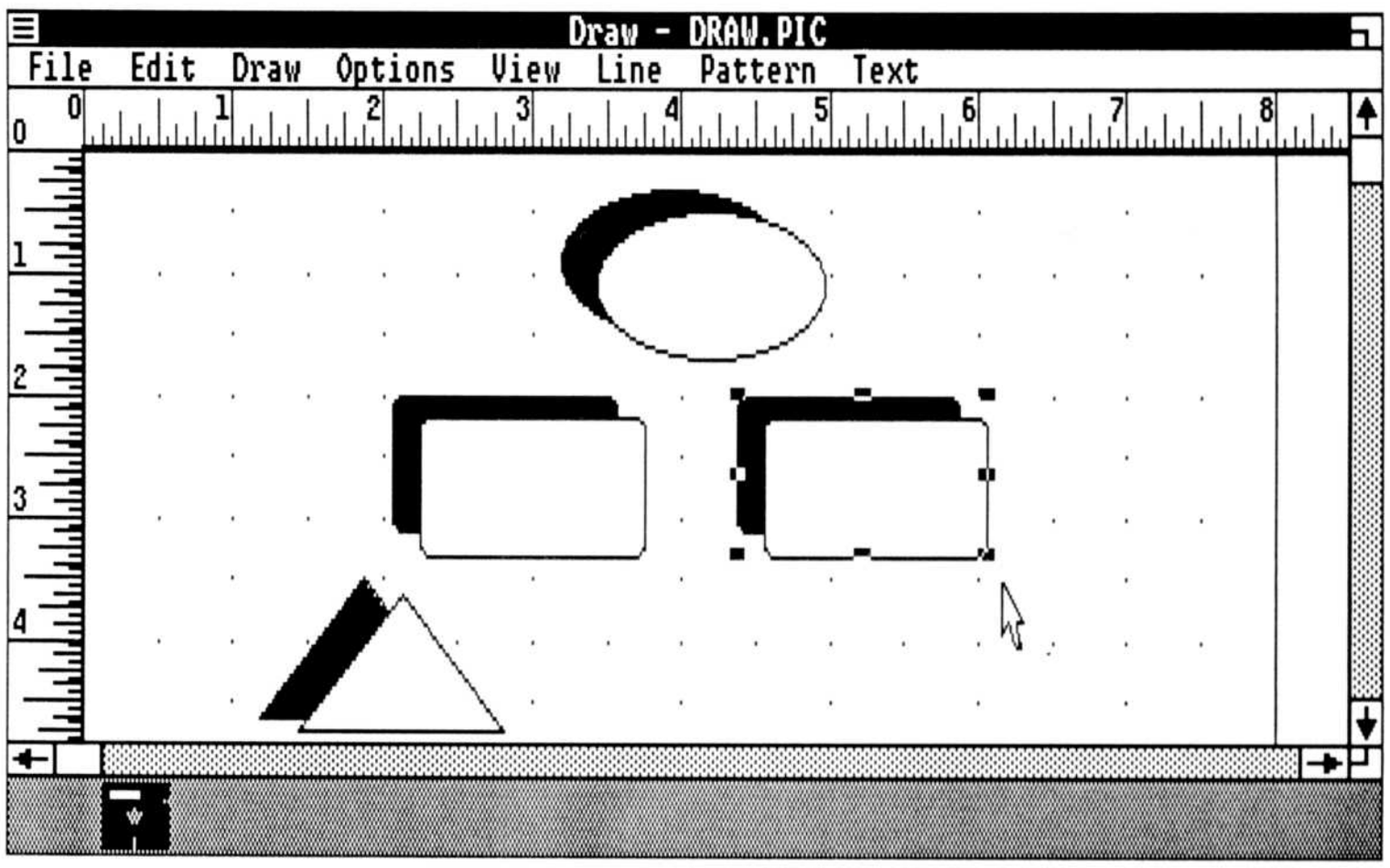
Exercise 2: Duplicating the Combined Symbols

Duplicate a combined symbol the same way you duplicate a single symbol. Use the SHIFT copy method to duplicate the combined rectangles once and the combined polygons twice.

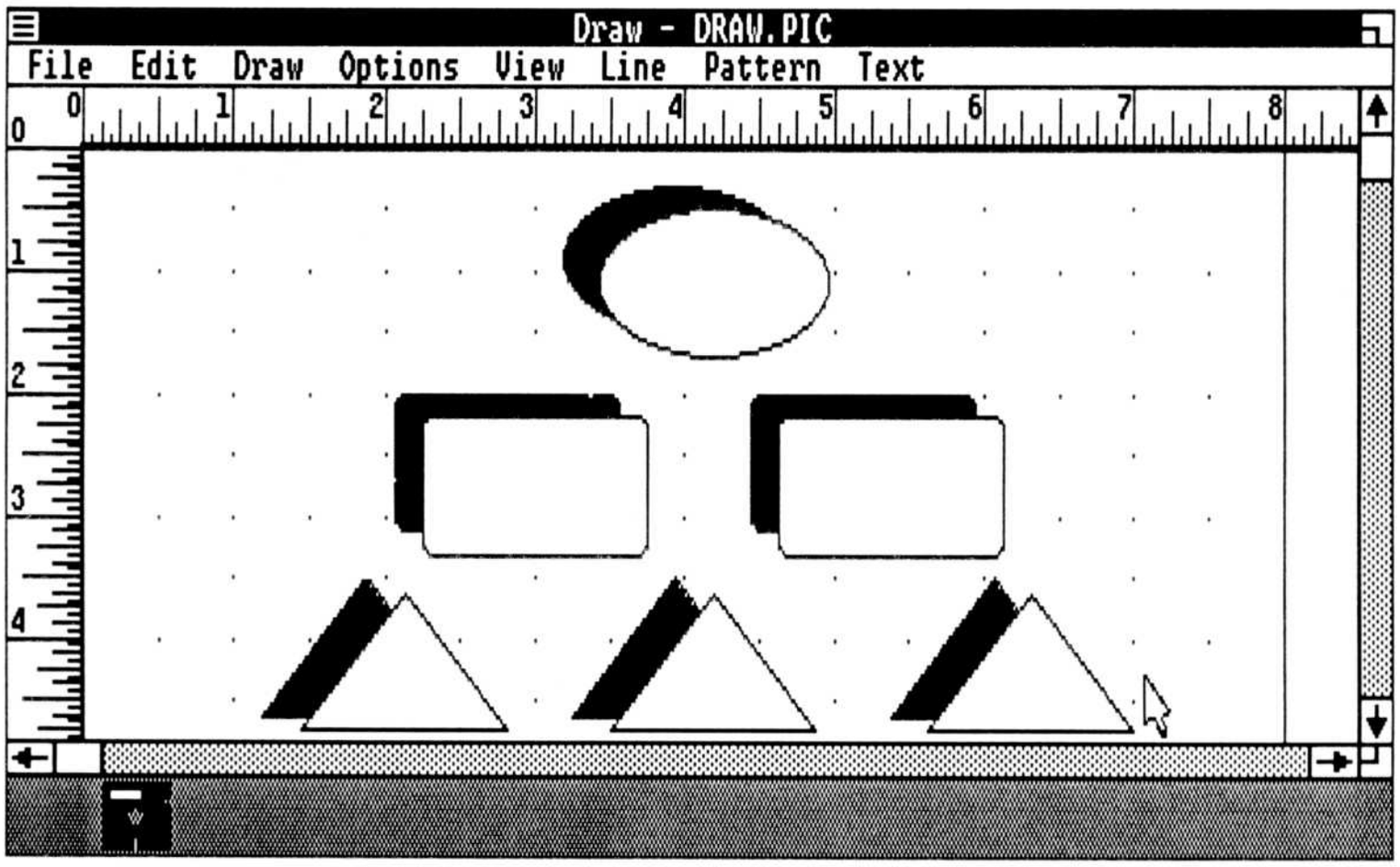
To duplicate combined symbols

Follow these steps to duplicate combined symbols:

1. Select the combined rectangles.
2. Press and hold the SHIFT key and press and hold the SPACEBAR at the same time.
3. Press the RIGHT key to drag the bounding box of the combined symbol to the right, placing it to the lower right of the ellipse.
4. Release the keys.



4 Repeat steps 1 through 4 to make two copies of the combined polygons, placing them so that they form a row of three at the bottom of the drawing.



Exercise 3: Breaking Apart a Combined Symbol

If you want to break apart a combined symbol in order to manipulate individual symbols, you use the Break Apart command in the Options menu. If the combined symbol is composed of more than one group of combined symbols, you must choose the Break Apart command for each combined group. The group most recently combined breaks apart first.

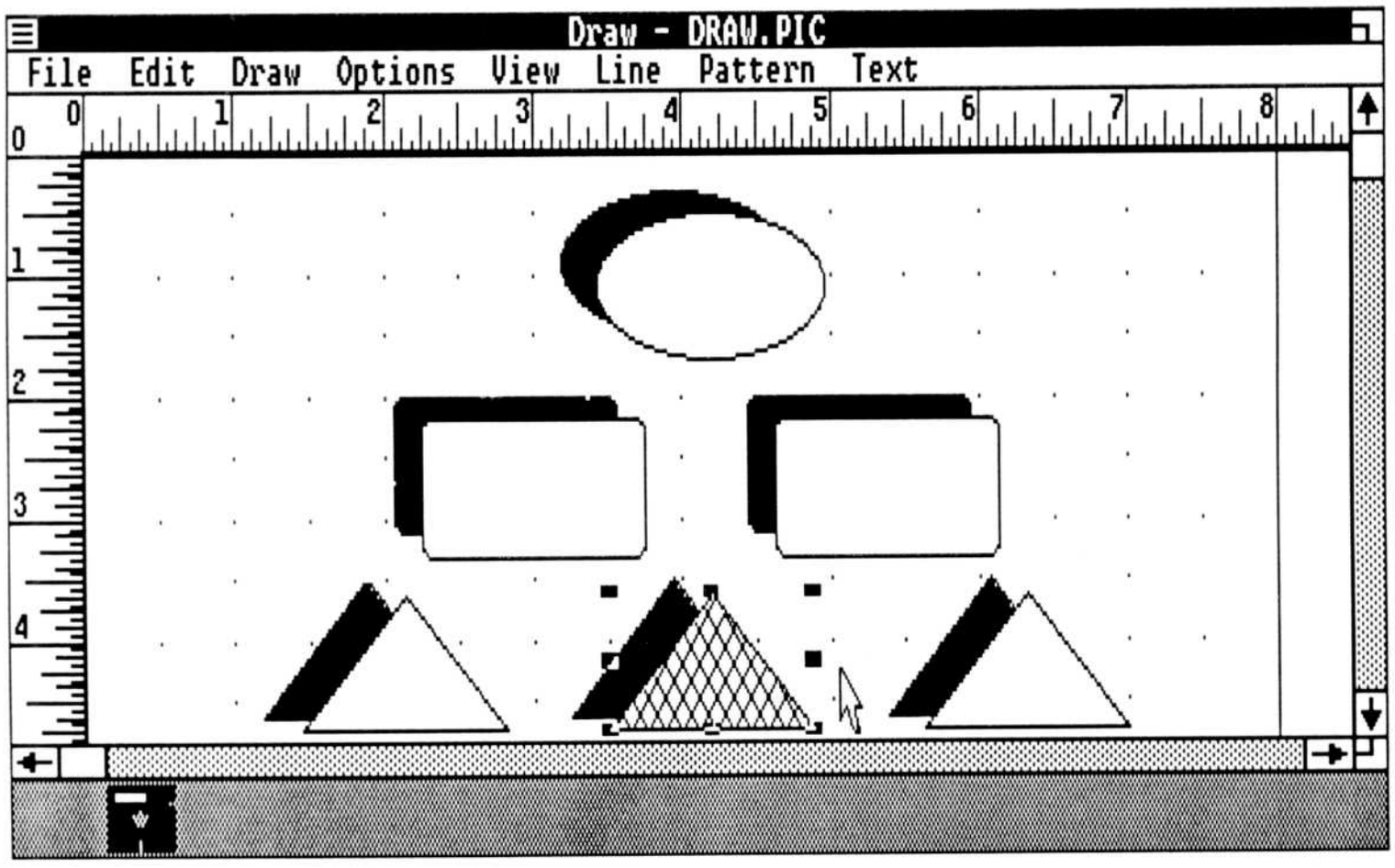
To break apart a combined symbol

Follow these steps to break apart the combined polygons:

1. Select the combined polygons in the center of the bottom row of symbols.
2. Choose the Break Apart command from the Options menu. The combined polygon breaks into two individual symbols.

Since you have not yet hired an employee to place in the bottom middle slot on the organizational chart, fill the white polygon with a pattern to show the position is still open.

1. Select the white polygon. (The symbol is no longer combined, allowing you to select only one symbol.)
2. Choose the Color command from the Pattern menu.
3. Press ENTER to choose black in the dialog box. The polygon fills with black.
4. Choose the crosshatch pattern (the ninth selection from the top) from the Pattern menu. The polygon fills with the pattern.


Draw - DRAW.PIC
File Edit Draw Options View Line Pattern Text

Adding Text

You need only add words to your presentation chart to make it complete. You, of course, deserve to be in the number one position on the organizational chart. Set the text attributes and use the text command to enter text into the drawing.

Exercise 1: Setting the Text Attributes

Choose the *font*, or typeface, the emphasis features, and the point size for the text from the Text menu.

To set the text attributes

Follow these steps to choose the attributes for the text:

1. Choose the Helv font from the Text menu just as you choose a command. When you pull the menu down again, notice a check mark appears next to "Helv." The text you type will appear in the Helv font.

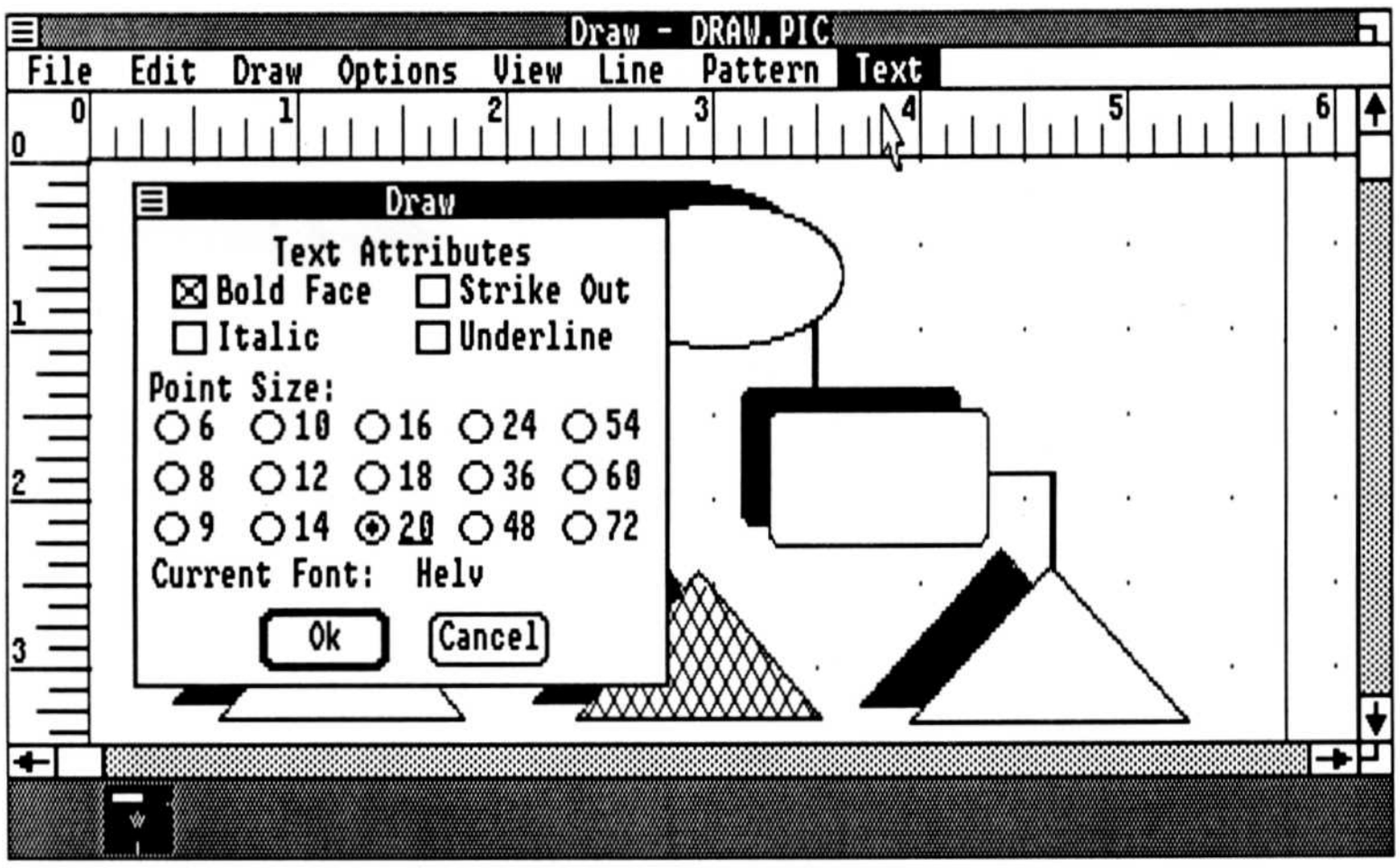
2. Choose the Set Attributes command from the Text menu. A dialog box appears.

3. Press the TAB key twice to move the blinking underscore to "Bold Face."

4. Press the SPACEBAR to select Bold Face. An "X" appears in the box.

5. Press the TAB key four times to move the underscore to "16" in the point size field.

6. Press the DOWN key twice to move the cursor to point size 20.



7 Press ENTER to process the choices and to close the dialog box.

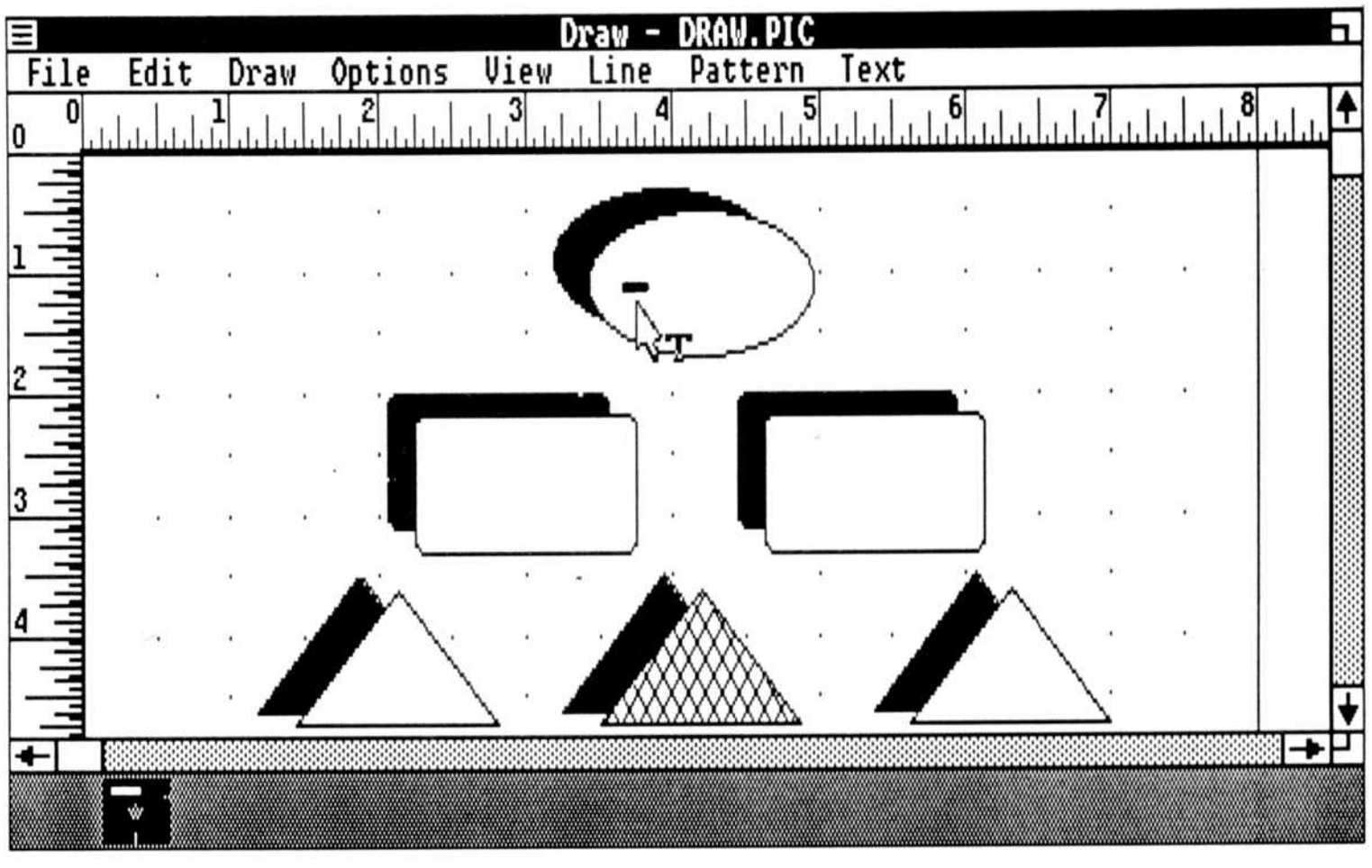
Exercise 2: Typing the Text

You have chosen the font, font size, and one emphasis feature, bold face, and are ready to type the text. Use the Text command from the Draw menu.

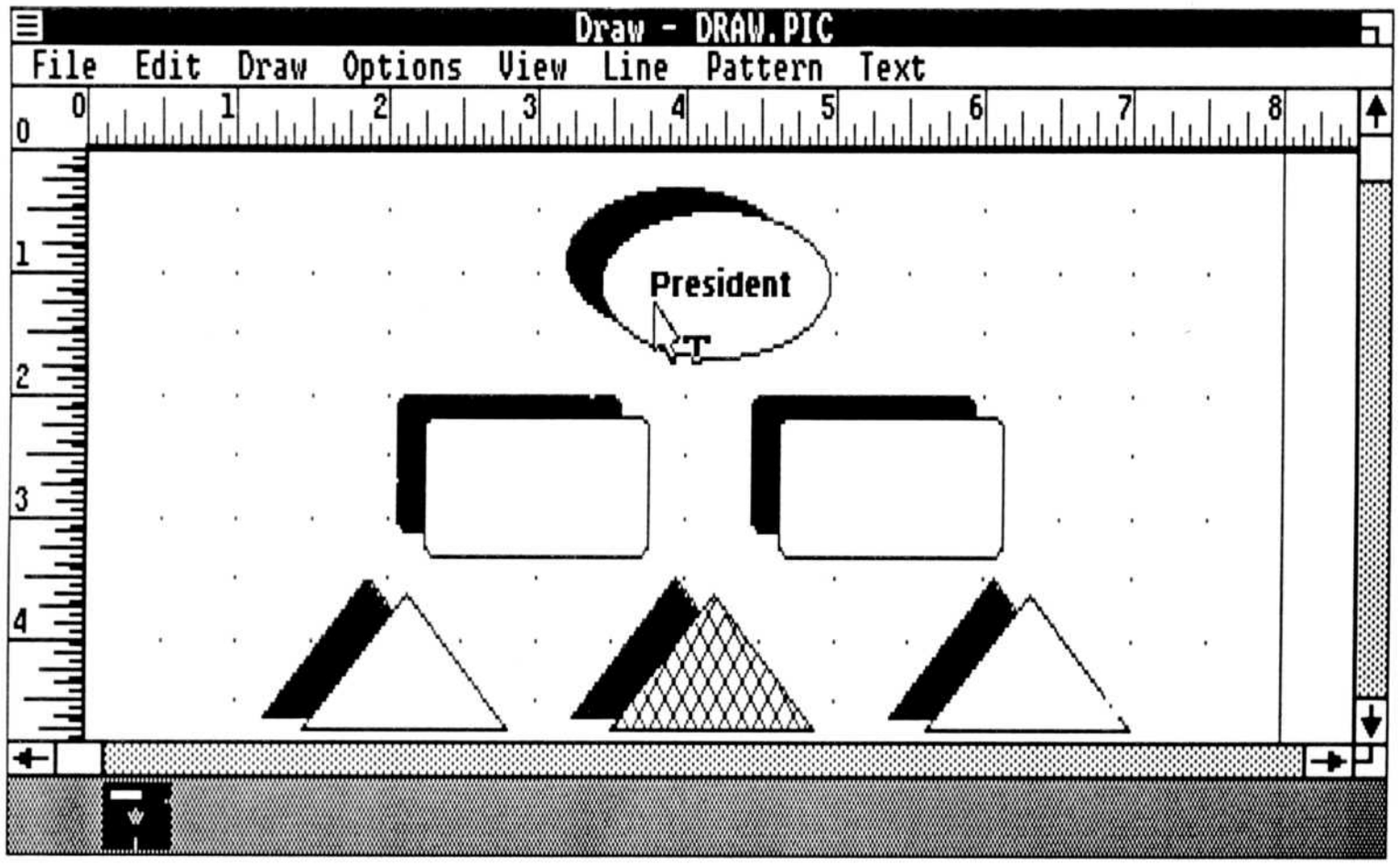
To type in text

Follow these steps to add text to the drawing:

1. Choose the Text command from the Draw menu. Notice the pointer displays a "T."
2. Move the pointer into the ellipse where you want to start typing.
3. Press, hold, and then release the SPACEBAR. A text cursor appears.



4 Type *President*. (Use the BACKSPACE key to correct typing errors.)



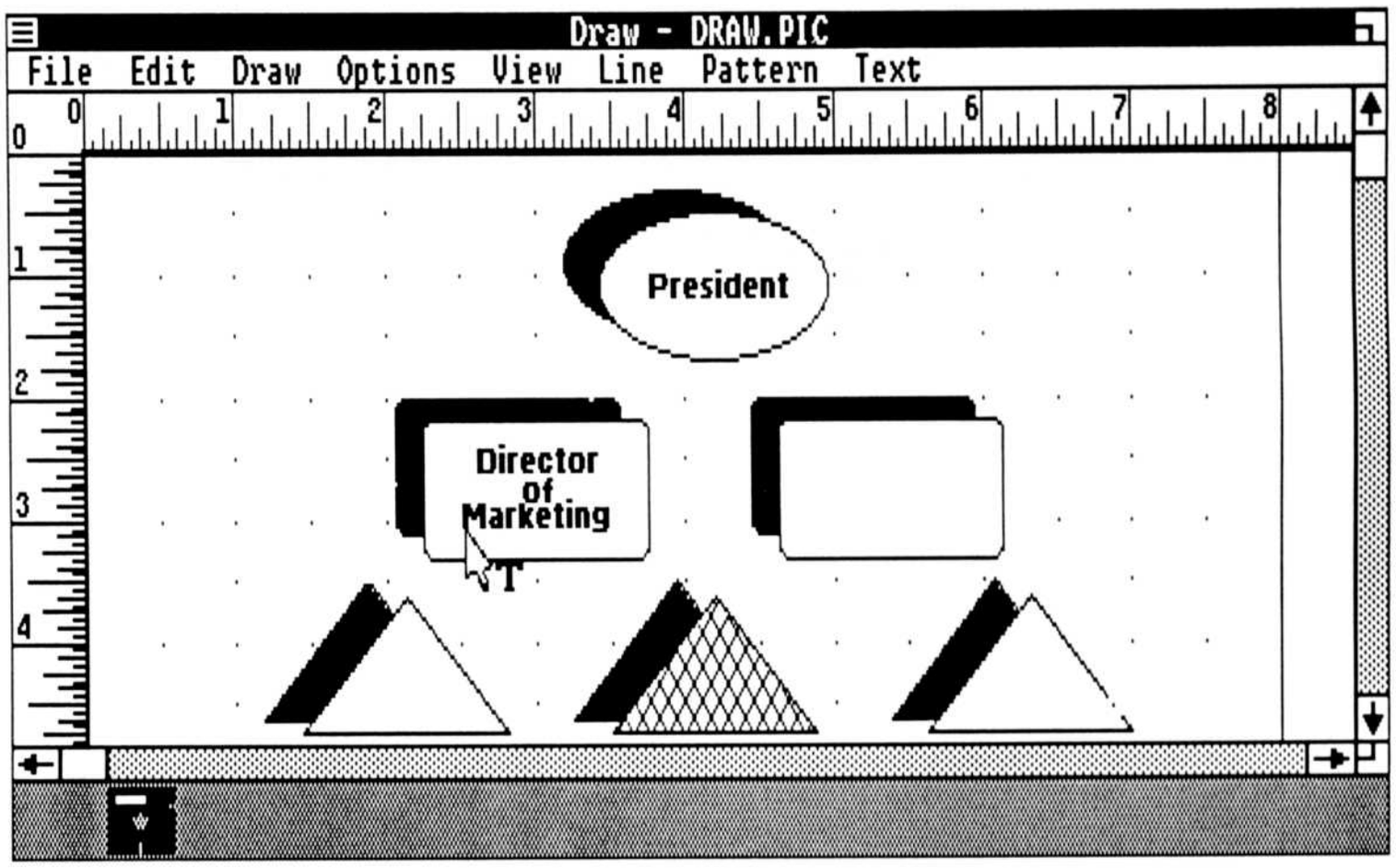
5 Press ESC. Place the pointer in the left rounded rectangle and press and release the SPACEBAR to see the text cursor.

Note Pressing the ESC key in Text mode does two things. It completes the first symbol you typed and allows you to use the DIRECTION keys to move the pointer.

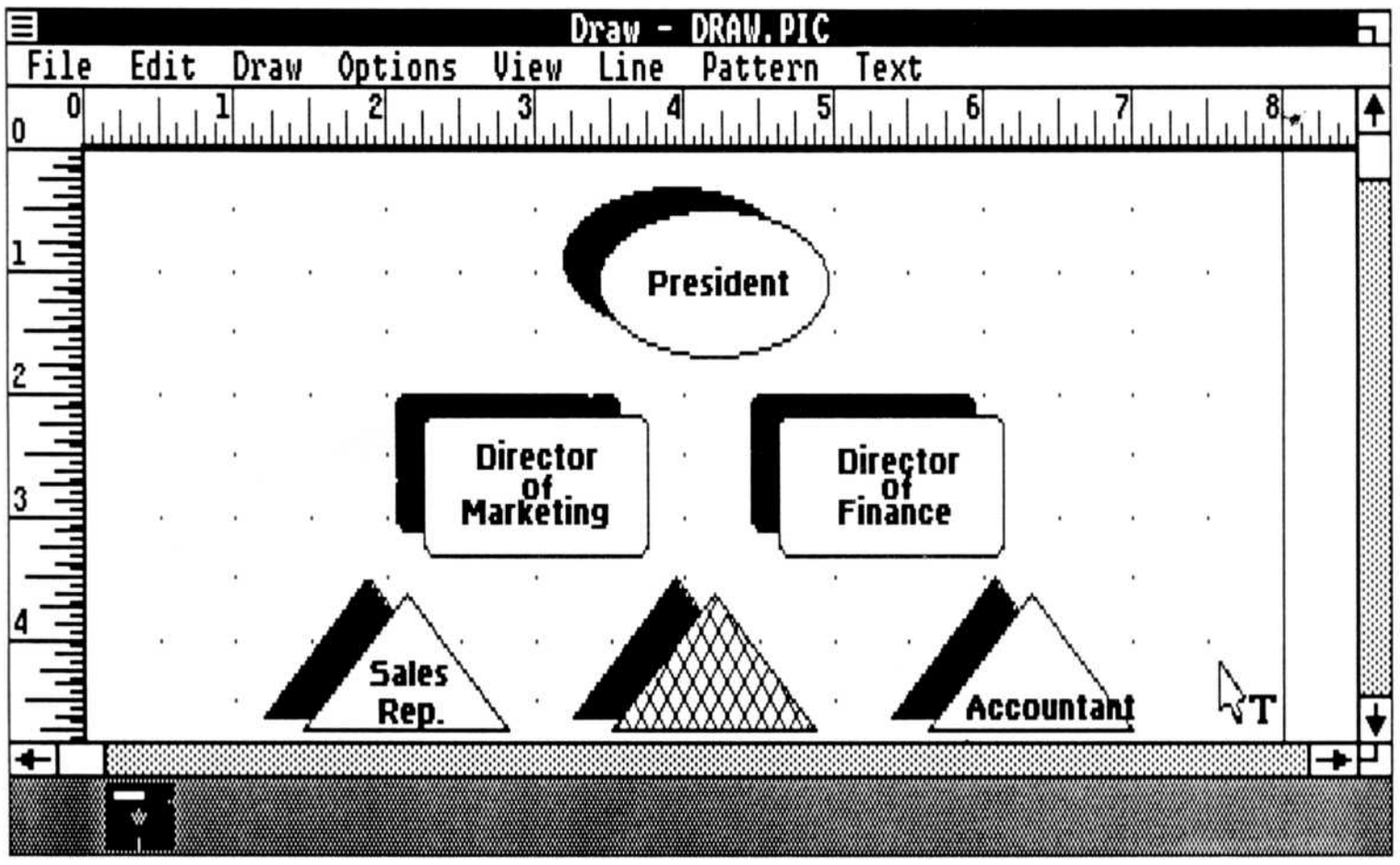
6 Type *Director* and press ENTER.

7 Press the SPACEBAR three times, type *of*, and press ENTER.

8 Type *Marketing* and press ESC.



9 Repeat steps 5 through 8, adding text (*Director of Finance*, *Sales Rep.*, and *Accountant*) to the remaining symbols.



Note When you press ENTER or ESC to end typing a word or a line of text, the text is recognized by the program as a single completed symbol. You can move or duplicate the text as you would any other symbol. If you want to move the text you just typed, select it and drag it to the new location.

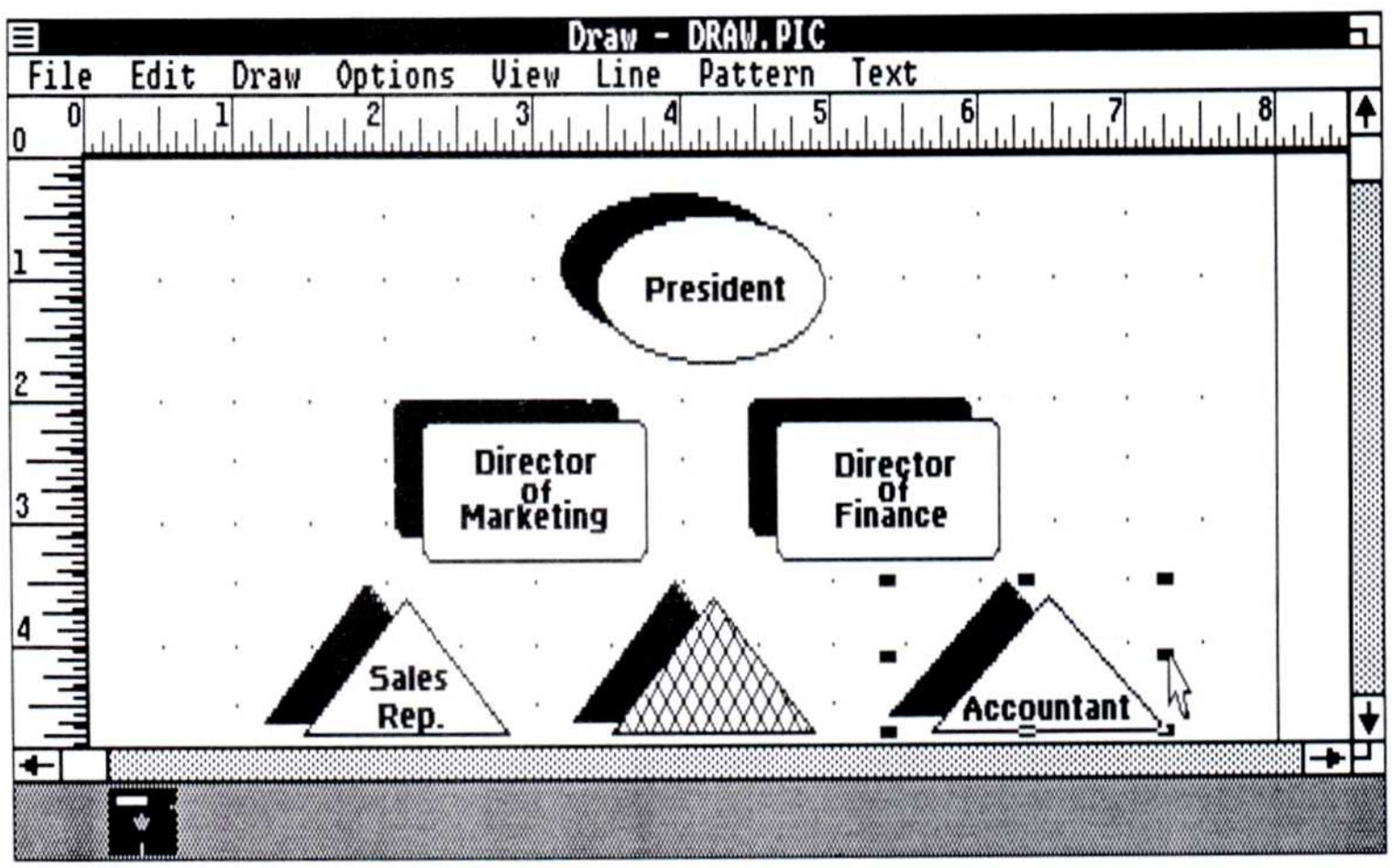
Stretching a Symbol

If you find that the text you typed in Exercise 2 is too long for the symbol, you can stretch the symbol for a better appearance.

To stretch a symbol

Follow these steps to stretch a symbol:

1. Select the symbol you want to stretch. Handles appear around the symbol.
2. Move the pointer to the handle on the right border of the symbol.
3. Press and hold the SPACEBAR and press the RIGHT key to stretch the symbol to the right. You see the bounding box of the symbol extend to the right.
4. Release the SPACEBAR and the RIGHT key when the symbol encloses the text.



Note Use a handle on the side of a symbol to stretch one direction and a handle on a corner of a symbol to stretch the symbol proportionally.

Adding Lines and Jointed Lines

As a finishing touch to the drawing, you can connect the symbols in the chart with lines. Use the Line command to draw a straight line from one point to another. Use the Jointed Line command to draw two or more connected line segments.

Exercise 1: Creating a line

Use the Line command and the Horz/Vert command to draw lines to connect the symbols.

As you follow the steps in this exercise, you may have to move some of the symbols in order to have them line up as they do in the illustrations.

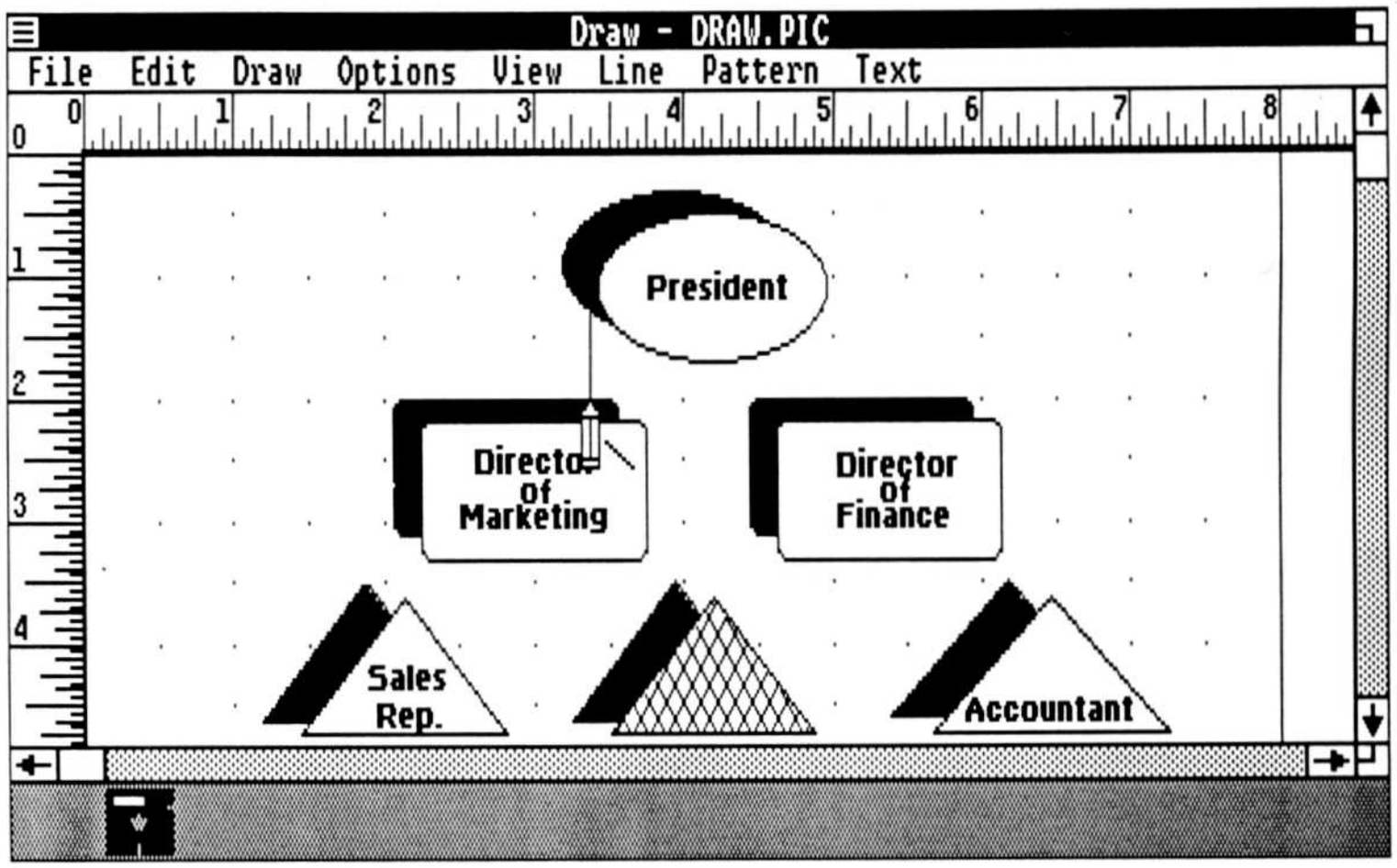
To create a line

Follow these steps to draw a line:

1. Choose the Line command from the Draw menu. The pointer becomes a pencil with a diagonal line.

2. Move the pointer to a place on the lower left border of the shaded ellipse.

3 Press and hold the SPACEBAR and press the DOWN key to rubberband a vertical line from the border of the ellipse to the top of the shaded rectangle directly below (Director of Marketing).



Reminder Remember that you can move a symbol as you create it. To move the line you are creating, press the 2 key while you continue to hold the SPACEBAR, move the line exactly where you want it, release the 2 key, and continue creating the line.

4 Release the SPACEBAR to end creation of the line.

Note If you wish, use the Horz/Vert command in the Draw menu to make the lines in step 5.

5 Repeat steps 2 through 4 to make a line connection from the President to the Director of Finance. You are already in Line command mode as the pointer indicates.

Reminder If you create a symbol that is not to your liking, simply select it, choose the Delete command from the Edit menu, and create it again. To remove a symbol immediately after creating it, choose Undo.

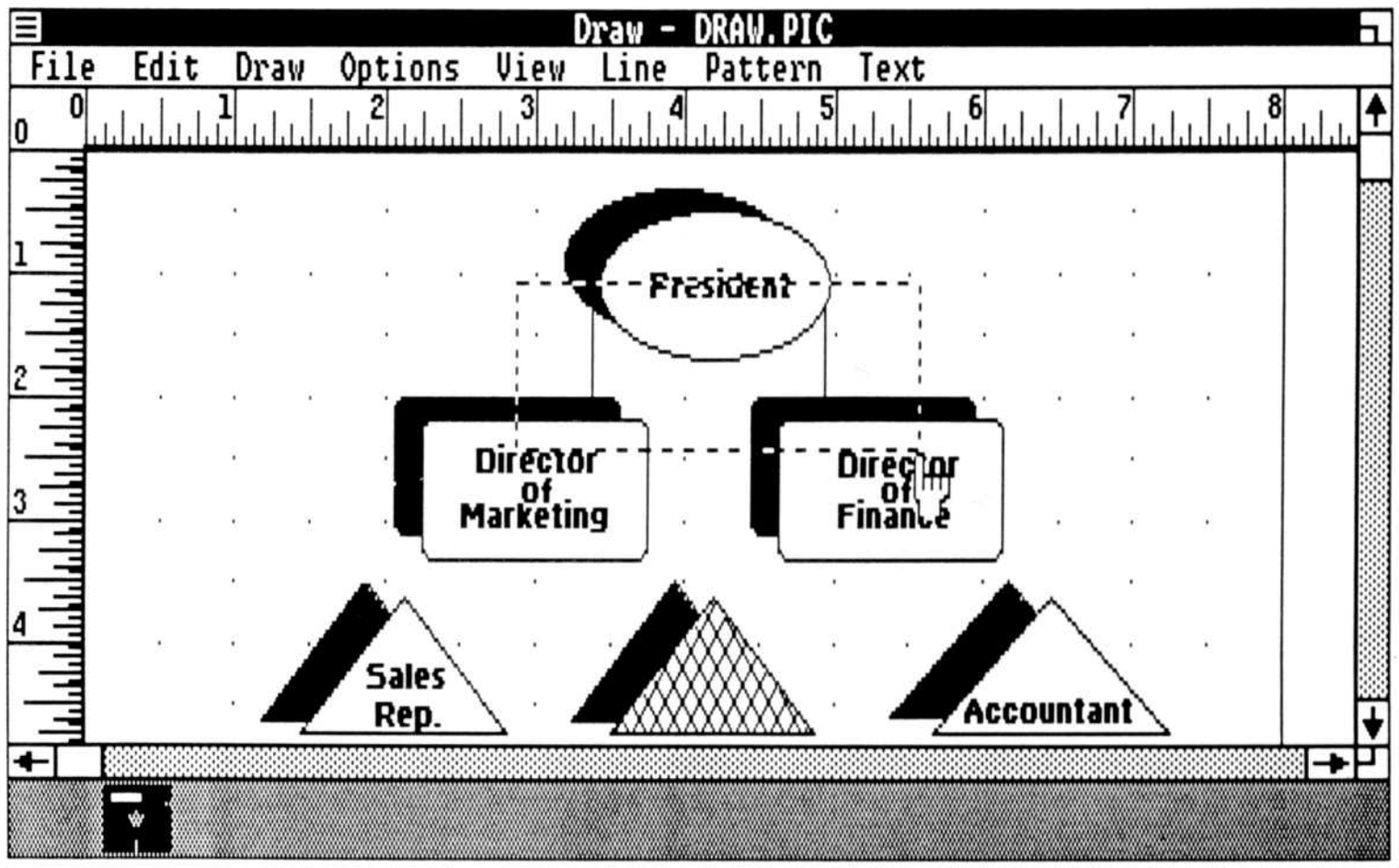
Exercise 2: Setting the Line Width

You can set the pen width from a fine line (the default width) up to a line ⅛″ wide. Choose a line width or style from the Line menu to set the width and line style for subsequent symbols or to change a selected line to another width.

To change the line style or width of a symbol

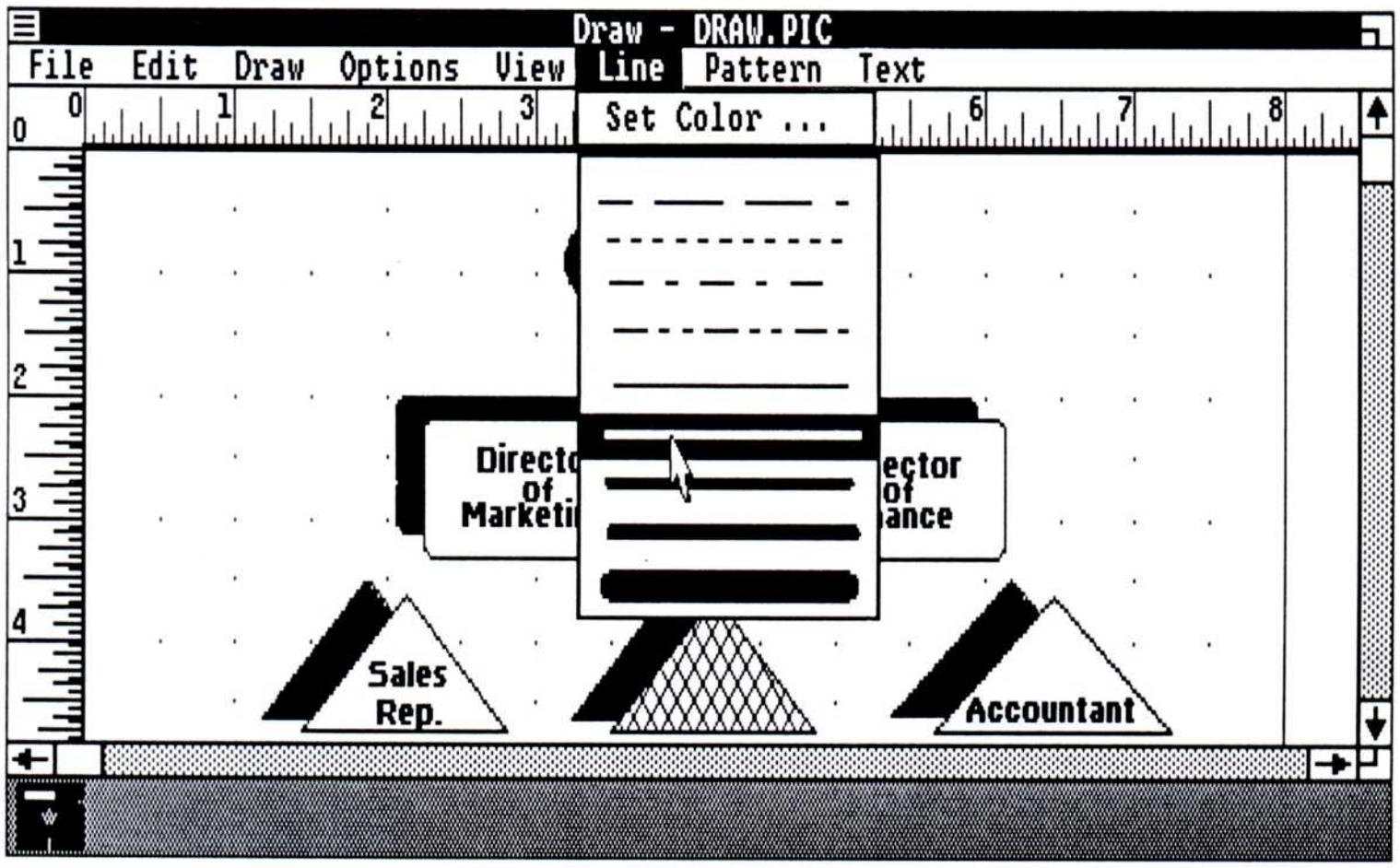
Follow these steps to change the width of the line you created that runs from the ellipse to the rectangle:

1. Choose the Block Select command and rubberband a rectangle around the lines you drew from the ellipse to the rectangles, making sure to enclose both lines.



Note Refer to the section ''Selecting and Combining a Block'' if you need help with the Block Select command.

2 Choose the second solid line style from the Line menu. Notice that the lines redraw and appear wider than before.



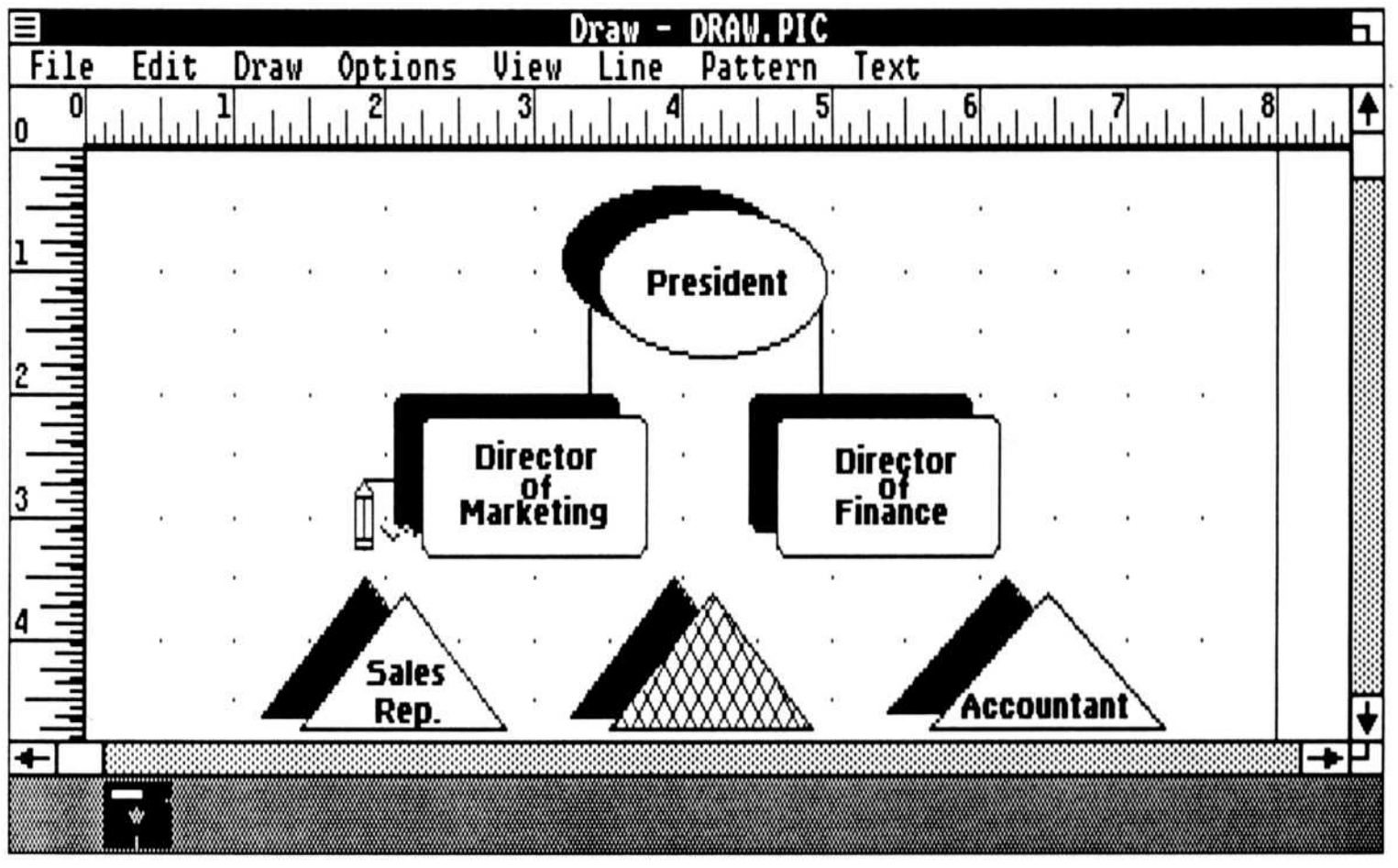
Exercise 3: Creating a Jointed Line

Connect the rounded rectangles and the polygons with a jointed line.

To create a jointed line

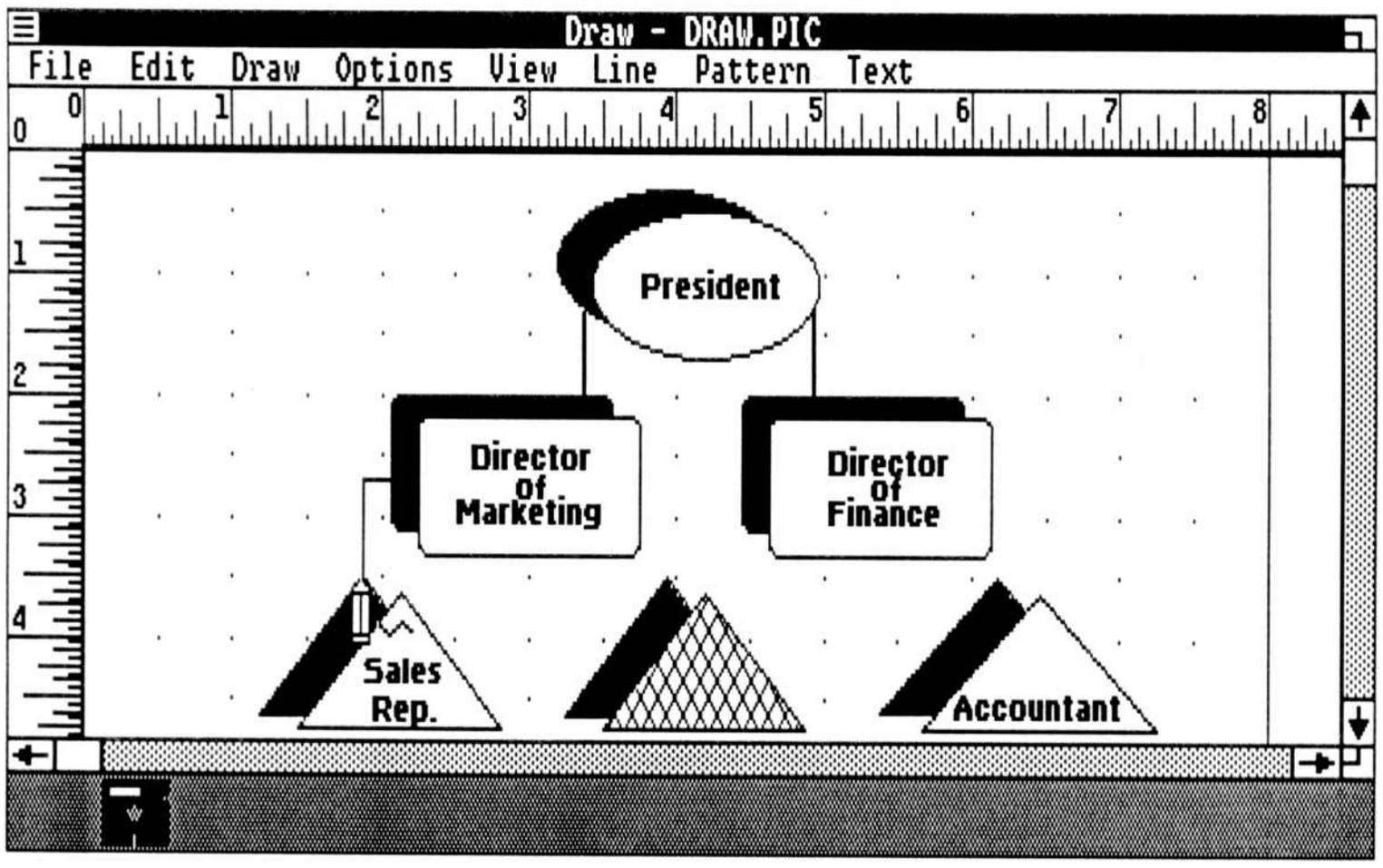
Follow these steps to draw a jointed line:

1. Choose the Jointed Line command from the Draw menu.
2. Move the pointer to the center of the left border of the lower left shaded rectangle (Director of Marketing).
3. Press the SPACEBAR and the LEFT key to draw a horizontal line segment about ¼" from the border of the rectangle and release the keys.



4 Move the pointer to the top point of the shaded triangle (Sales Rep.).

5 Press the SPACEBAR. A line segment draws from the end of the first line segment to the pointer.

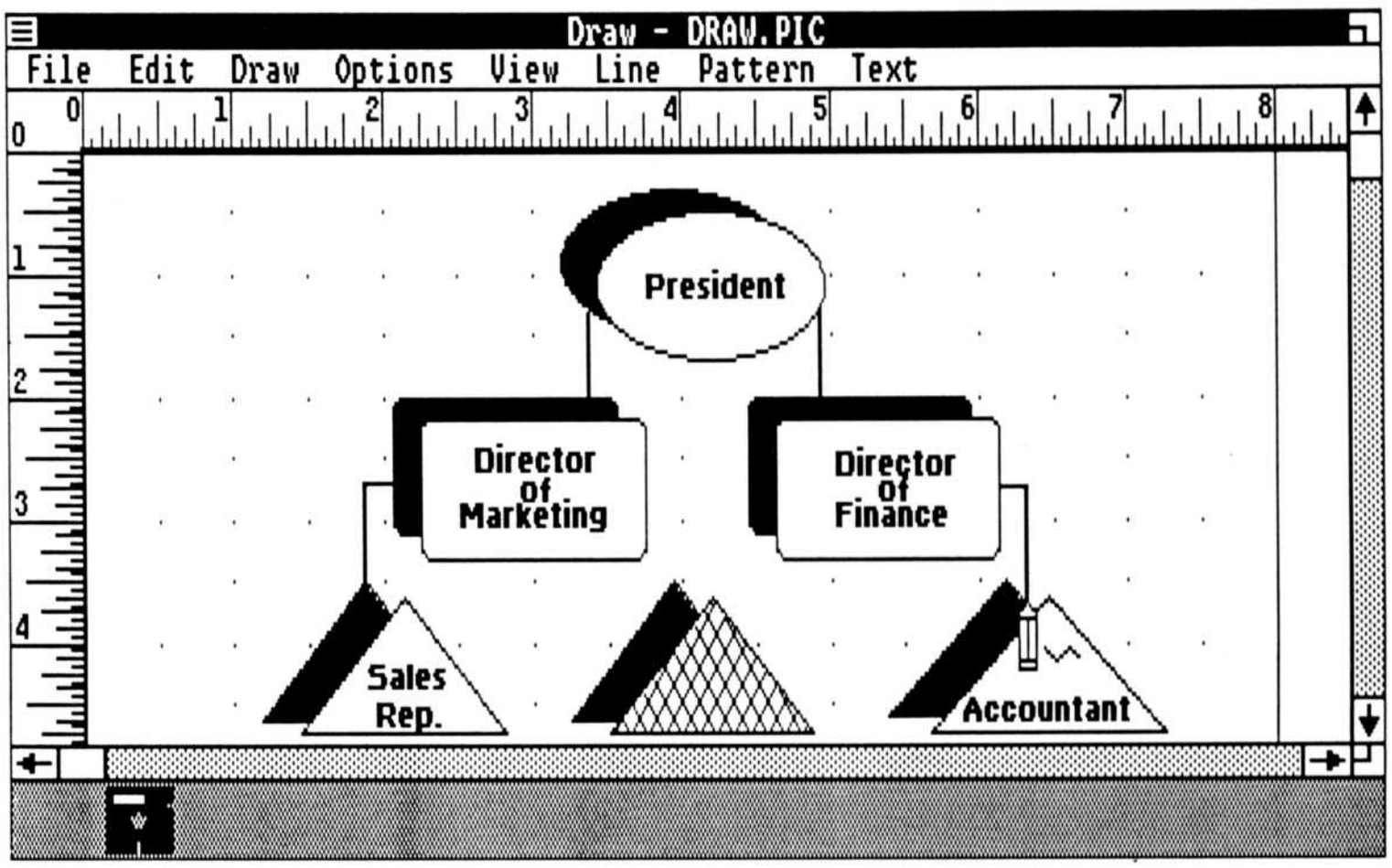


6 Use the DIRECTION keys to straighten the segment, and release the SPACEBAR.

7 Quickly press and release the SPACEBAR again to end creation of the jointed line. Notice that the line redraws in the line width you chose in the previous exercise.

Note As you create a jointed line, delete an unsatisfactory segment by choosing the Undo command from the Edit menu (or press SHIFT-ESC). Then continue creating the line.

8 Repeat steps 2 through 7 to draw a jointed line connecting the Director of Finance rectangle with the Accountant triangle.



Printing a Drawing

Now the drawing is complete. You have created a masterpiece of symbols with shapes, shading, pattern, lines, and text. The drawing looks fine on the display screen, but what you really want to do is print the drawing so you can show it off. The first time you print, DRAW uses the printer you installed when you set up Windows.

Exercise: Printing the Drawing

Do this step to print the drawing:

To print a drawing

▣ Choose the Print Current Page command from the File menu. A print spooler icon appears at the bottom of the screen. A dialog box appears as the drawing is spooled to the printer.

Expect several moments to pass before the drawing is printed. The time that elapses depends on the number of symbols in the drawing and the printing device itself.

Note You may cancel printing as the drawing spools to the printer by pressing the ESC key.

Note If you receive a message that a printer is not selected, choose the Change Printer command from the File menu and select a printing device. See Chapter 6, ''Printing a Drawing,'' or the *Microsoft Windows User's Guide* for more information.

What's Ahead?

You have completed ''Learning to DRAW'' and have a printed drawing to show for your efforts.

You can probably think of many ways to improve the drawing you made. Experiment with your new skills until you feel comfortable with them.

You may have noticed that many menu commands have next to them alternate ways to be selected (Block Select ^B, Rectangle ^R, Text ^T). Without opening a menu, you can execute many commands with one or two keystrokes.

Primarily, the Function keys and the CTRL key (coupled with another, usually mnemonic, key) provide the ability to execute DRAW functions with speed. Look at the complete list of Accelerator keys in Appendix A so that as you improve your skills, you can simultaneously improve your DRAWing speed.

If you use the keyboard, the accelerator keys help you work faster. If you use a mouse in conjunction with the keyboard, you have the best of both worlds with respect to speed and ease of use.

Now that you have used DRAW, you may want to read through Chapter 3, ''The Basics,'' to familiarize yourself with all the features of DRAW.

2 Learning to DRAW With the Mouse

The exercises in this chapter give you hands-on experience using a mouse with DRAW. If you don't have a mouse, read Chapter 1, "Learning to DRAW," for exercises designed for use with the keyboard.

If you are a new user, this chapter is especially for you. The step-by-step instructions tell you exactly what to do to create a drawing.

In this chapter, you learn how to

- Create Symbols
- Use Undo
- Save a Drawing
- Delete a Symbol
- Move and Copy Symbols
- Fill and Unfill Symbols
- Block Select and Combine Symbols
- Add Text
- Stretch a Symbol
- Create Lines and Jointed Lines
- Print a Drawing

About the Mouse

The following terms are used for actions you perform with the mouse:

To *point*	Move the mouse until the tip of the pointer rests on what you want to point to.
To *click*	Quickly press and release the mouse button.
To *press*	Hold down the mouse button.
To *drag*	Move the mouse while holding down the mouse button.
To *double click*	Click the mouse button twice in rapid succession.

Button 1 refers to the primary mouse button. On a multiple-button mouse, Button 1 is usually the left button. However, in the Control Panel, Windows allows the right button to be designated the primary button.

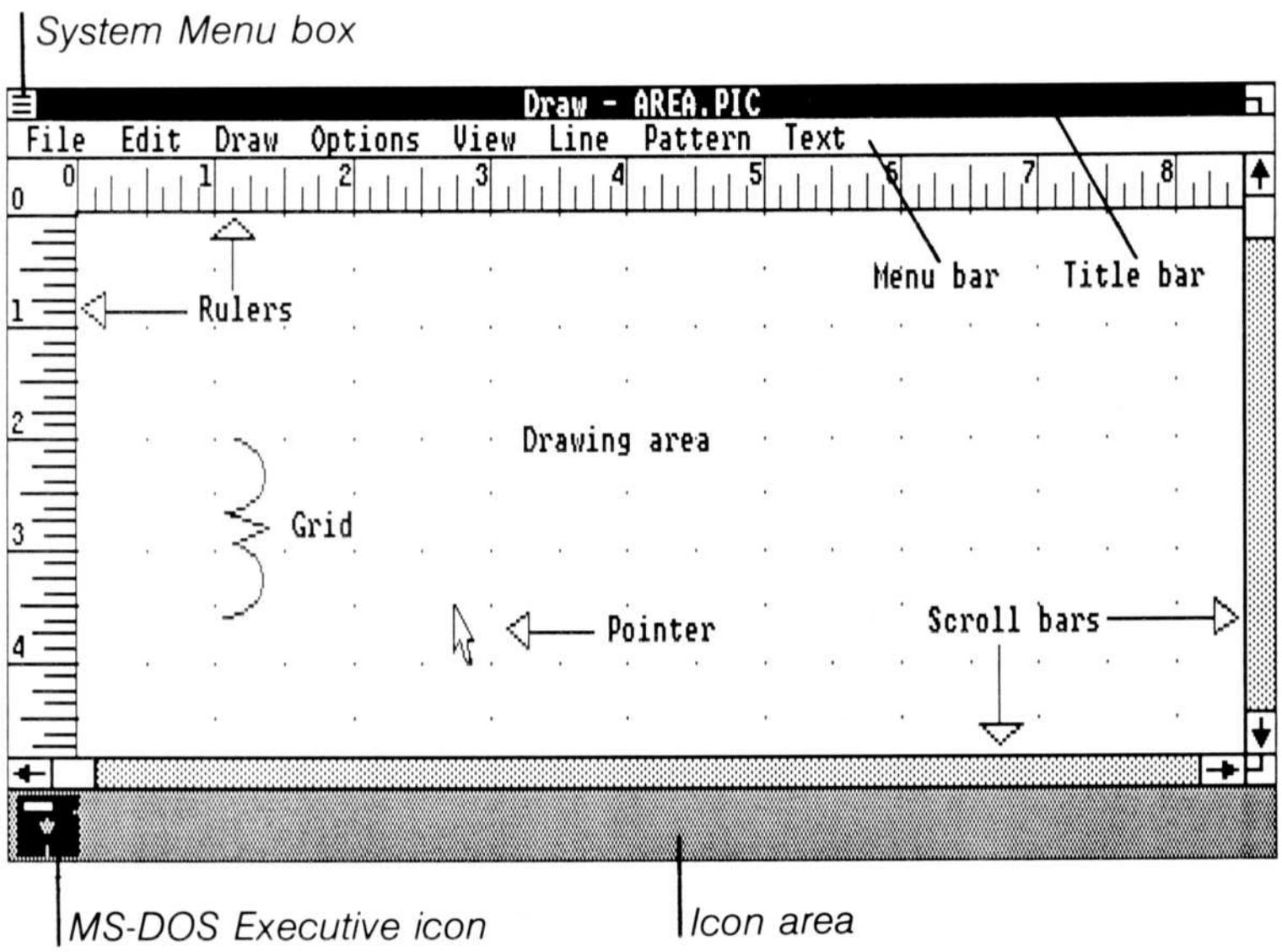
Before You Start

To start DRAW, you should have the MS-DOS Executive window displayed. If it is not, expand the MS-DOS Executive icon into a window. (If you need help, see the "Getting Started" section of this manual or the *Microsoft Windows User's Guide*.)

Although you can run DRAW simultaneously with other applications, for the purpose of this tutorial you may want to close other applications. The supporting illustrations show only MICROGRAFX Windows DRAW.

From the MS-DOS Executive Window:

- Double click DRAW.EXE. DRAW is loaded and you see the DRAW window.



The Story

You have recently started your own company and will open for business soon. Though you currently have only four employees, the business plan calls for rapid growth. You are meeting with your investors soon to make a business presentation. The presentation will include an overview of your company's personnel structure.

Because you want to start your new business with the proper tools, you purchased DRAW in order to prepare this presentation.

The first task for you and for DRAW is to design the personnel organizational chart. On the chart, you need places for the President, the Director of Marketing, the Director of Finance, one sales representative, and one accountant. You want the chart to be clean and attractive, yet functional. It should be easy to add more levels as the company grows.

To make the chart, you create symbols, move and copy symbols, fill some symbols with color and pattern, choose text attributes, and type labels on the symbols.

As you create the drawing, you learn to delete symbols and to use the Undo command to reverse actions you wish to redo. You learn to save a drawing and, finally, you print the drawing.

When you have completed Learning to DRAW, you will be knowledgeable about all of DRAW's basic functions.

Creating Symbols

Everything you create in DRAW is a symbol, whether it is a circle, a line, or text. In this chapter, you create symbols for the organizational chart. You also have a chance to delete a symbol and create it again.

Exercise 1: Creating an Ellipse

Create an ellipse and place it in the top center of the drawing window.

Follow these steps to create an ellipse:

To create an ellipse

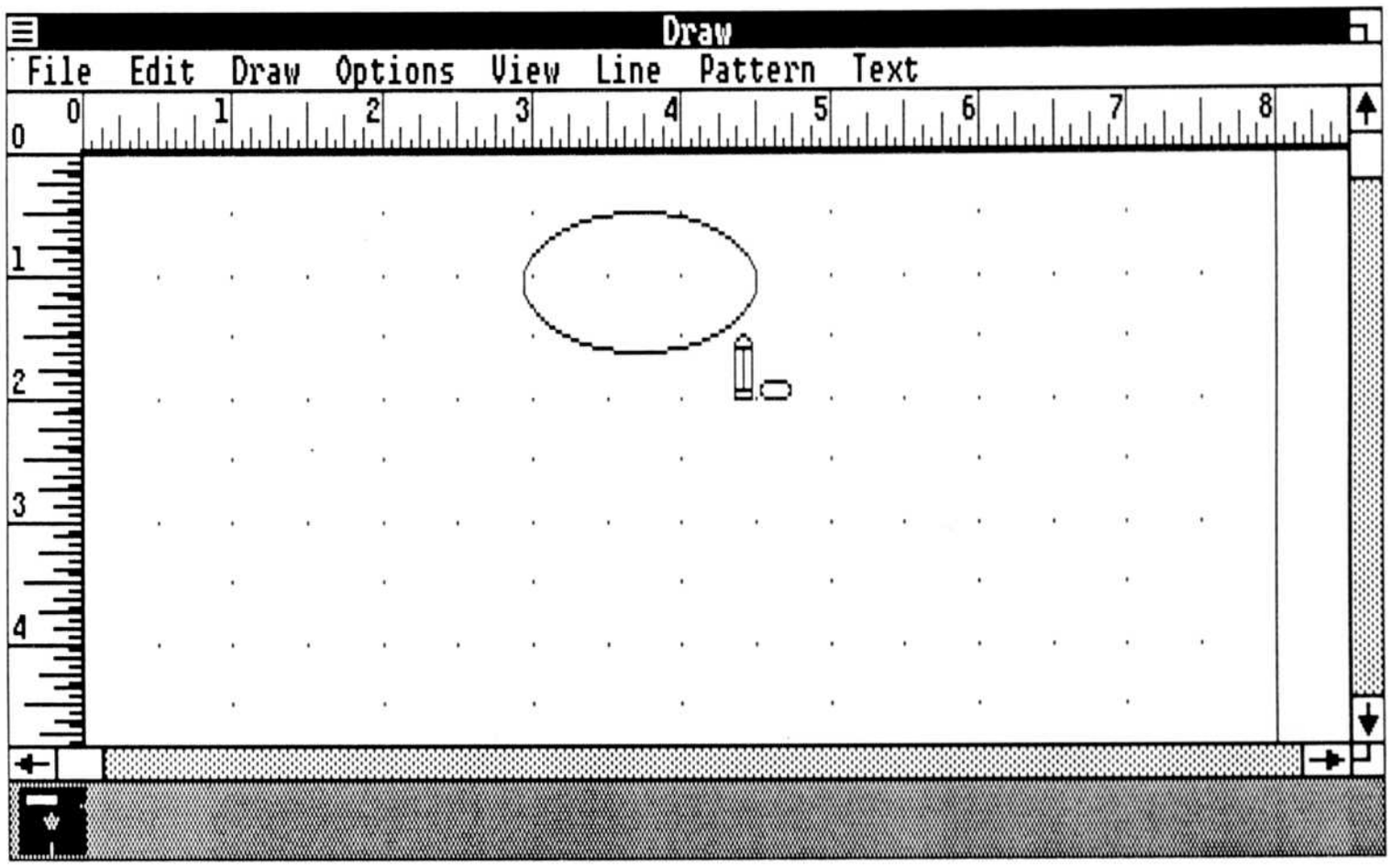
1. Move the pointer to the title of the Draw menu.
2. Press and hold Button 1. The Draw menu opens.
3. Drag the pointer to highlight the word "Ellipse" and release the button. The menu closes and the arrow pointer becomes a pencil with an ellipse.

4 Press Button 1 and drag the pointer to rubberband an ellipse.

Note If you have a one-button mouse, use the 2 key on the top row of the keyboard in the next step in place of Button 2.

5 Press Button 2 (without releasing Button 1) to move the ellipse to the top center of the drawing. When the ellipse is where you want it, release Button 2. You can continue rubberbanding the ellipse to the proper size.

6 Release Button 1 to end creation of the ellipse.



Note An hourglass replaces the pointer while the program is working. As soon as the pointer returns, you may resume drawing.

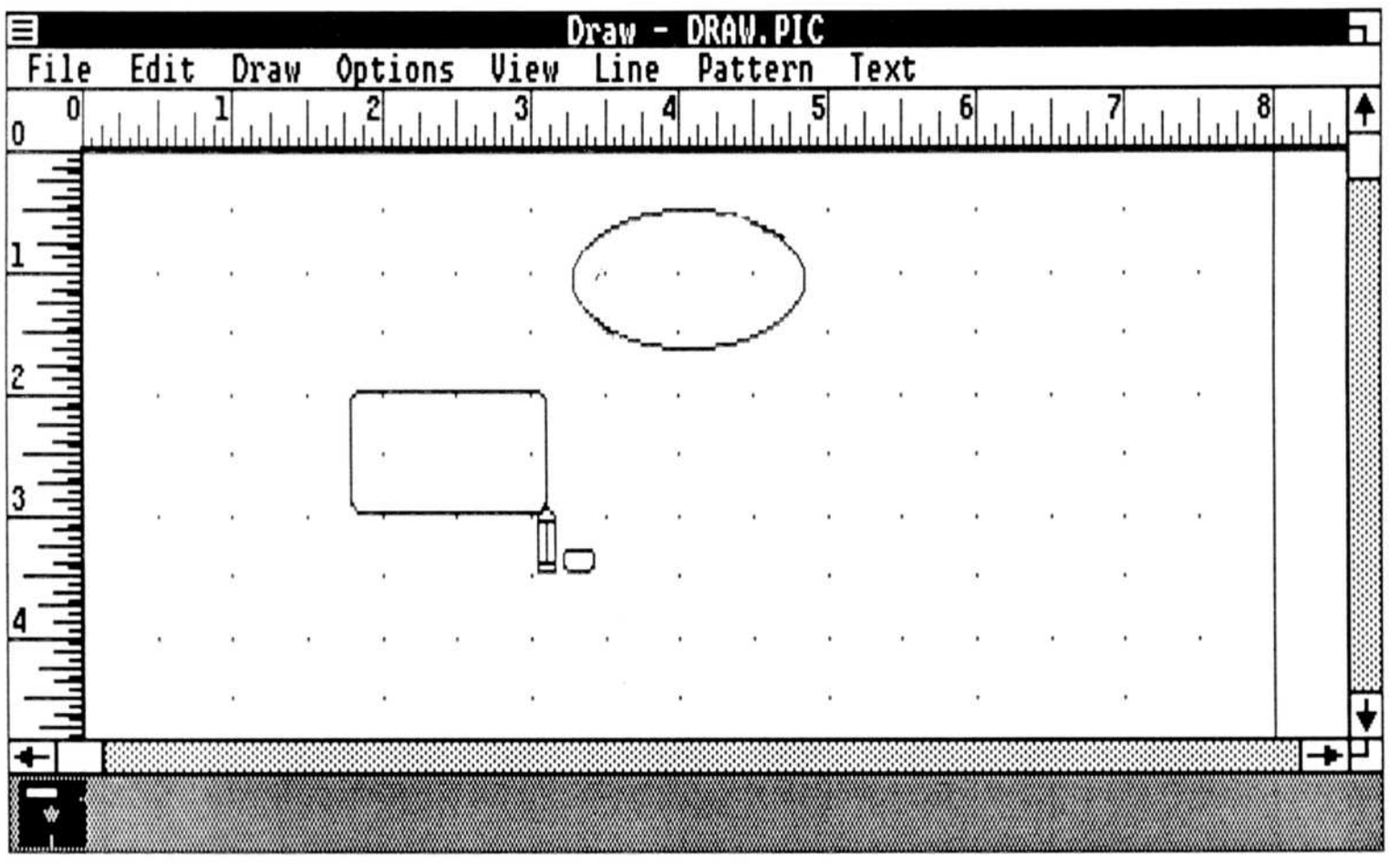
Exercise 2: Creating a Rounded Rectangle

Create a rounded rectangle and place it to the lower left of the ellipse.

To create a rounded rectangle

Follow these steps to create a rounded rectangle:

1. Move the pointer to the title of the Draw menu.
2. Press and hold Button 1. The Draw menu opens.
3. Drag the pointer to highlight the words "Rounded Rectangle" and release the button. The pointer becomes a pencil with a rounded rectangle.
4. Press Button 1 and drag the pointer to rubberband a rounded rectangle.
5. Press Button 2 (without releasing Button 1) to move the rounded rectangle to the left and below the ellipse. When the rectangle is where you want it, release Button 2. You can continue rubberbanding the rectangle to the proper size.
6. Release Button 1 to end creation of the rounded rectangle.



Exercise 3: Creating a Polygon

Create a polygon in the shape of a triangle and place it to the left and below the rounded rectangle.

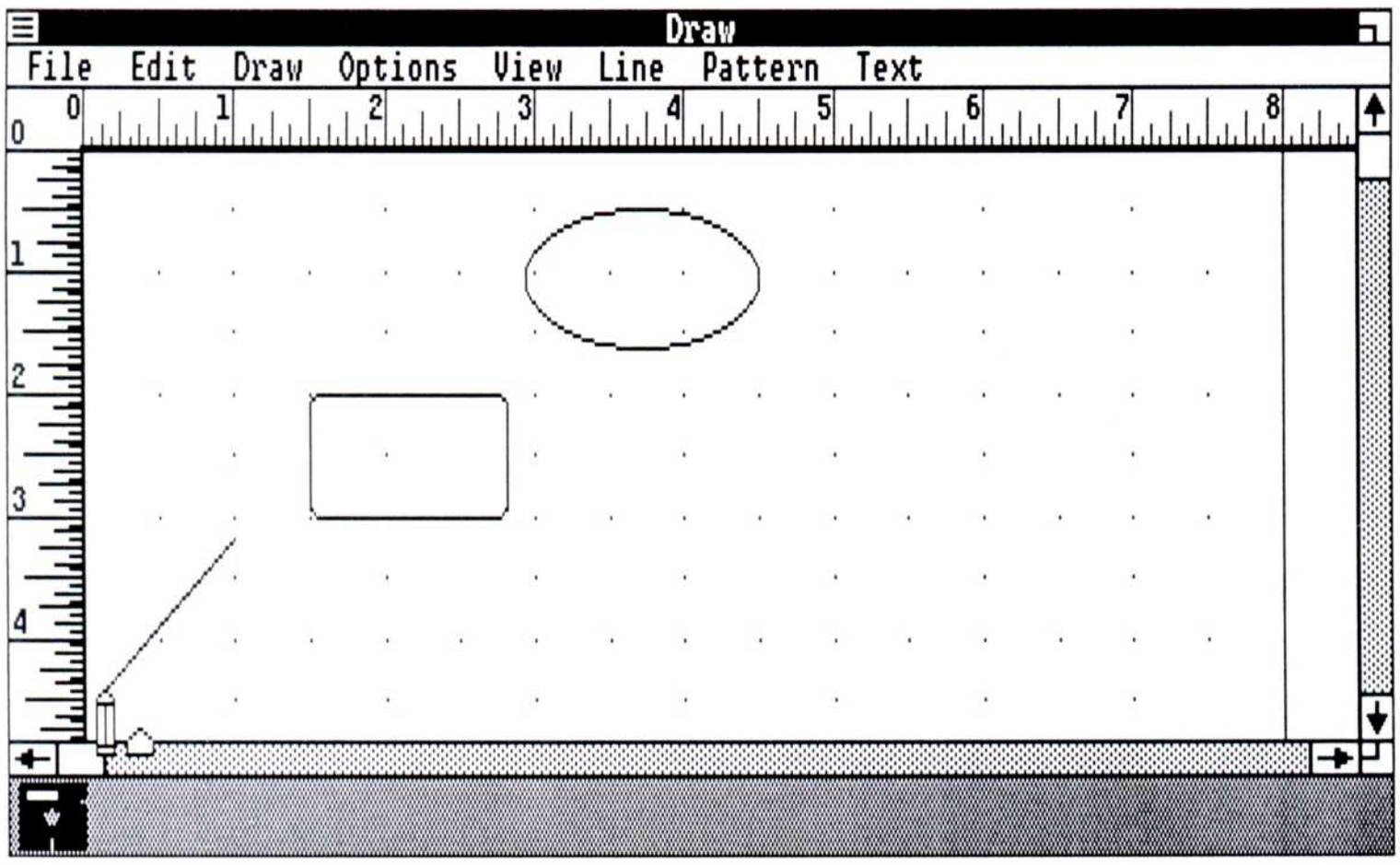
Note You may have noticed that next to many commands in the menus are symbols that represent key sequences. These are Accelerator keys that you can use instead of choosing a command by pulling down a menu. The next step uses Accelerator keys to choose the Polygon command. A list of the Accelerator keys is in Appendix A of this manual.

To create a polygon

Follow these steps to create a polygon:

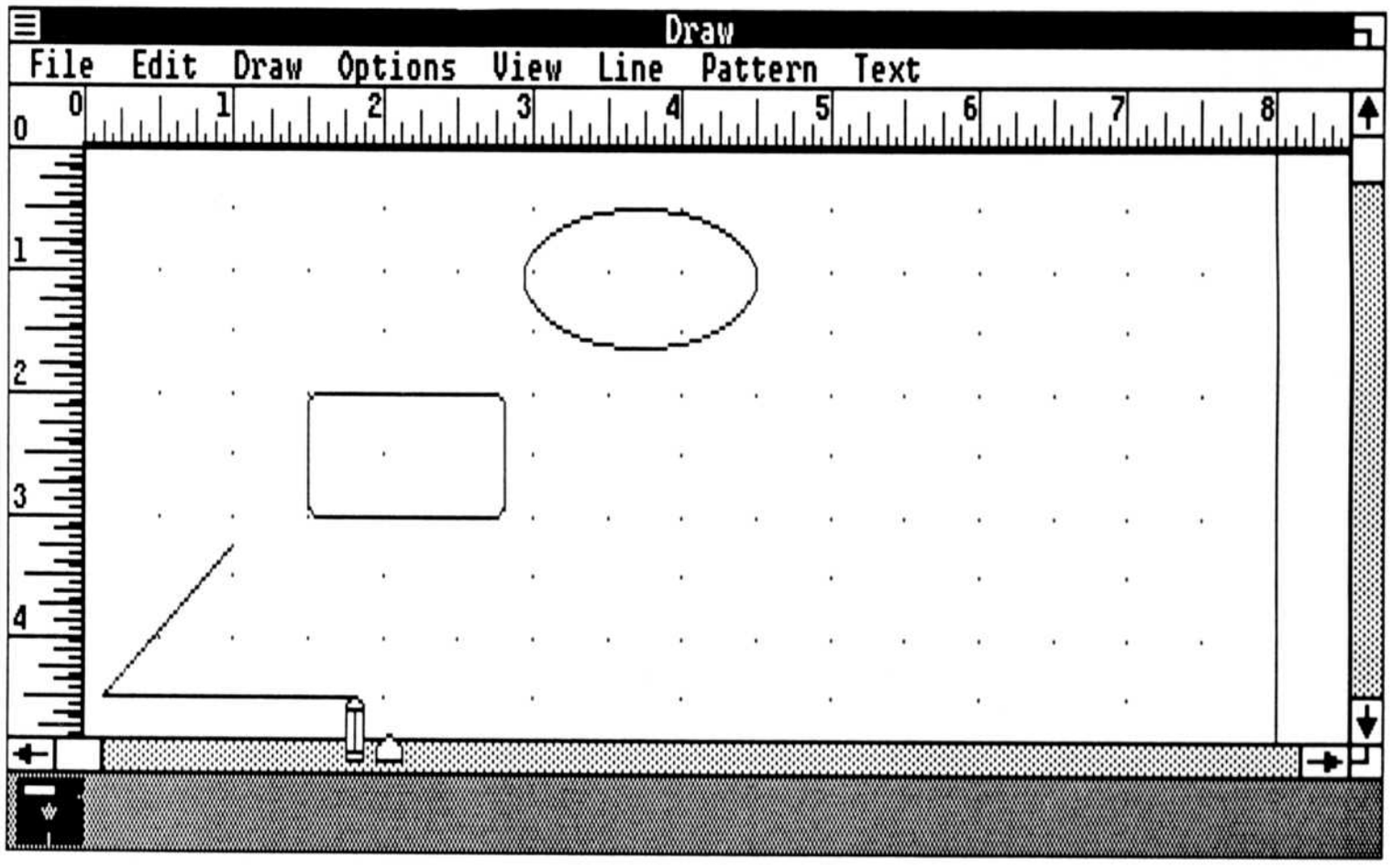
1. Press ^P (hold down the CTRL key and type *P*) to choose the Polygon command. The pointer becomes a pencil with a polygon.

2. Press Button 1 and drag the pointer to rubberband the left side of a polygon.



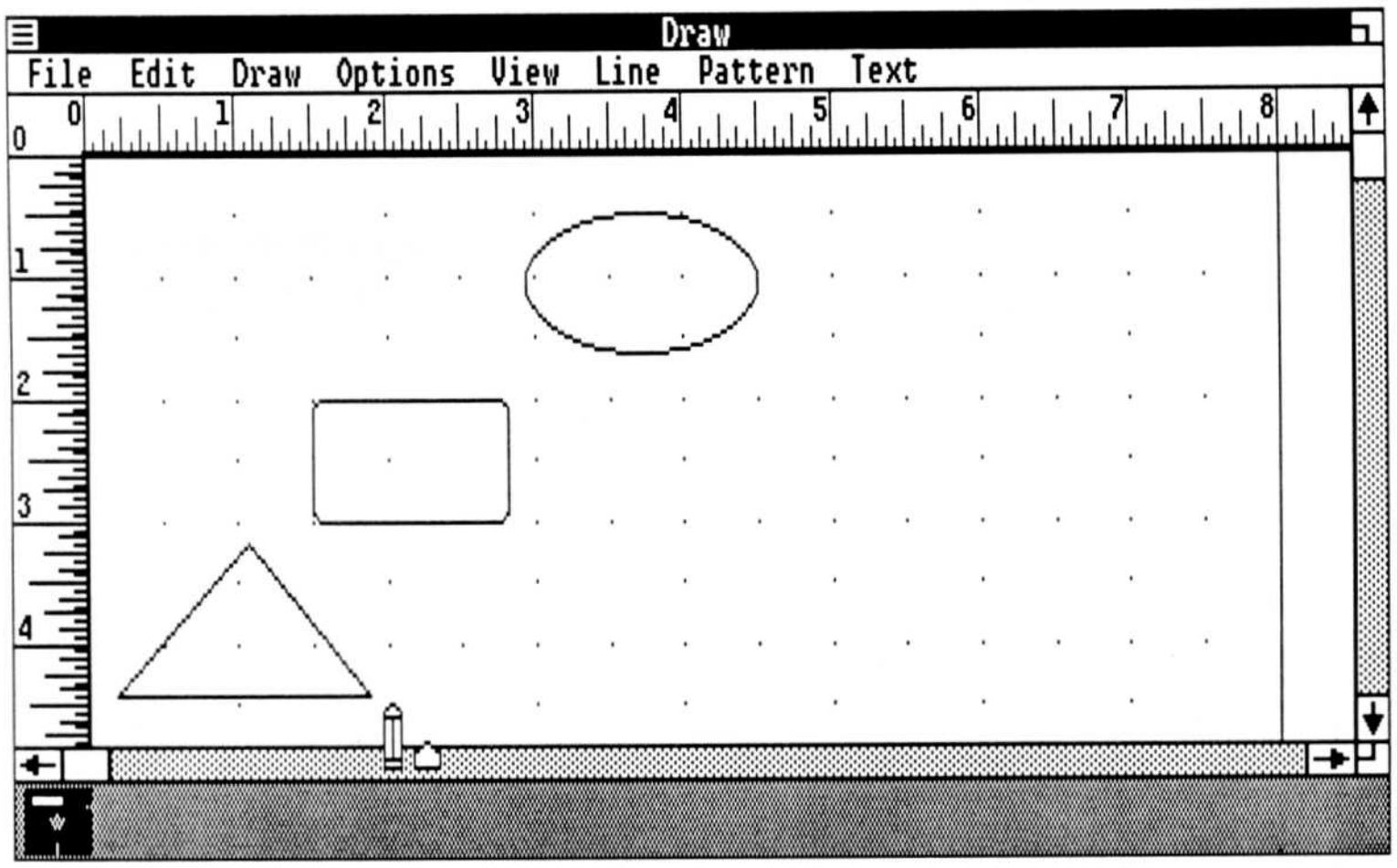
3. Release Button 1 to complete the side.

4 Press Button 1 to rubberband the bottom side of the polygon.



5 Release Button 1 to complete side 2.

6 Place the pointer anywhere in the drawing area outside a symbol and click Button 1 to automatically complete side 3.



Deleting a Symbol

If you don't like the way the polygon looks, delete the symbol and create another in its place.

To delete a symbol

To delete a symbol:

1. Move the pointer to the symbol and click Button 1 to select the symbol you want to delete. Handles appear around the symbol and the pointer leaves the drawing mode and becomes an arrow.

2. Choose the Delete command from the Edit menu. The symbol disappears. The pointer remains an arrow.

3. Click Button 1 to return to the previous drawing mode (in this case, the polygon mode, as indicated by the pointer).

Note The Accelerator key ^D also chooses the Delete command.

Using Undo

Oops! Change your mind and want it back? Choose the Undo command from the Edit menu or press SHIFT-ESC to reverse your last action.

Note The Undo command cancels only the action performed immediately before selecting Undo. Choosing Undo cancels commands from the Draw, Edit, Line, Options, Pattern, and Text menus.

To undo the last action

To undo the last action:

- Choose the Undo command from the Edit menu or press SHIFT-ESC.

Saving a Drawing

It is a good idea to save your work frequently when you work with any program. The File menu has two commands for saving drawings. The Save command saves the current drawing on the disk, overwriting the previous version. The Save As command saves a new drawing or a new version of a drawing.

To save a drawing

To save a drawing:

1. Choose the Save As command from the File menu. A dialog box appears.
2. Type the name you want to give the drawing in the text field.

Note Use the BACKSPACE key to correct typing errors.

If you have a hard disk, do this step:

3. Click Save or press ENTER. The drawing is saved in the DRAW directory.

If you have two disk drives, do these steps:

3. Remove the Program disk from Drive A.
4. Insert a blank, formatted disk into Drive A.
5. Click Save or press ENTER. The drawing is saved on the disk. (You can label the disk "DRAW Data Disk.")
6. Return the Program disk to Drive A.

To save changes you have made to a drawing, choose the Save command from the File menu. You may want to save the drawing at the end of each section in the tutorial and then again before you print it.

Note If you have two disk drives, remember to insert the Data disk to receive the file you are saving and then to replace the Program disk.

To save changes to a drawing

To save changes to a drawing:

▣ Choose the Save command from the File menu.

Moving and Copying Symbols

You can easily move and copy the symbols you created. Move symbols by selecting them and dragging them to a new location. Copy symbols by using the Duplicate command in the Options menu or by using the SHIFT key and dragging the bounding box to a new location.

Exercise 1: Moving a Symbol

If the symbols are not quite where you want them to be in the drawing, you can easily relocate them. You can make minute adjustments, or move a symbol across the drawing area. In this exercise, you adjust the position of the ellipse. (If you like the ellipse where it is, move it just for practice, then move it back.)

To move a symbol

To move the ellipse:

1. Move the pointer to the ellipse and click Button 1 to select the ellipse. Handles appear around the symbol to show that it is selected.

2. Press Button 1 and drag the ellipse to a new location.

3. Click outside of the symbol to deselect it.

Note Clicking another symbol will also select the second symbol and deselect the first one.

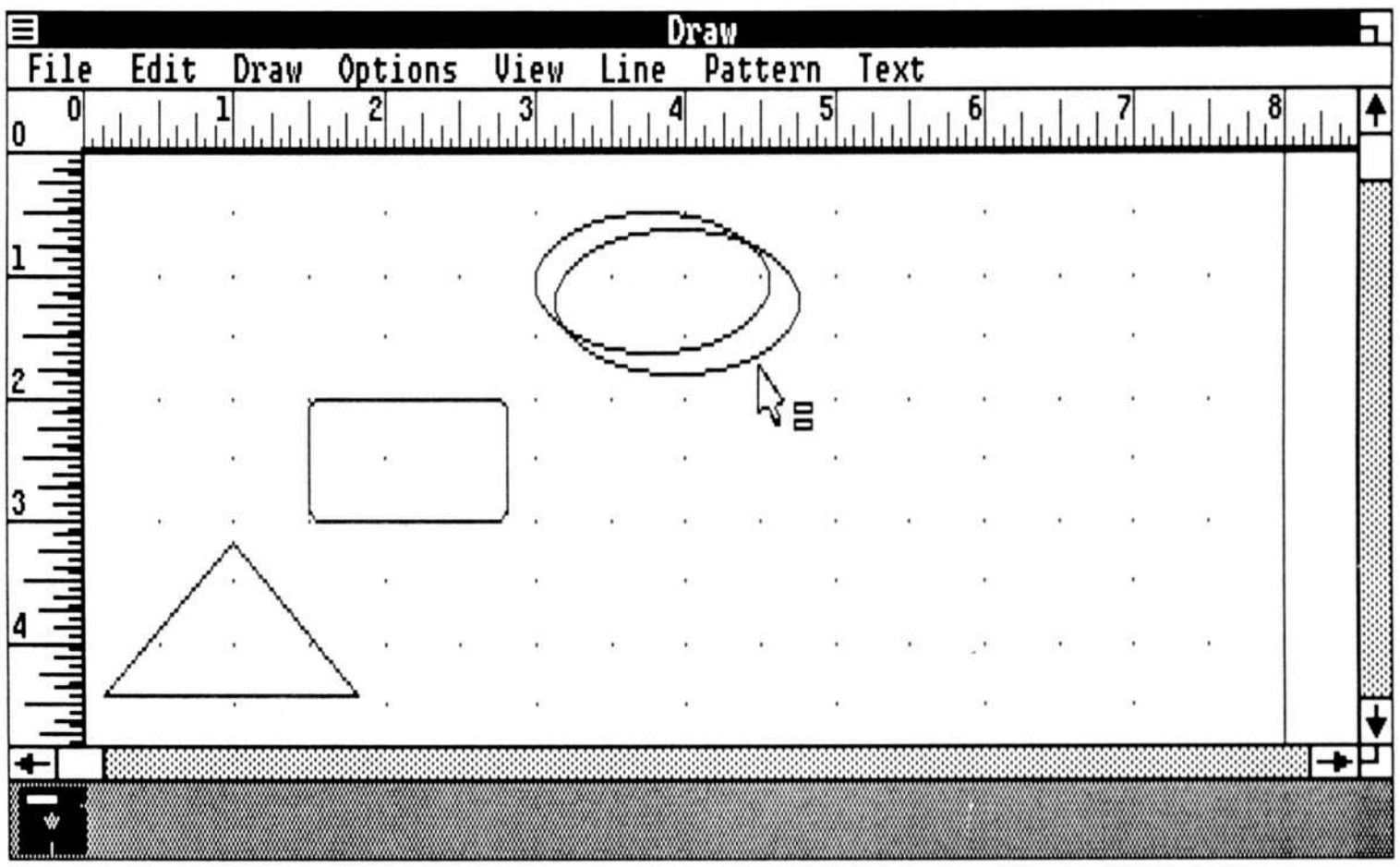
Exercise 2: Copying with the Duplicate Command

Make a duplicate of the ellipse and the rounded rectangle. Place each duplicate on top of the original symbol and slightly off-center.

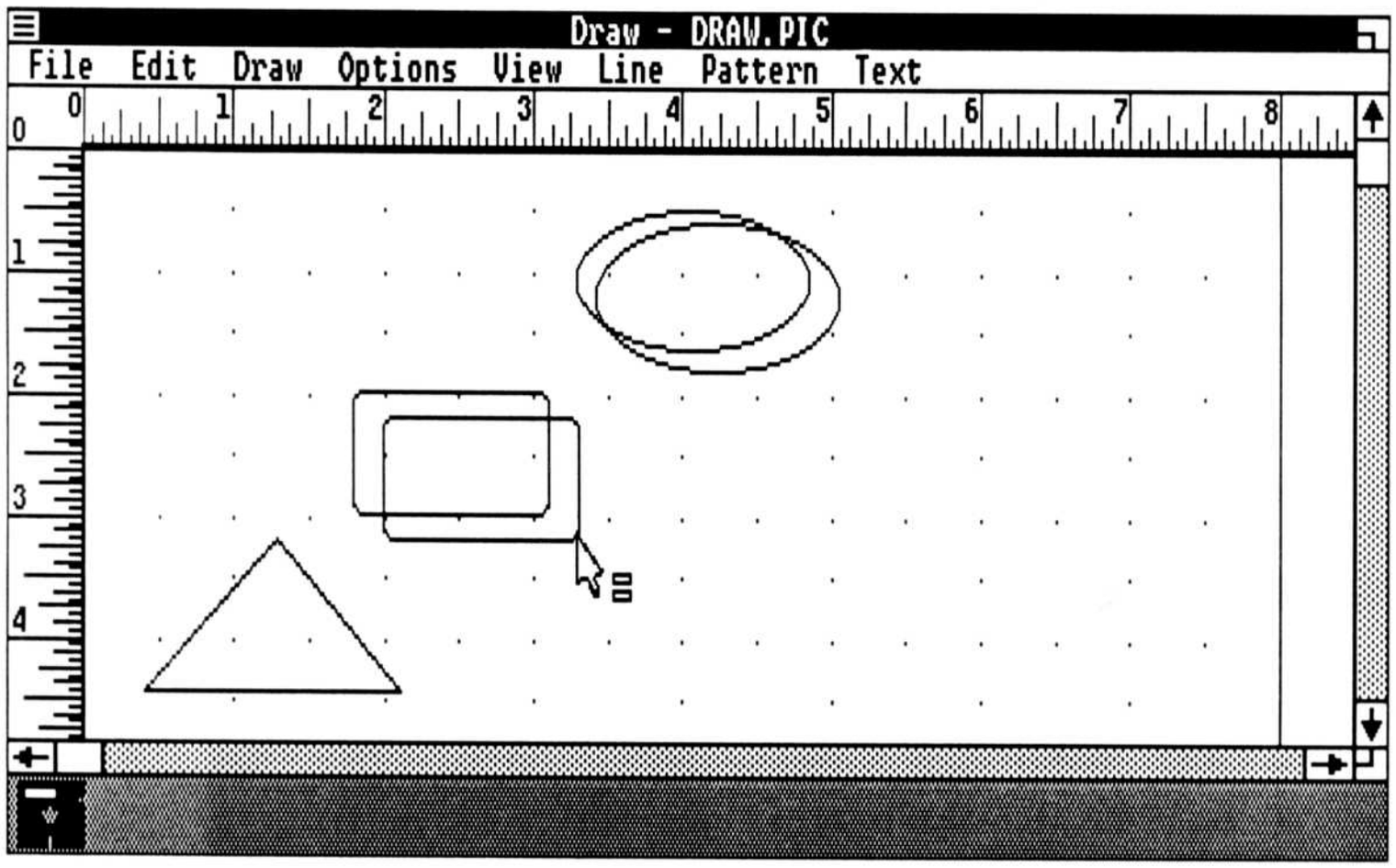
To duplicate a symbol

To duplicate a symbol:

1. Select the ellipse (move the pointer to the symbol and click Button 1).
2. Choose the Duplicate command from the Options menu.
3. Point to the ellipse and press Button 1. The symbol's bounding box (a box that encloses the symbol) appears.
4. Drag the bounding box of the ellipse down and to the right.
5. Release Button 1. A copy of the ellipse overlaps the original ellipse.



6 Repeat steps 1 through 5 to copy the rounded rectangle.



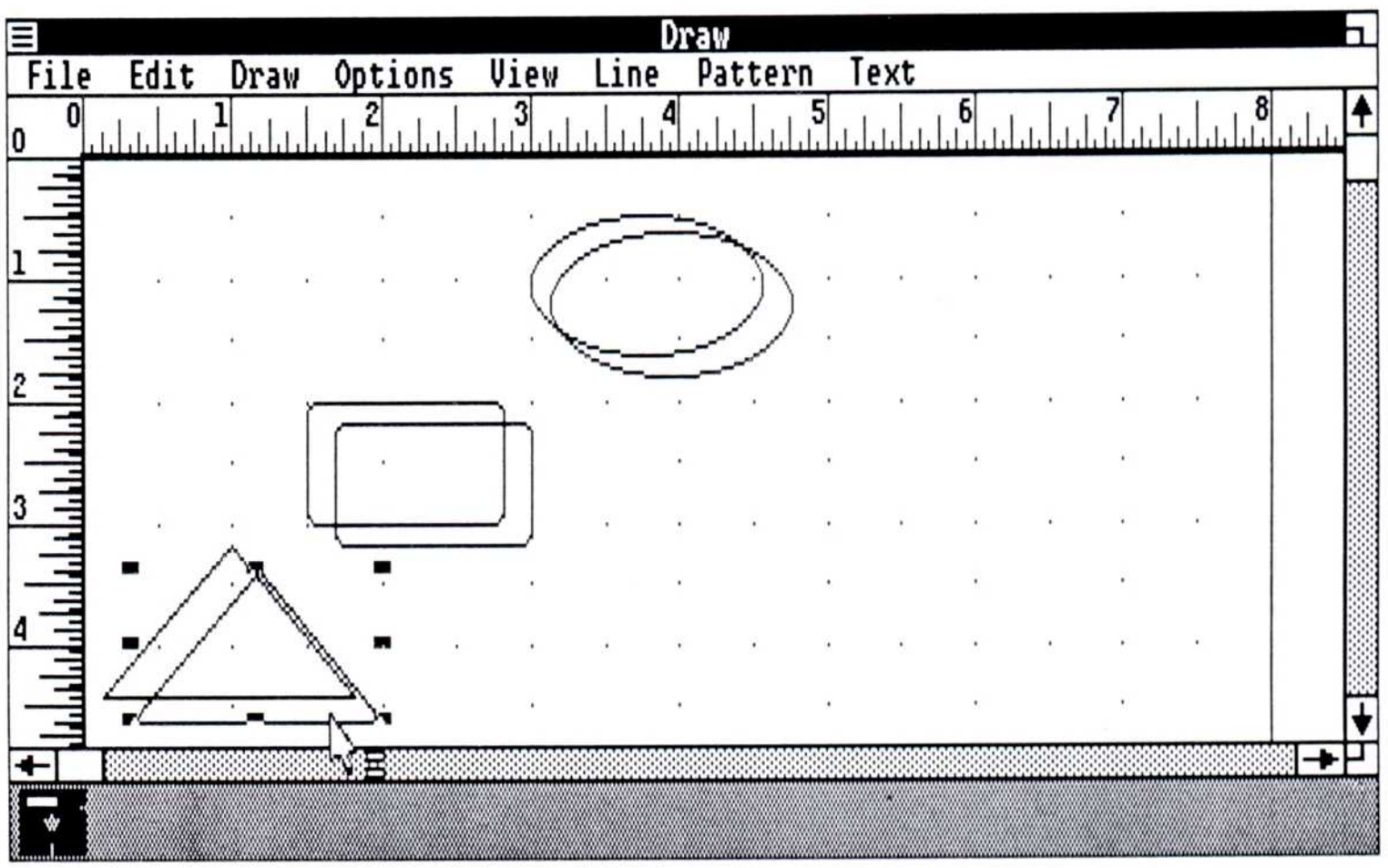
Exercise 3: Duplicating with the SHIFT key

You can use the SHIFT key, instead of the Duplicate command, to make a copy of a symbol. Duplicate the polygon using the SHIFT key.

To duplicate a symbol with the SHIFT key

To duplicate a symbol with the SHIFT key:

1. Select the polygon.
2. Press the SHIFT key and press and hold Button 1 at the same time.
3. Drag the bounding box of the polygon down and to the right.
4. Release Button 1 and the SHIFT key.



Filling Symbols

You can fill the symbols you create with solid colors, hatch patterns, more elaborate patterns (called bitmap patterns), or remove the color or pattern. You can set the color to use for filling symbols.

Exercise 1: Filling a Symbol

Fill the ellipse on top with solid color white and fill the ellipse under it with solid color black.

To fill a symbol

To fill a symbol:

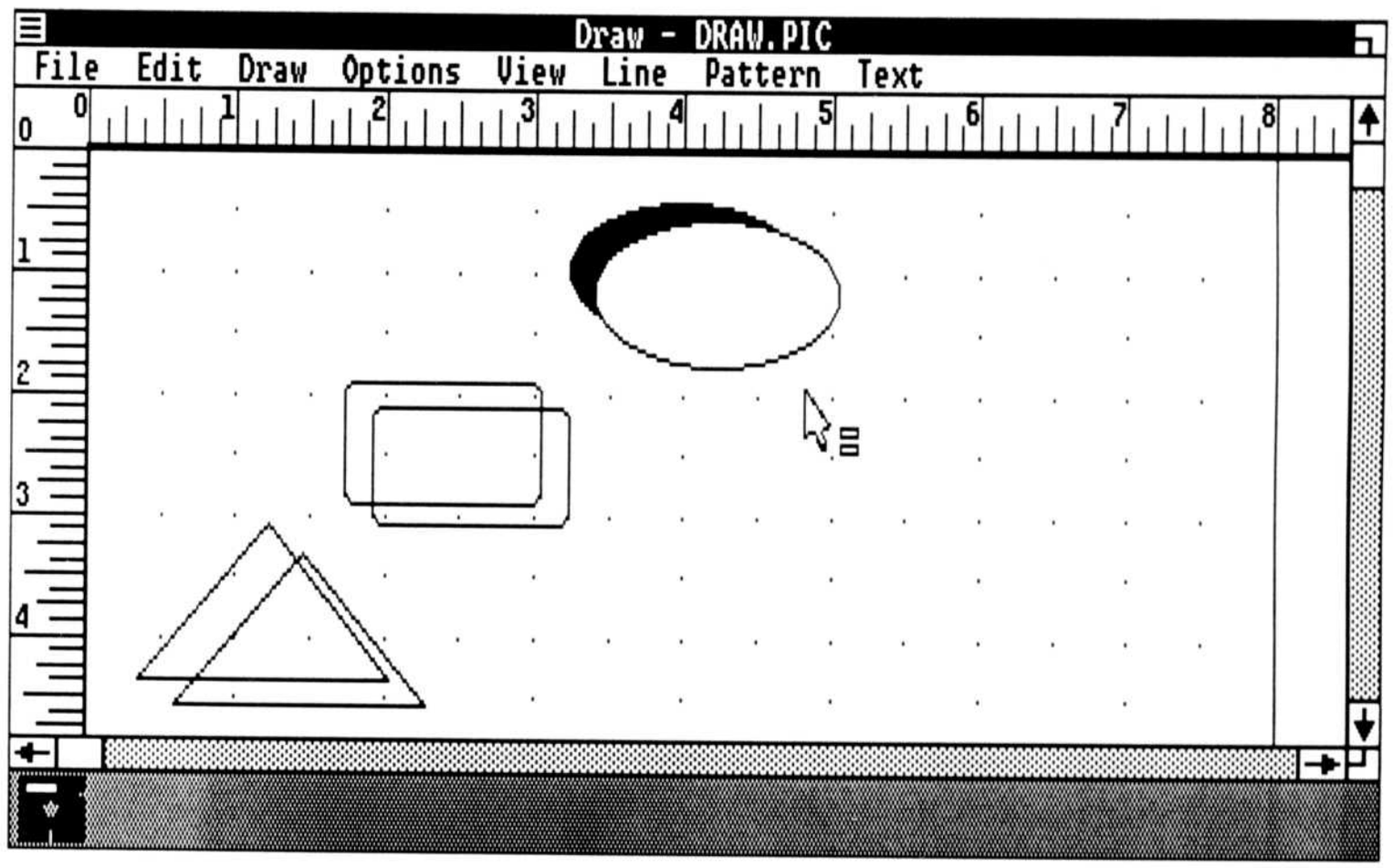
1. Select the ellipse on top.

Note Repeatedly clicking overlapping symbols selects each one alternately.

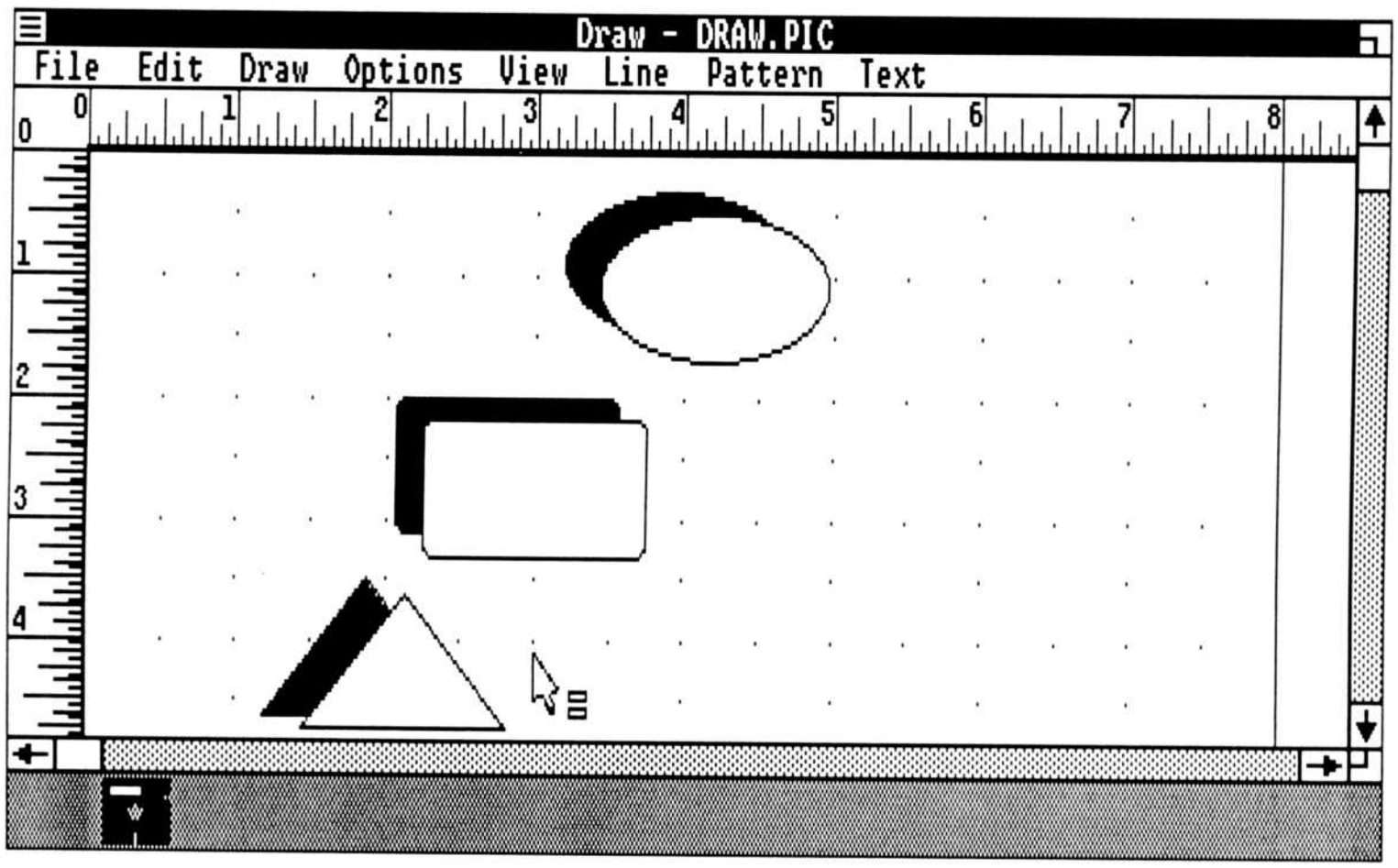
2. Choose the Color command from the Pattern menu. A dialog box appears.
3. Click the color white.
4. Click Ok. The selected symbol fills with solid white.
5. Select the ellipse on the bottom.
6. Choose the Color command from the Pattern menu.

7 Click the color black.

8 Click Ok. The bottom ellipse fills with black.



9 Repeat steps 1 through 8 to fill the rounded rectangles and the polygons in the same way.



Reminder Choose the Undo command immediately to reverse any action.

Unfilling a Symbol

If, for any reason, you want to remove the fill color or pattern from a symbol, use the None command from the Pattern menu.

To unfill a symbol

To unfill a symbol:

1. Select the symbol to unfill.
2. Choose the None command from the Pattern menu.

Selecting and Combining a Block

You can select symbols in a group to make them temporarily perform as one symbol or you can combine the symbols to make them permanently perform as one symbol. Symbols you want to combine must be block selected first. You can reverse the Combine command with the Break Apart command.

Exercise 1: Block Selecting and Combining Symbols

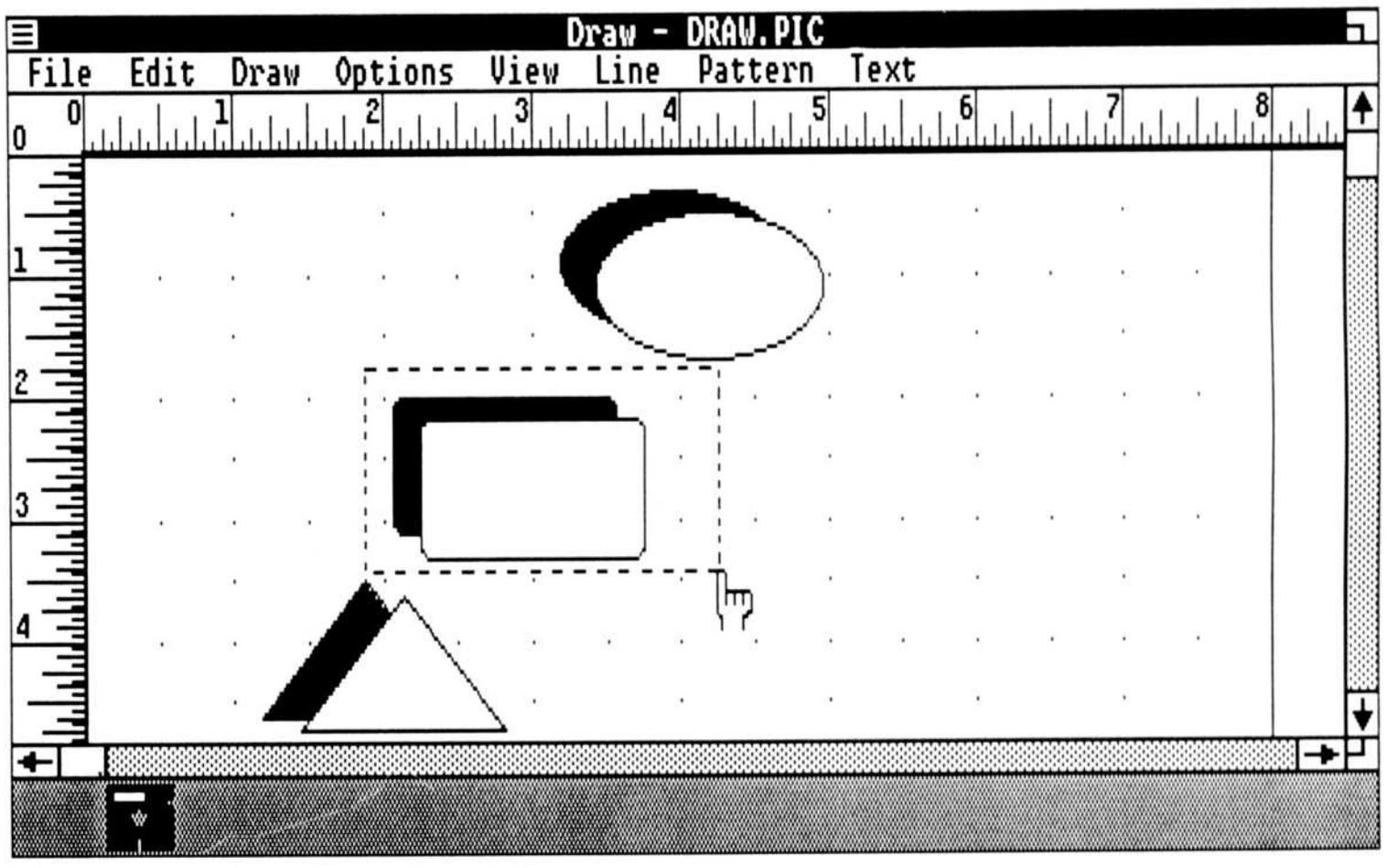
Block select and then combine the overlapping rectangles in the drawing to have them behave as one symbol. Then do the same to the overlapping polygons.

To block select symbols:

To block select symbols

1. Choose the Block Select command from the Edit menu. Notice the pointer becomes a hand with a pointing index finger.

2. Press Button 1 and drag the pointer to rubberband a dotted rectangle around the overlapping rounded rectangles. Make sure the rectangle completely encloses the symbols without touching the edges of the symbols.



3 Release Button 1. Notice the handles that indicate the symbols are block selected.

4 Choose the Combine command from the Options menu. The symbols combine as one symbol until you break them apart.

5 Repeat steps 1 through 4 to block select and combine the overlapping polygons.

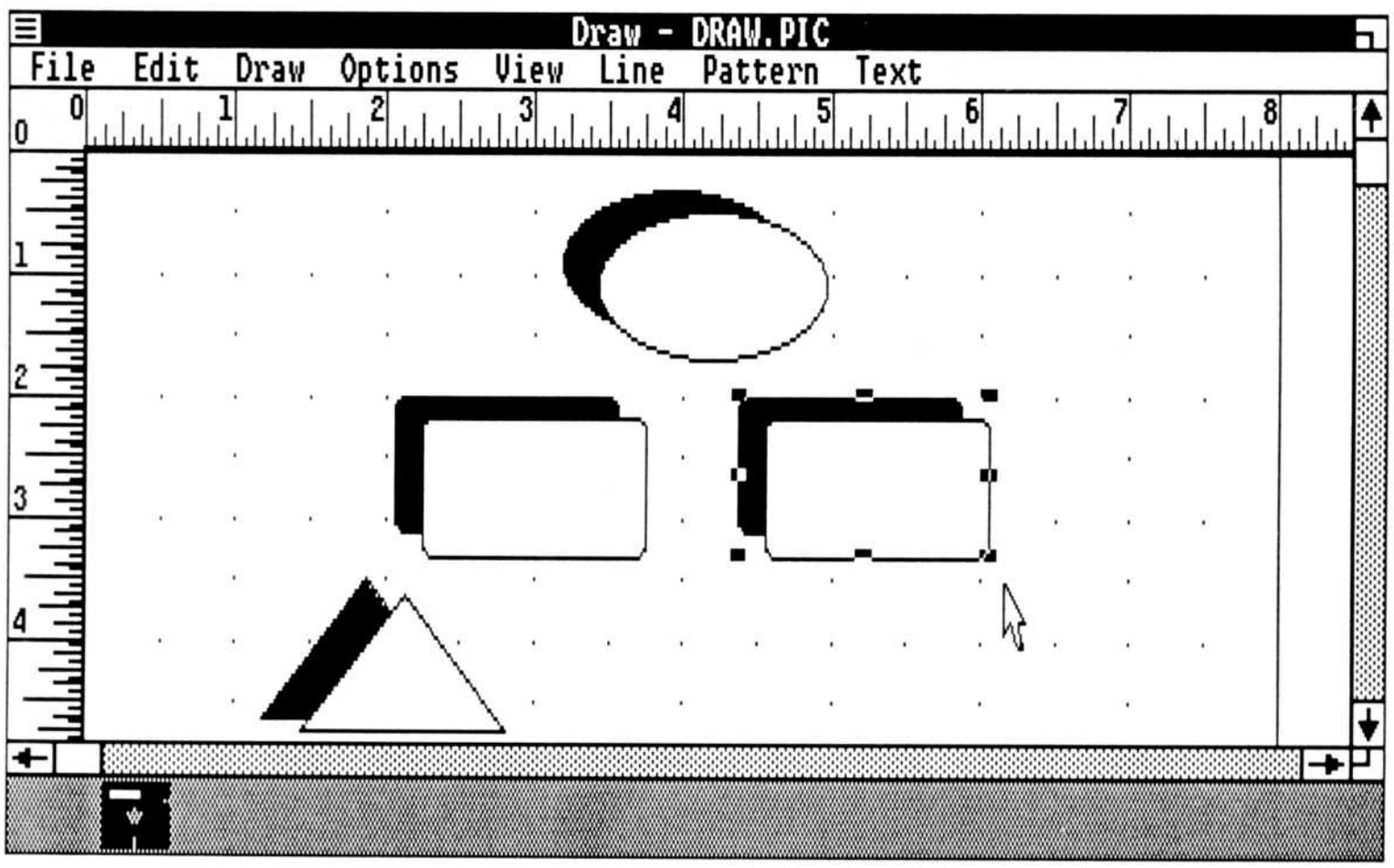
Exercise 2: Duplicating the Combined Symbols

Duplicate a combined symbol the same way you duplicate a single symbol. Use the SHIFT copy method to duplicate the combined rectangles once and the combined polygons twice.

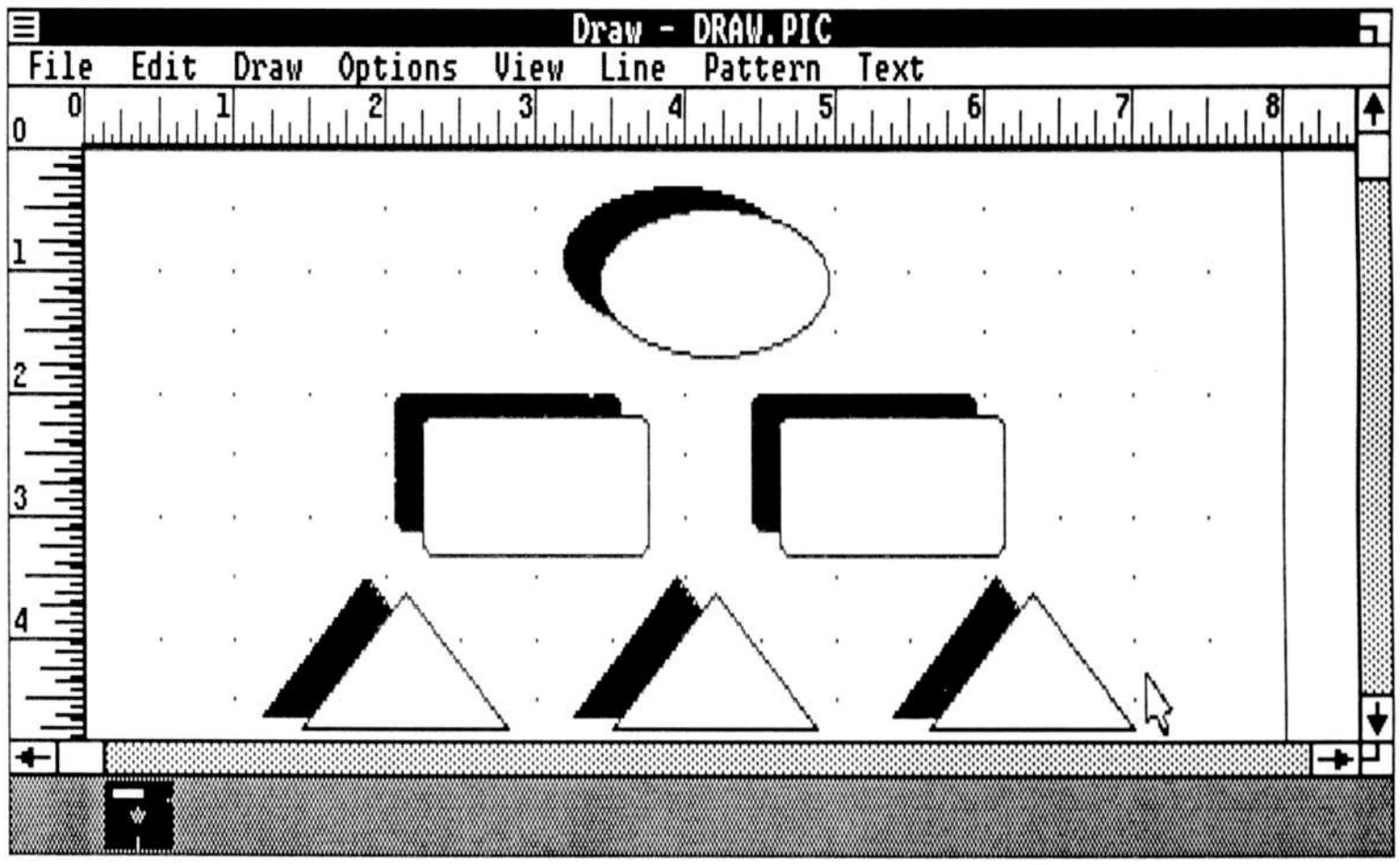
To duplicate combined symbols

To duplicate combined symbols:

1. Move the pointer to the combined rectangles.
2. Press and hold the SHIFT key and press Button 1 at the same time.
3. Drag the bounding box of the combined symbol to the right.
4. Release the SHIFT key and Button 1.



5 Repeat steps 1 through 4 to make two copies of the combined polygons, placing them so that they form a row of three at the bottom of the drawing.



Exercise 3: Breaking Apart a Combined Symbol

If you want to break apart a combined symbol in order to manipulate individual symbols, you use the Break Apart command in the Options menu. If the combined symbol is composed of more than one group of combined symbols, you must choose the Break Apart command for each combined group. The group most recently combined breaks apart first.

To break apart a combined symbol

To break apart the combined polygons:

1. Select the combined polygons in the center of the bottom row of symbols.
2. Choose the Break Apart command from the Options menu. The combined polygon breaks into two individual symbols.

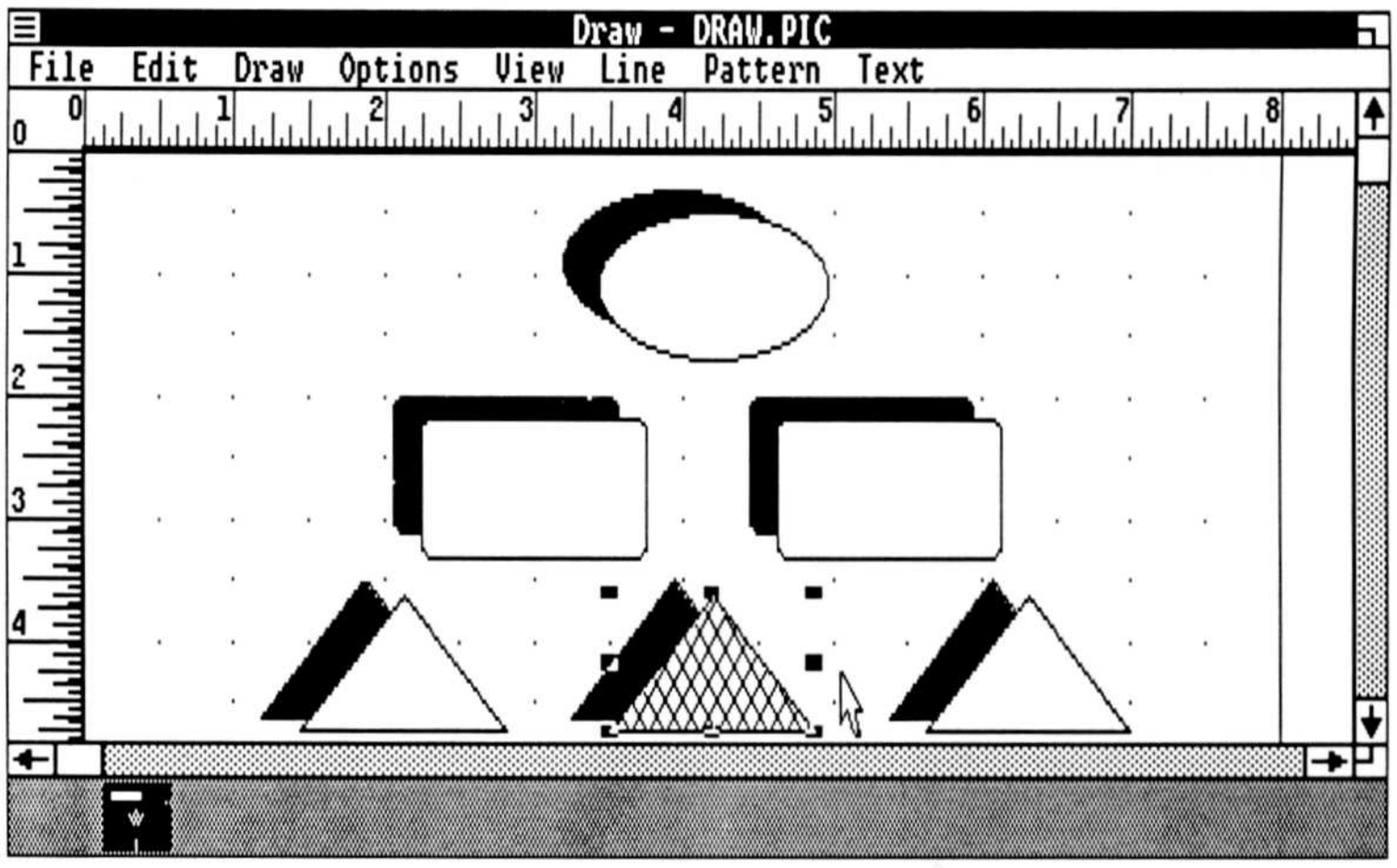
Since you have not yet hired an employee to place in the bottom middle slot on the organizational chart, fill the white polygon with a pattern to show the position is still open.

1. Select the white polygon. (The symbol is no longer combined, allowing you to select only one symbol.)
2. Choose the Color command from the Pattern menu.

3 Click black in the dialog box.

4 Click Ok. The polygon fills with black.

5 Choose the crosshatch pattern (the ninth selection from the top) from the Pattern menu. The polygon fills with the pattern.



Note If the pattern color and the background color are the same, the pattern is invisible. Change either the fill color using the Color command in the Pattern menu or the background color using the Set Background Color command in the View menu to make the pattern visible.

Adding Text

You need only add words to your presentation chart to make it complete. You, of course, deserve to be in the number one position on the organizational chart. Set the text attributes and use the text command to enter text into the drawing.

Exercise 1: Setting the Text Attributes

Choose the *font*, or typeface, the emphasis features, and the point size for the text from the Text menu.

To set the text attributes:

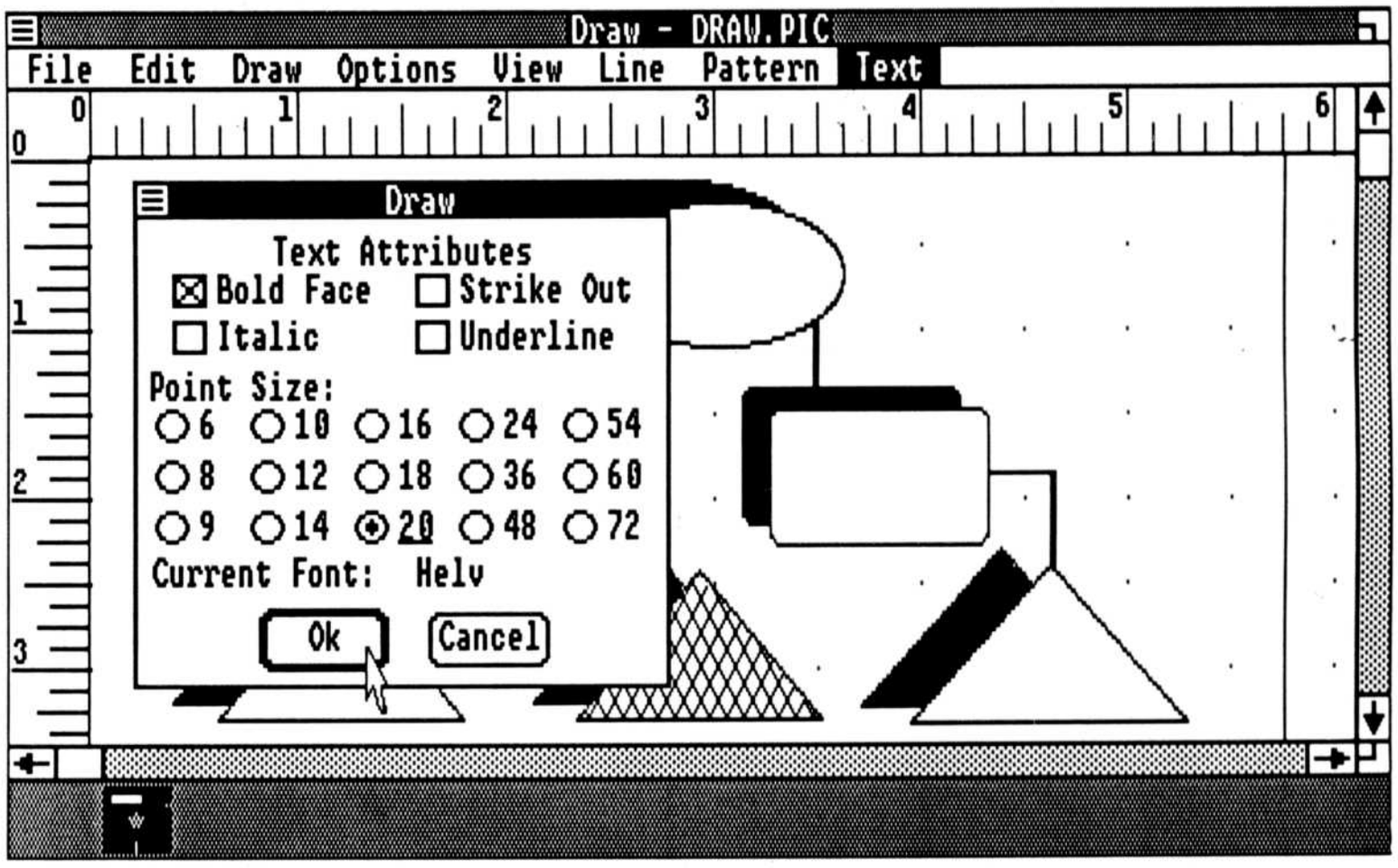
To set the text attributes

1. Choose the Helv font from the Text menu. When you pull the menu down again, notice a check mark appears next to "Helv." The text you type will appear in the Helv font.

2. Choose the Set Attributes command from the Text menu. A dialog box appears.

3. Click the check box next to "Bold Face." An "X" appears in the box.

4. Click the option button next to "20" to choose the size of type.



5 Click Ok or press ENTER to process the choices and to close the dialog box.

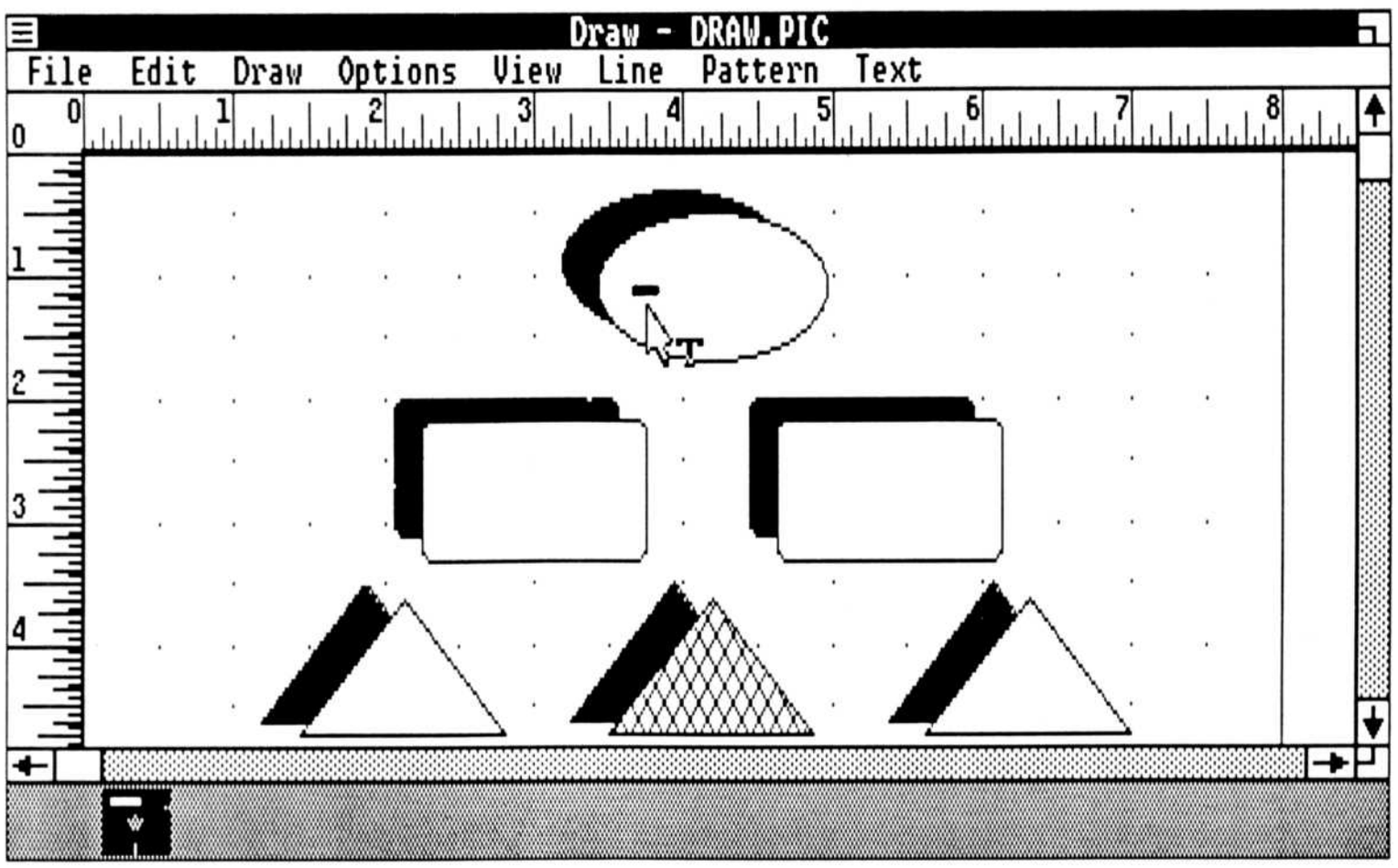
Exercise 2: Typing the Text

You have chosen the font, font size, and one emphasis feature, bold face, and are ready to type the text. Use the Text command from the Draw menu.

To type in the text:

To type in the text

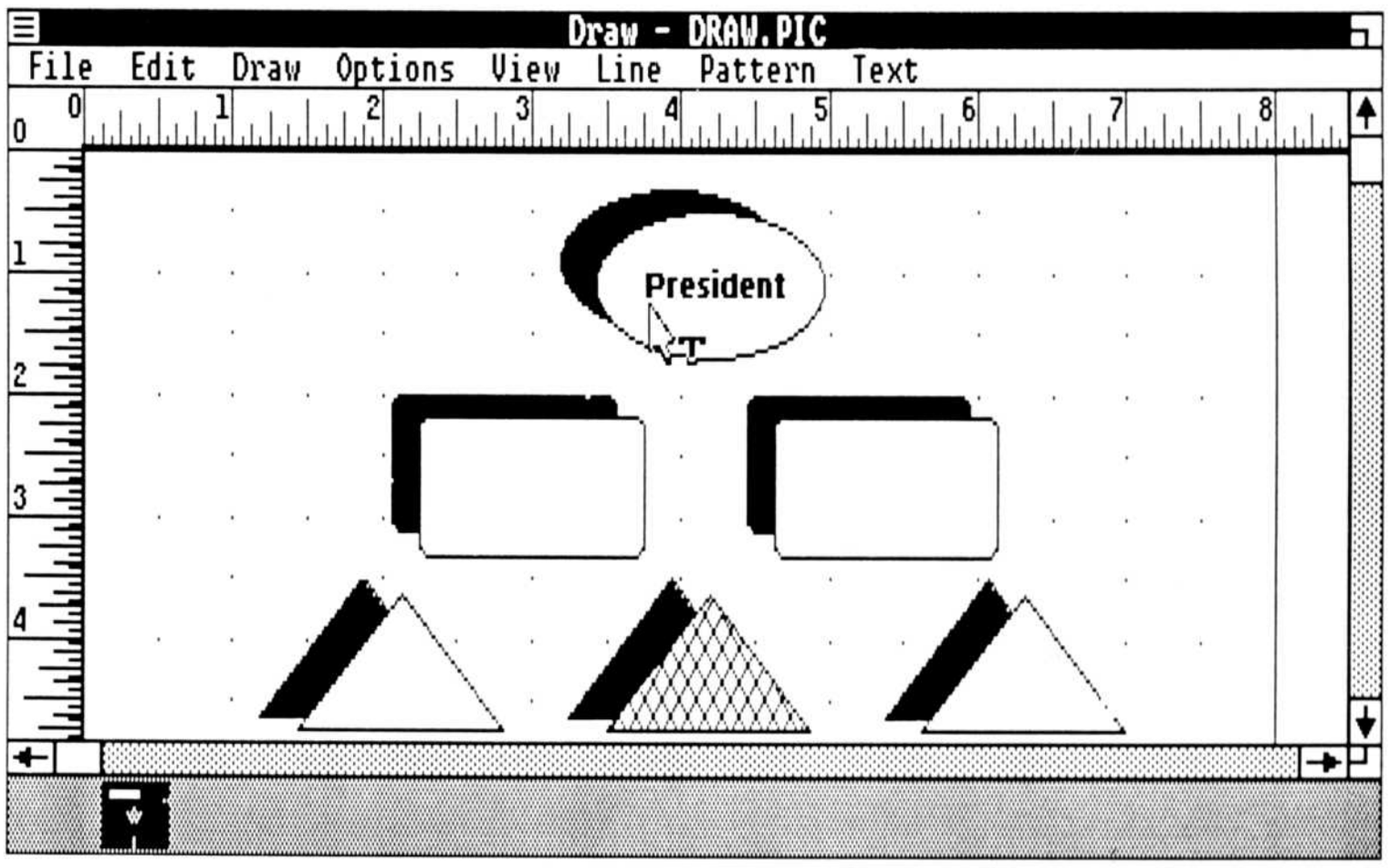
1. Choose the Text command from the Draw menu. Notice the pointer displays a "T."
2. Move the pointer into the ellipse where you want to start typing.
3. Press and release Button 1. A text cursor appears.



Note Take care to *press* Button 1 rather than *clicking* Button 1. Clicking results in selecting the ellipse. If you select the ellipse, move the pointer away from it and click Button 1 to deselect it. Then move the pointer into the ellipse and *press* and release Button 1 to see the text cursor.

4 Move the pointer away from the typing area.

5 Type *President*. (Use the BACKSPACE key to correct typing errors.)



6 Place the pointer in the left-hand rounded rectangle and press and release Button 1 to see the text cursor.

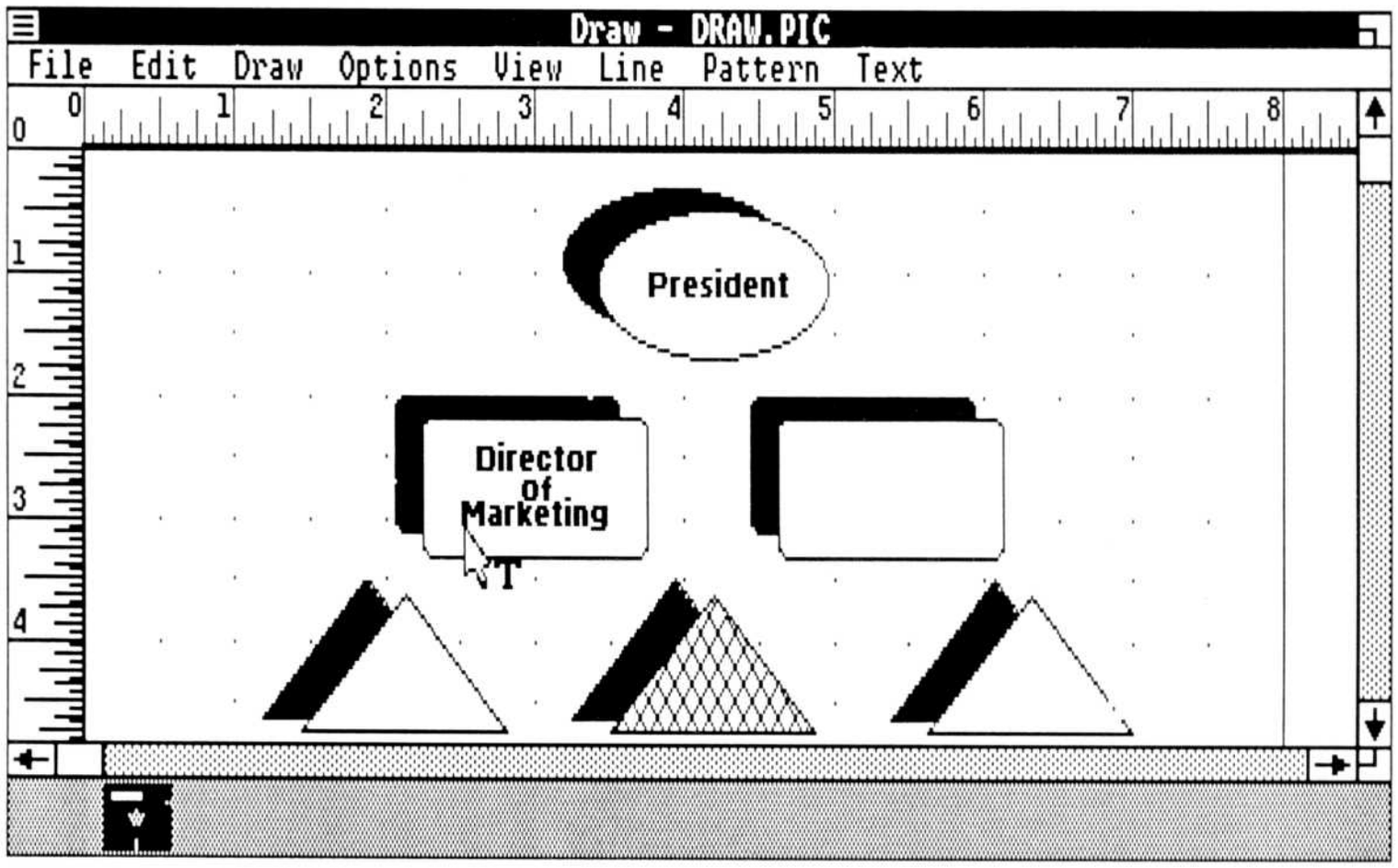
Note Pressing Button 1 in Text mode does two things. It completes the first symbol you typed and begins the symbol you are ready to type.

7 Move the pointer away from the typing area.

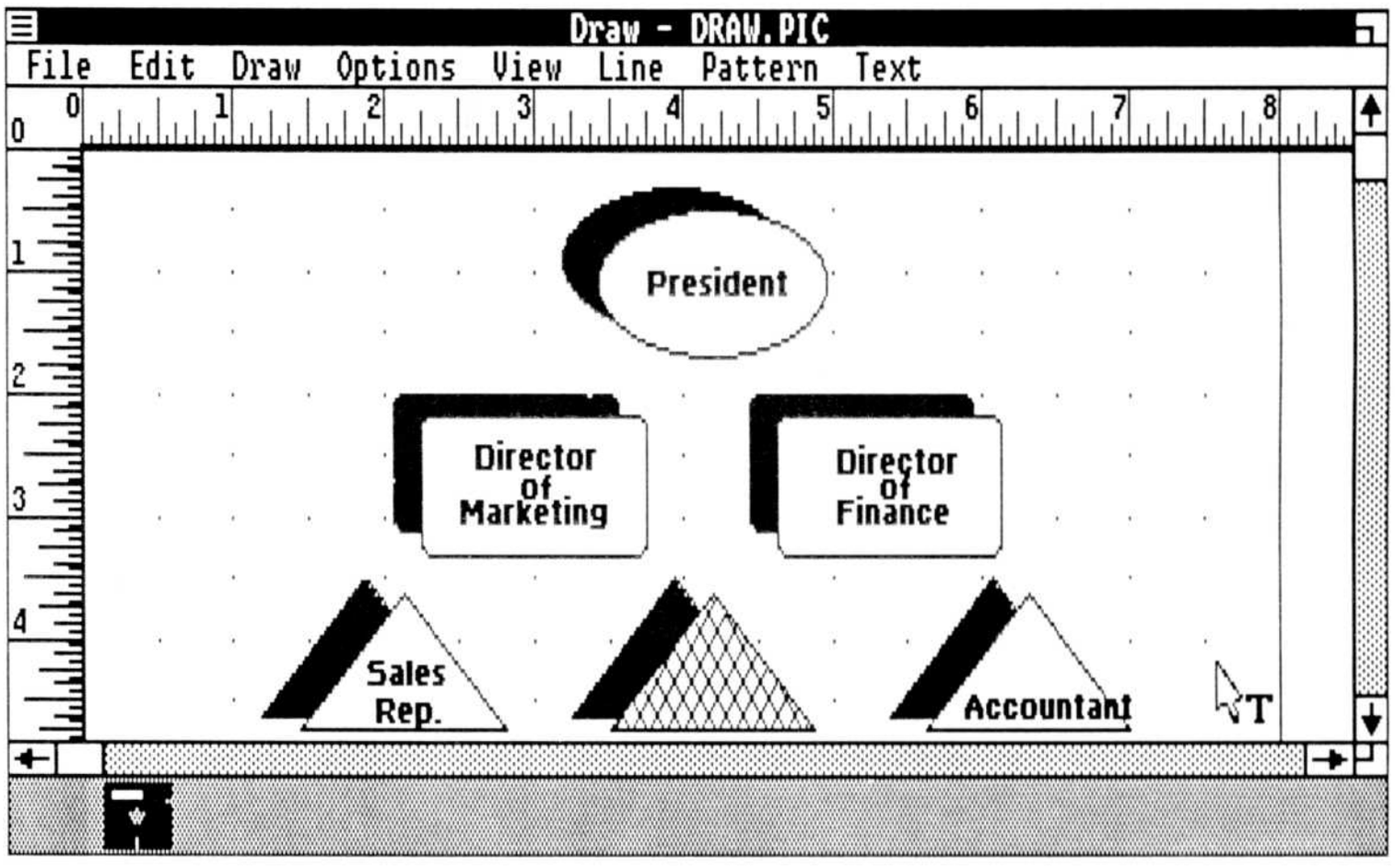
8 Type *Director* and press ENTER.

9 Press the SPACEBAR three times, type *of*, and press ENTER.

10 Type *Marketing* and press ESC or click Button 1.



11 Repeat steps 3 through 10, adding text (*Director of Finance*, *Sales Rep.*, and *Accountant*) to the remaining symbols.



Note When you press ENTER or ESC to end typing a word or a line of text, the text is recognized by the program as a single completed symbol. You can move or duplicate the text as you would any other symbol. If you want to move the text you just typed, select it and drag it to the new location.

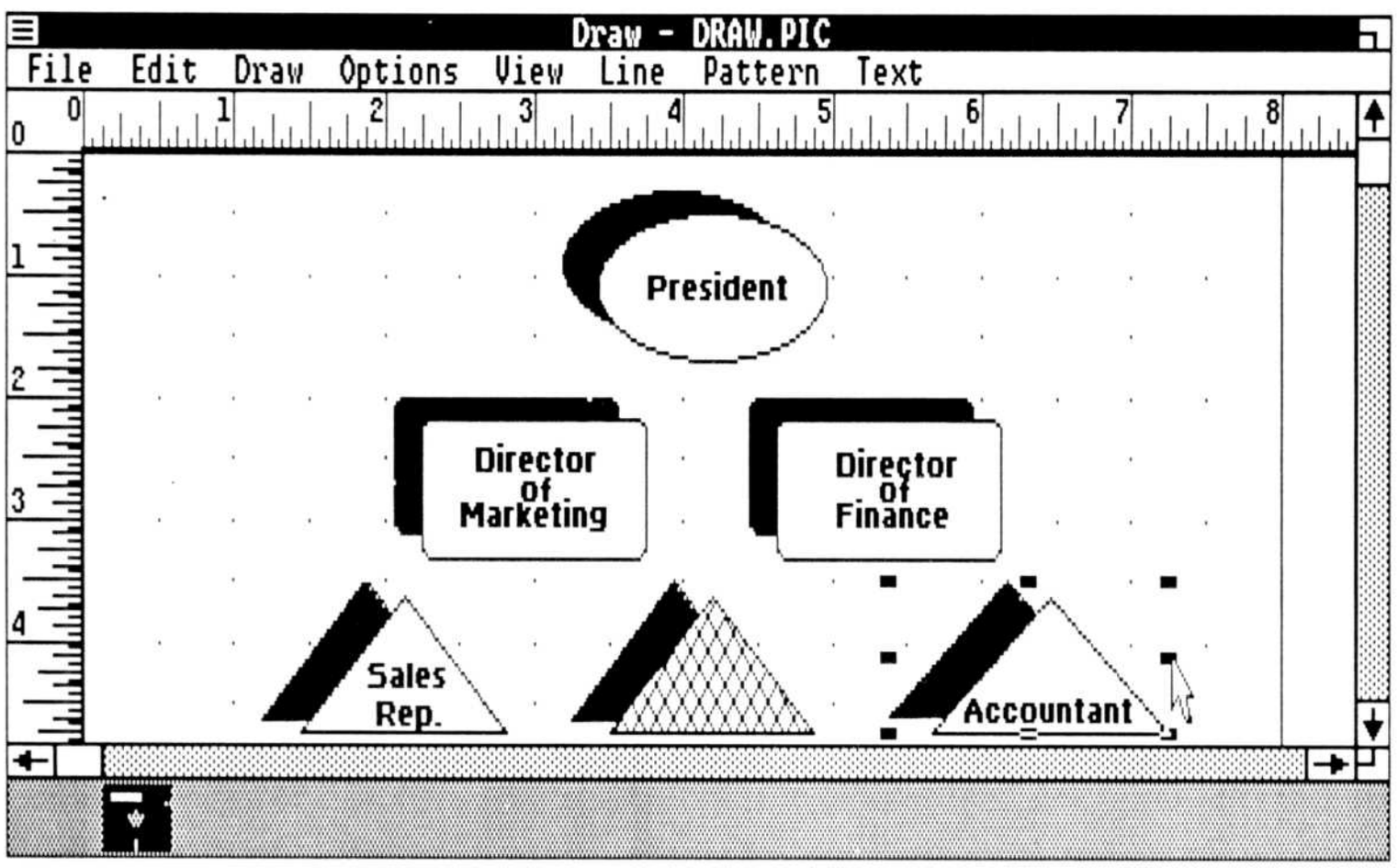
Stretching a Symbol

If you find that the text you typed in Exercise 2 is too long for the symbol, you can stretch the symbol for a better appearance.

To stretch a symbol:

To stretch a symbol

1. Select the symbol you want to stretch. Handles appear around the symbol.
2. Move the pointer to the handle on the right border of the symbol.
3. Press and hold Button 1 and drag the handle to the right. You see the bounding box of the symbol extend to the right.
4. Release Button 1 when the symbol encloses the text.



Note Use a handle on the side of a symbol to stretch one direction and a handle on a corner of a symbol to stretch the symbol proportionally.

Adding Lines and Jointed Lines

As a finishing touch to the drawing, you can connect the symbols in the chart with lines. Use the Line command to draw a straight line from one point to another. Use the Jointed Line command to draw two or more connected line segments.

Exercise 1: Creating a line

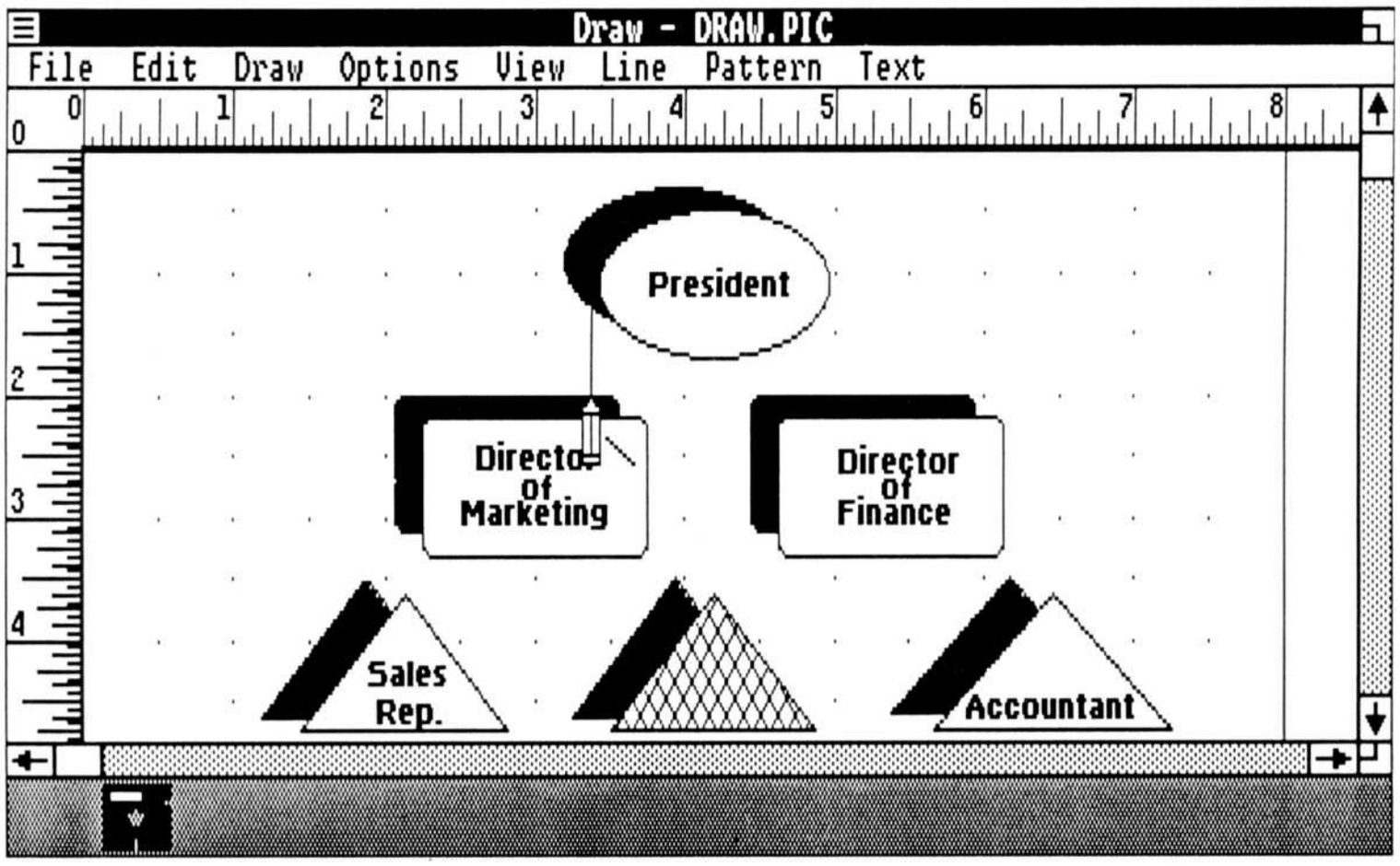
Use the Line command and the Horz/Vert command to draw lines to connect the symbols.

As you follow the steps in this exercise, you may have to move some of the symbols in order to have them line up as they do in the illustrations.

To create a line

To create a line:

1. Choose the Line command from the Draw menu.
2. Move the pointer to a place on the lower left border of the shaded ellipse.
3. Press Button 1 and rubberband a vertical line from the border of the ellipse to the top of the shaded rectangle directly below (Director of Marketing).



Reminder Remember that you can move a symbol as you create it. To move the line you are creating, press Button 2 while you continue to hold Button 1, move the line exactly where you want it, release Button 2, and continue creating the line.

4 Release Button 1.

Note Use the Horz/Vert command in the Draw menu to make the lines in step 5.

5 Repeat steps 2 through 4 to make a line connection from the President to the Director of Finance.

Exercise 2: Setting the Line Width

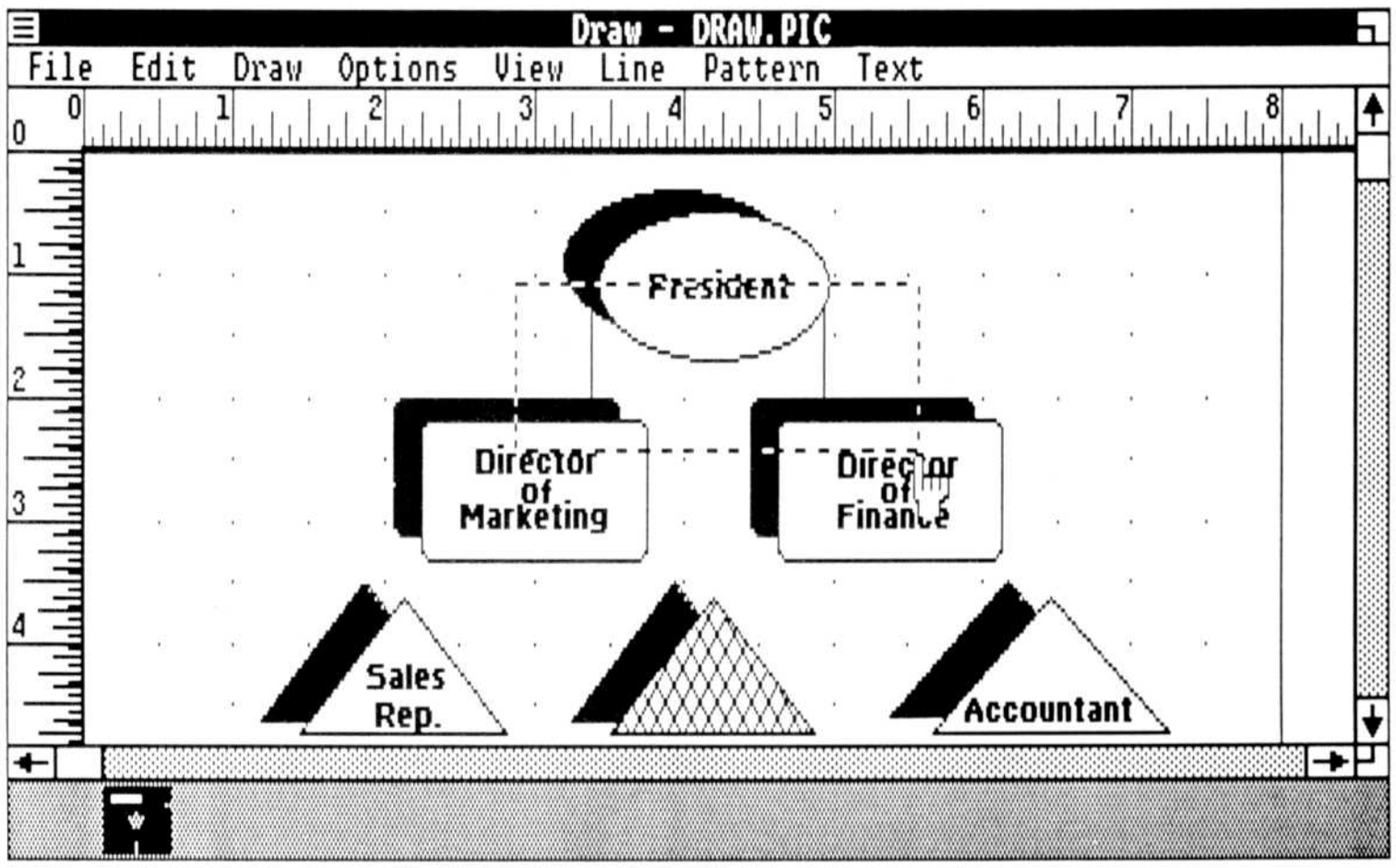
You can set the pen width from a fine line (the default width) up to a line ⅛″ wide. Choose a line width or style from the Line menu to set the width and line style for subsequent symbols or to change a selected line to another width.

Change the width of the line you created that runs from the ellipse to the rectangle.

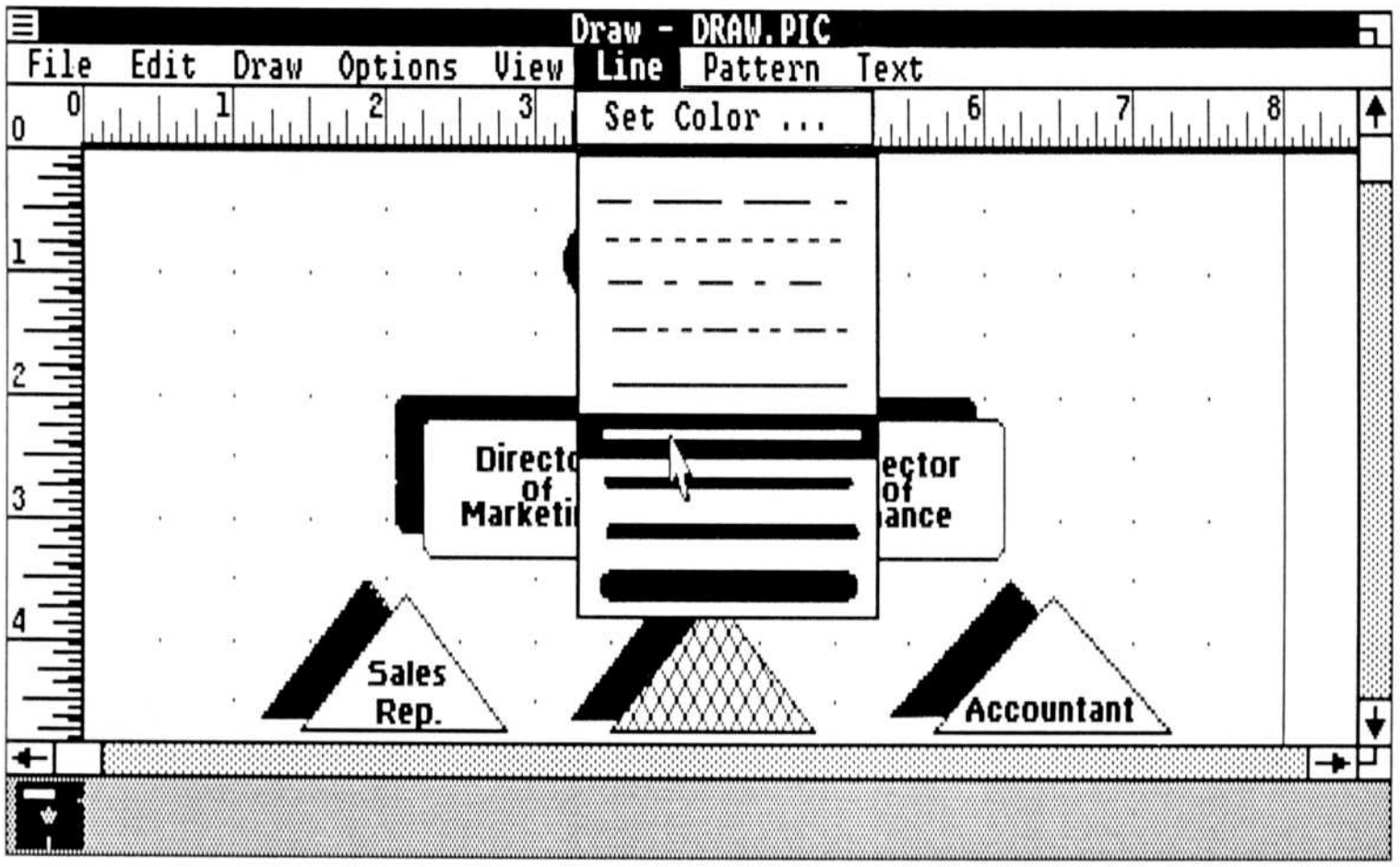
To change the width of a line

To change the width of a line:

1. Choose the Block Select command and rubberband a rectangle around the lines you drew from the ellipse to the rectangles, making sure to enclose both lines.



2 Choose the second solid line style from the Line menu. Notice that the lines redraw and appear wider than before.



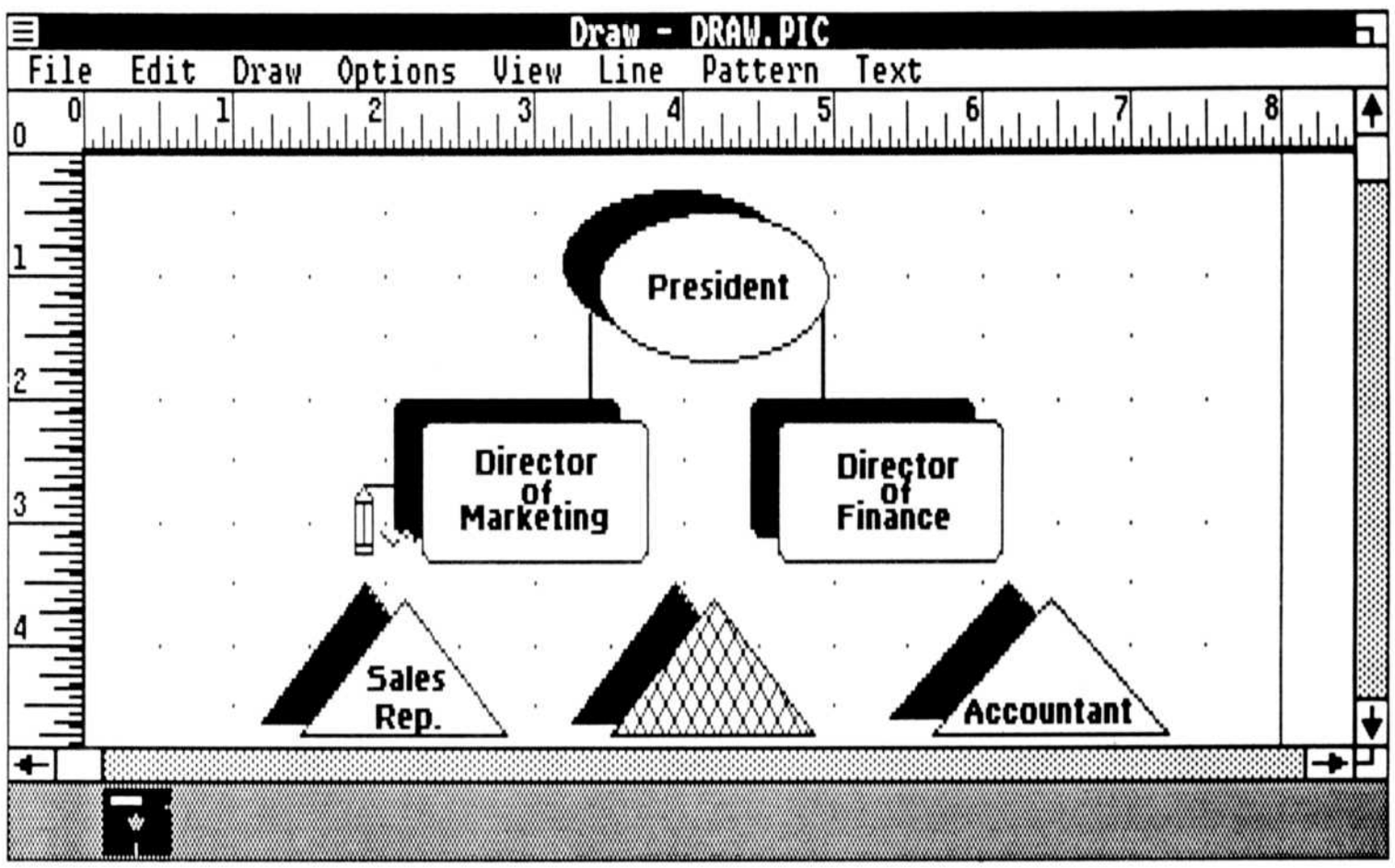
Exercise 3: Creating a Jointed Line

Connect the rounded rectangles and the polygons with jointed lines.

To create a jointed line

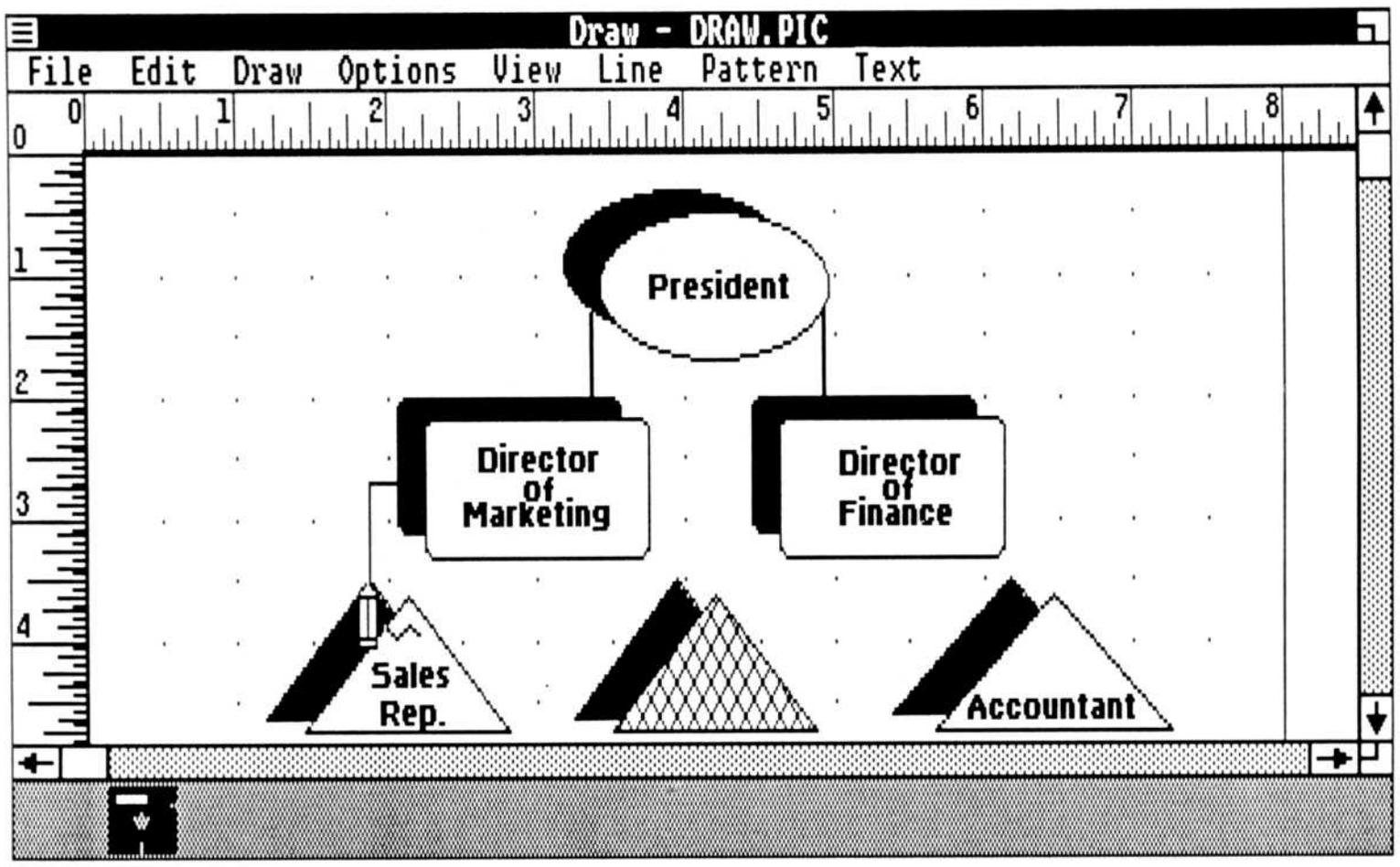
To create a jointed line:

1. Choose the Jointed Line command from the Draw menu.
2. Place the pointer in the center of the left border of the lower left shaded rectangle (Director of Marketing).
3. Press Button 1 and rubberband a horizontal line segment to the left about ¼ " from the border of the rectangle and release Button 1.



4 Move the pointer to the top point of the shaded triangle (Sales Rep.).

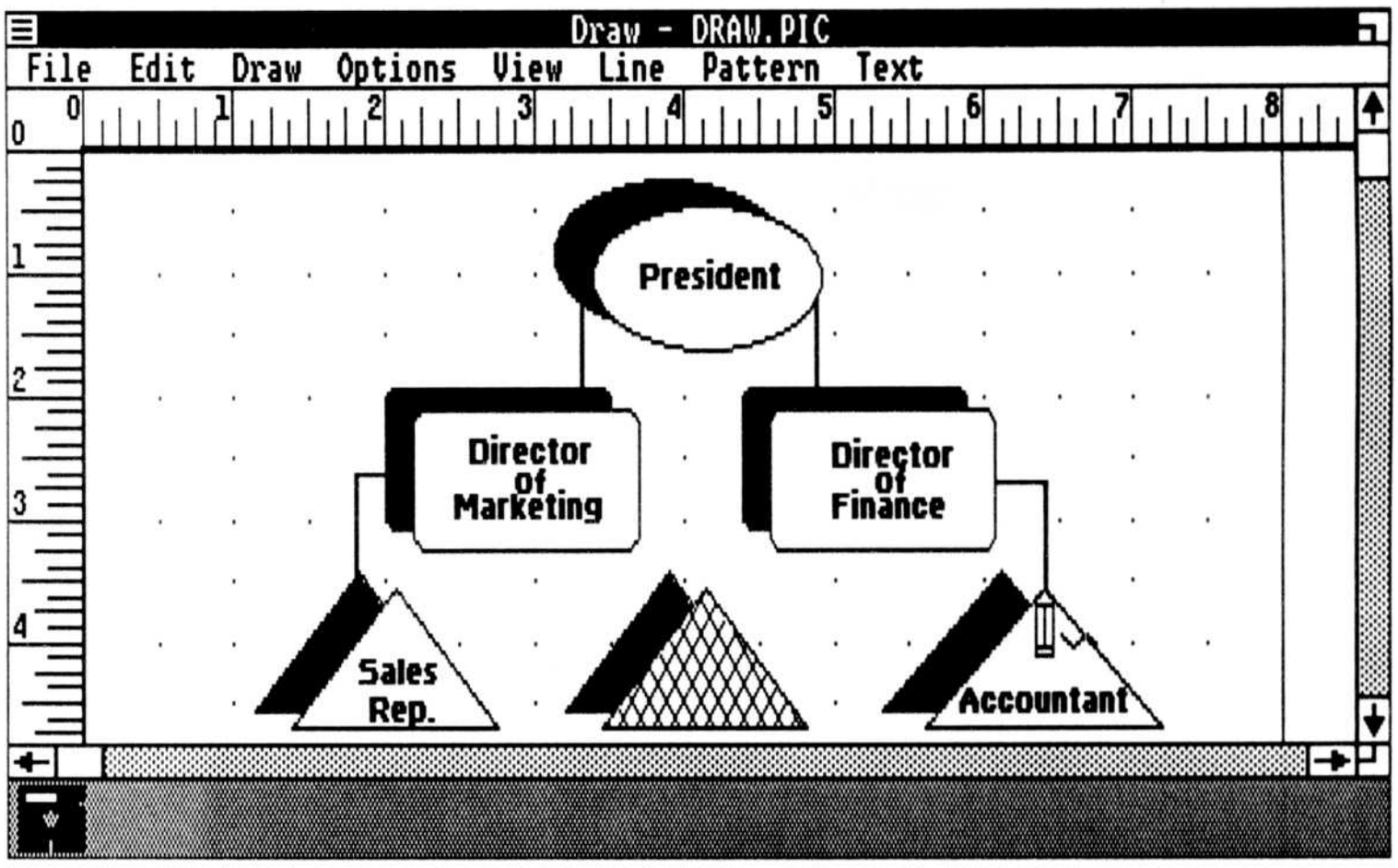
5 Press Button 1. A line segment rubberbands from the end of the first line segment to the pointer.



6 When the line segment is straight, release Button 1 to end creation of the jointed line. Notice that the line redraws in the line width you chose in the previous exercise.

Note As you create a jointed line, choosing Undo from the Edit menu erases the last segment created. After you click Button 1 to end creation of the jointed line, choosing Undo erases the whole line.

7 Repeat steps 2 through 6 to draw a jointed line connecting the Director of Finance rectangle with the Accountant triangle.



Printing a Drawing

Now the drawing is complete. You have created a masterpiece of symbols with shapes, shading, pattern, lines, and text. The drawing looks fine on the display screen, but what you really want to do is print the drawing so you can show it off. The first time you print, DRAW uses the printer you installed when you set up Windows.

Exercise: Printing the Drawing

Do this step to print the drawing:

To print a drawing

▣ Choose the Print Current Page command from the File menu. A print spooler icon appears at the bottom of the screen. A dialog box appears as the drawing is spooled to the printer.

Expect several moments to pass before the drawing is printed. The time that elapses depends on the number of symbols in the drawing and the printing device itself.

Note You may cancel printing as the drawing spools to the printer, by clicking Cancel in the dialog box, or by pressing the ESC key.

Note If you receive a message that a printer is not selected, choose the Change Printer command from the File menu and select a printing device. See Chapter 6, ''Printing a Drawing,'' or the *Microsoft Windows User's Guide* for more information.

What's Ahead?

You have completed ''Learning to DRAW with a Mouse'' and have a printed drawing to show for your efforts.

You can probably think of many ways to improve the drawing you made. Experiment with your new skills until you feel comfortable with them.

If you use the mouse in conjunction with the keyboard, you have the best of both worlds with respect to speed and ease of use.

The Function keys and the CTRL key (coupled with another, usually mnemonic, key) provide the ability to execute DRAW functions with speed. Look at the complete list of Accelerator keys in Appendix A so that as you improve your skills, you can simultaneously improve your DRAWing speed.

Now that you have used DRAW, you may want to read through Chapter 3, ''The Basics,'' to familiarize yourself with all the features of DRAW.

3 The Basics

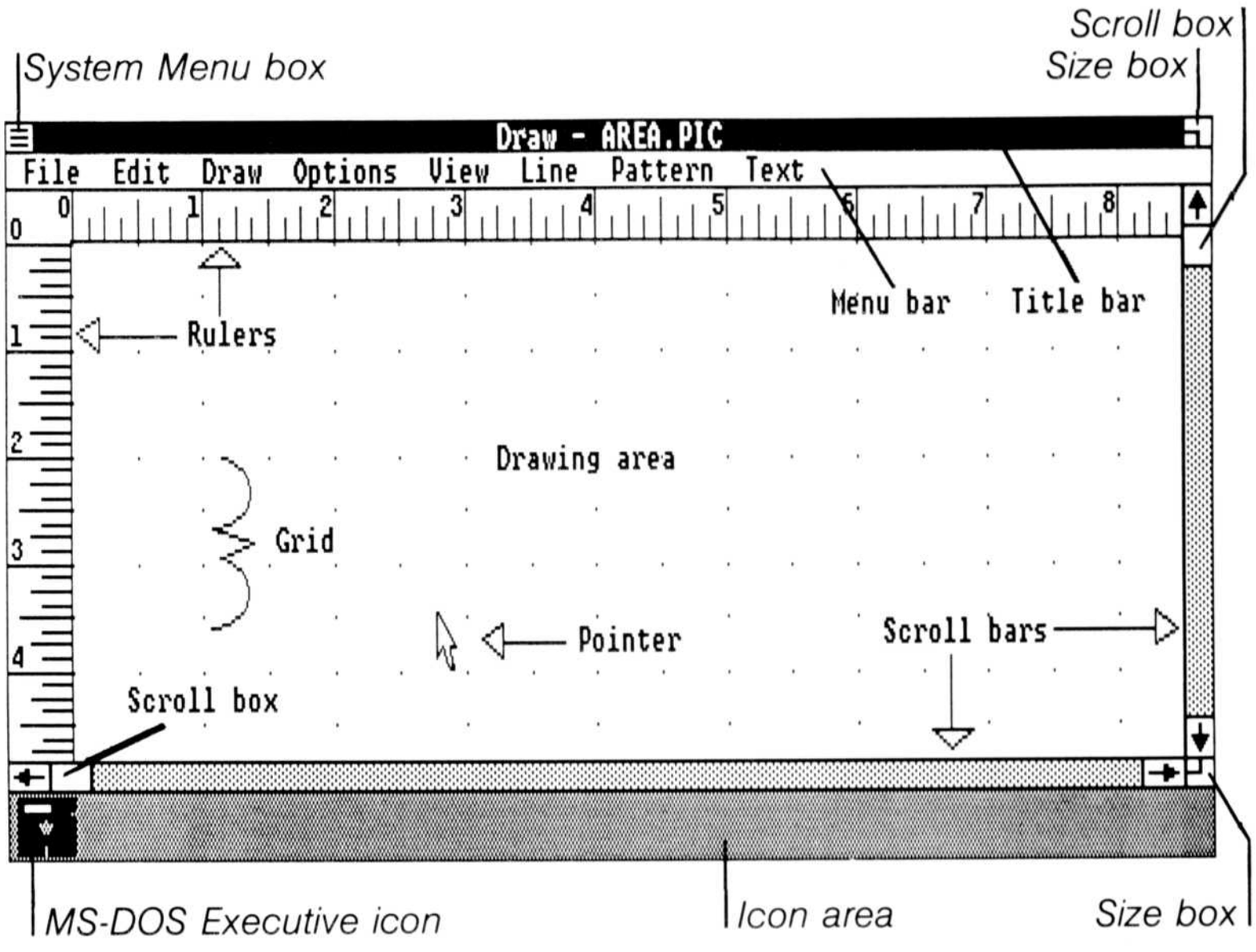
This chapter introduces you to the features in the DRAW window and explains how you can customize the drawing area for each drawing. It also describes the ways you can view a drawing. Learn how to open a new or existing drawing, how to save a drawing, and how to close the drawing window.

In this chapter:

- The DRAW Window
- Opening a Drawing
- Viewing a Drawing
- Saving a Drawing
- Closing a Drawing Window

The Drawing Window

A DRAW window has a title bar, a menu bar, a system menu, scroll bars, a size box, rulers, a grid, and a pointer.



Choosing Menu Commands

DRAW commands are organized in menus on the menu bar. Choose commands in DRAW just as you do in the MS-DOS Executive window.

The commands that toggle a feature on and off have a check mark beside the command in the menu if the feature is on and have no check mark if the feature is off. Repeatedly selecting one of these commands toggles the feature on and off.

If a menu item cannot be selected because of the current settings of other features, the menu item is disabled (appears gray). As soon as the menu item can be selected again, it is no longer disabled.

With the Keyboard

Displaying a menu with the keyboard

To display a menu:

- Press the ALT key and type the first letter of a menu.
- Release the ALT key.

The menu remains open until you choose a command or press ESC to close it.

After a menu is displayed, the LEFT and RIGHT DIRECTION keys alternately display each menu in the menu bar, including the System menu.

Pressing ALT-SPACEBAR automatically displays the System menu which is common to all windows. You can then display the other menus by pressing the LEFT or RIGHT DIRECTION keys.

Choosing a command with the keyboard

To choose a command from the open menu:

- Type the first letter of the name of the command or use the DOWN key to highlight the command.

  If the command begins with the same letter as the name of a command that precedes it, you can either use the DOWN key to highlight the desired command or type the letter again.

- Press ENTER to execute the command.

If the command needs more information, you see a dialog box. See ''About Dialog Boxes'' in this chapter.

To close a menu or a dialog box without carrying out a command, press the ESC key.

Shortcut: Here is a quick way of choosing a command.

- Press the ALT key and type the first letter of the menu. The menu opens.

- Type the first letter of the command.

- Release the ALT key. The highlighted command automatically executes.

For instance, ALT-F O chooses the Open command from the File menu. If two commands in a menu have the same first letter, type the letter again to execute the second command.

With a Mouse

The following terms are used for actions you perform with the mouse:

To *point*	Move the mouse until the tip of the pointer rests on what you want to point to.
To *click*	Quickly press and release the mouse button.
To *press*	Hold down the mouse button.
To *drag*	Move the mouse while holding down the mouse button.
To *double click*	Click the mouse button twice in rapid succession.

Choosing a command with a mouse

To choose a command from a menu:

- Point to the menu title in the menu bar.
- Press and hold down the mouse button to open the menu.
- Drag the pointer to highlight the command you want.
- Release the mouse button.

If the command needs more information, you see a dialog box. See ''About Dialog Boxes'' in this chapter.

The Accelerator Keys

You can mix mouse and keyboard techniques to find the fastest and easiest way to perform a task.

Convenient accelerator keys are built into DRAW. Next to most of the commands in the menus are keystrokes you can use to select those commands. For example, to choose the Arc command, press ^A.

Note Press ^A by pressing and holding the CTRL key while you type *A*.

Some of the commands are executed with the Function keys. For example, choose the Print Current Page command in the File menu by pressing F4, and printing begins.

You quickly learn the accelerator keys by using them. Appendix A contains a complete list of the accelerator keys. Consult the menus for reminders.

Using Dialog Boxes

Dialog boxes appear when you need more information to carry out an action. The dialog box tells you what information is needed and contains areas where you enter information.

Option Buttons and Check Boxes

Many dialog boxes have option buttons or check boxes. A dot in the button or an "X" in the box indicates the current selection.

Option Buttons and Check Boxes

Choosing options with the keyboard

To change the current selection with the keyboard, use the TAB key to move from area to area in a dialog box and the ARROW keys to move within an area. Then, press the SPACEBAR to select or deselect.

Choosing options with the mouse

To change the current selection with the mouse, simply click the button/box beside the new choice or click the selected button/box again to deselect it.

Text Boxes

Text Boxes Some dialog boxes have text boxes in which you type the name of a drawing to open or to save. Use the BACKSPACE key to correct typing errors in a text box.

Leaving a Dialog Box

Leaving a Dialog Box After you have entered the correct information into the dialog box, move the underscore to the appropriate response (Yes, No, Open, Save, or Ok) in the dialog box and press the SPACEBAR.

With the mouse, move the pointer to the response you want and click the mouse button to process the information.

Pressing ENTER chooses the bold option button in the dialog box.

If you change your mind and want to cancel the current changes, press ESC or point to the word Cancel in the dialog box and click the mouse button. The dialog box closes.

Moving a Dialog Box

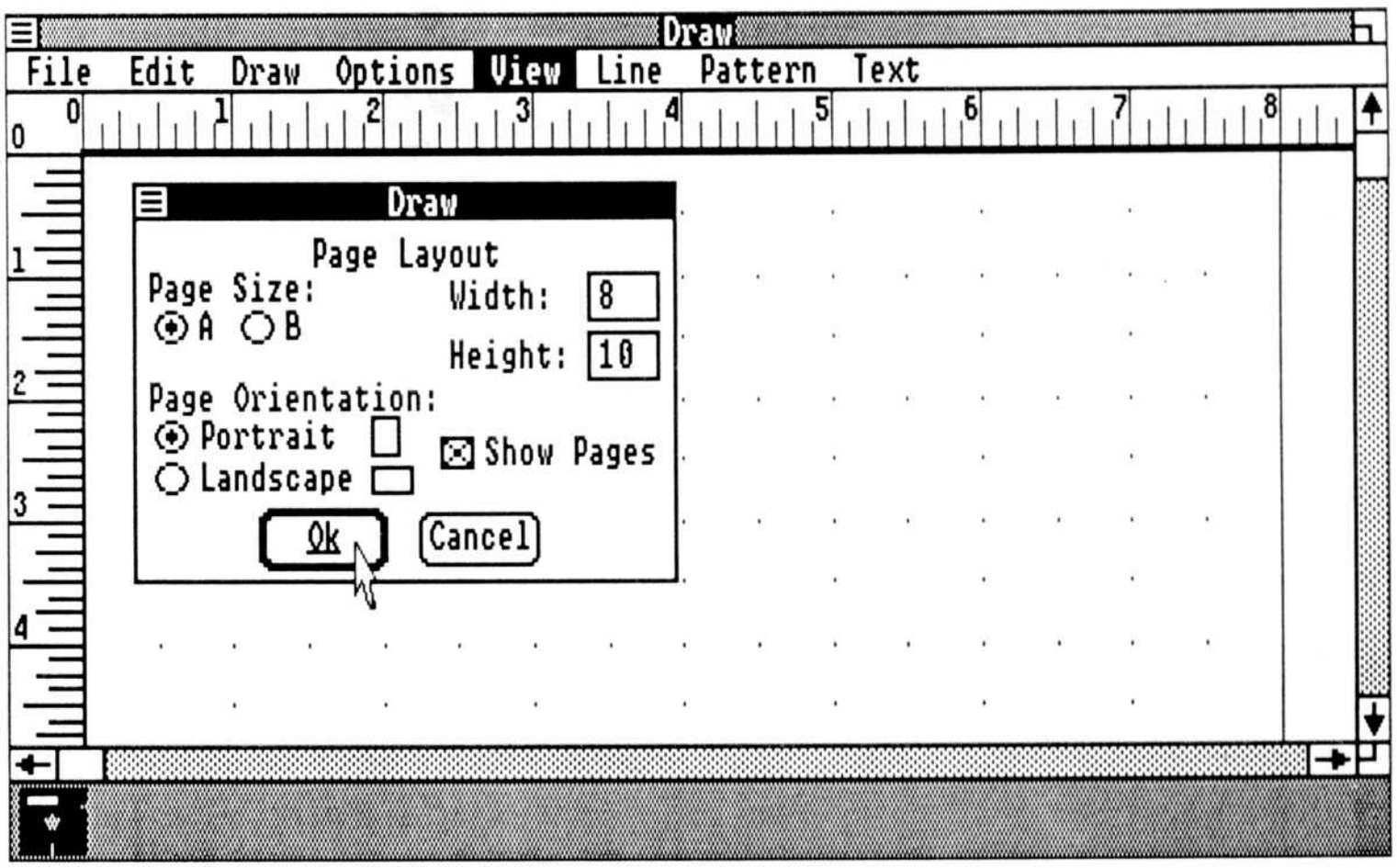
Moving a Dialog Box Most dialog boxes have their own title bars and System menus, which you can use to move or close the dialog box. Open the System menu of the dialog box (press ALT-SPACEBAR), choose the Move command, press the DIRECTION keys to move the size box to a new location for the dialog box, and press ENTER.

With the mouse, point to the title bar, press the mouse button, and drag the dialog box to a new location.

Page Images

You determine the size and orientation of the drawing pages within the drawing area. The total drawing area is 34″×34″. Choose the Set Pages command in the View menu to see the Set Pages dialog box.

Set Pages dialog box

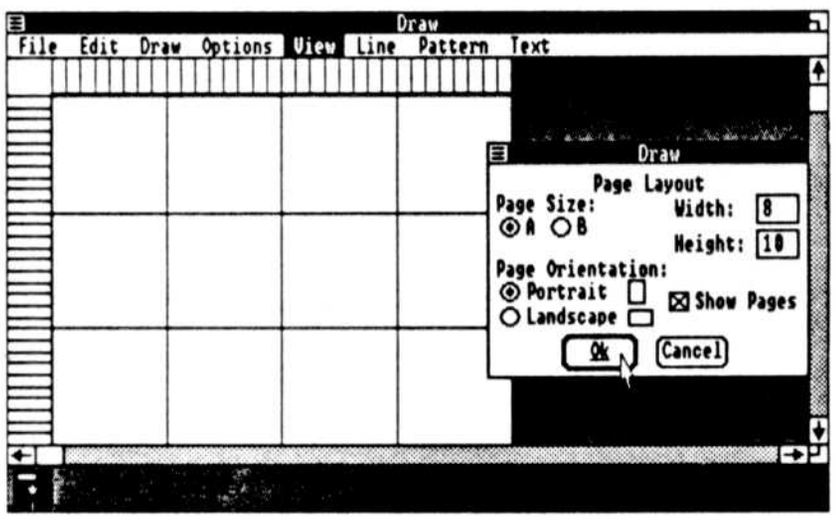


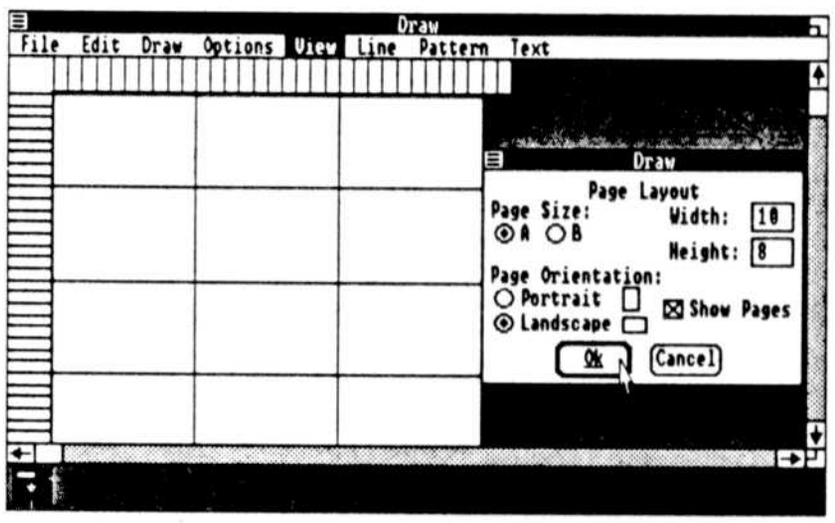
Page Size

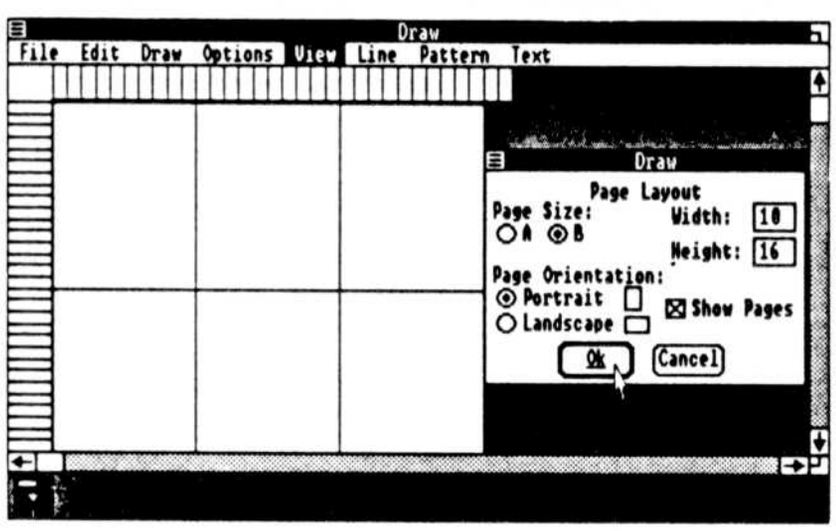
Page Size DRAW provides two page sizes, each in two orientations. Page size A is designed to be printed on 8½″×11″ paper. Page size B is for printing on 11″×17″ paper. (The difference between page size and paper size provides the margins that many printing devices require.)

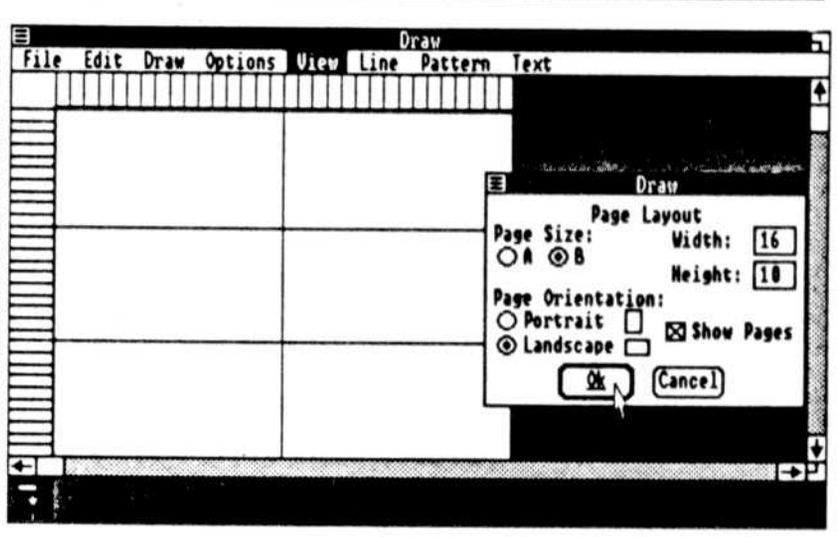
The page sizes provided by DRAW are as follows, with the default page size listed first:

- Page size A in portrait mode allows twelve 8″×10″ pages in a 4×3 matrix.
- Page size A in landscape mode allows twelve 8″×10″ pages in a 3×4 matrix.
- Page size B in portrait mode allows six 10″×16″ pages in a 3×2 matrix.
- Page size B in landscape mode allows six 16″×10″ pages in a 2×3 matrix.









In addition to the page sizes provided, you can set pages to any width or height (not larger than 17″ by 17″) by typing new numbers in the dialog box. Be sure to type a width and height that your printer can accommodate.

Click the page size of your choice or use the TAB key to move to the option button and press the SPACEBAR to select the one you want. Or type the width and height for the page size you want (a size that fits your printer).

Note If the page size you select is larger than the size of the paper in your printing device, the edges of the drawing will be truncated.

Page Orientation

Page Orientation The two page orientations are portrait and landscape. The default page orientation is portrait, which means that drawings are printed in the portrait page mode.

If you make a drawing with pages set to a landscape orientation, you must change the default page orientation to landscape before printing the drawing.

To change the default orientation to landscape mode, choose the Change Printer command from the File menu. A dialog box with a list of available printers appears. After you select a printer from the list and choose Ok, another dialog box appears. Choose landscape orientation and then choose Ok. The change in the page orientation remains until you reselect portrait mode or until the computer is restarted.

Show Pages

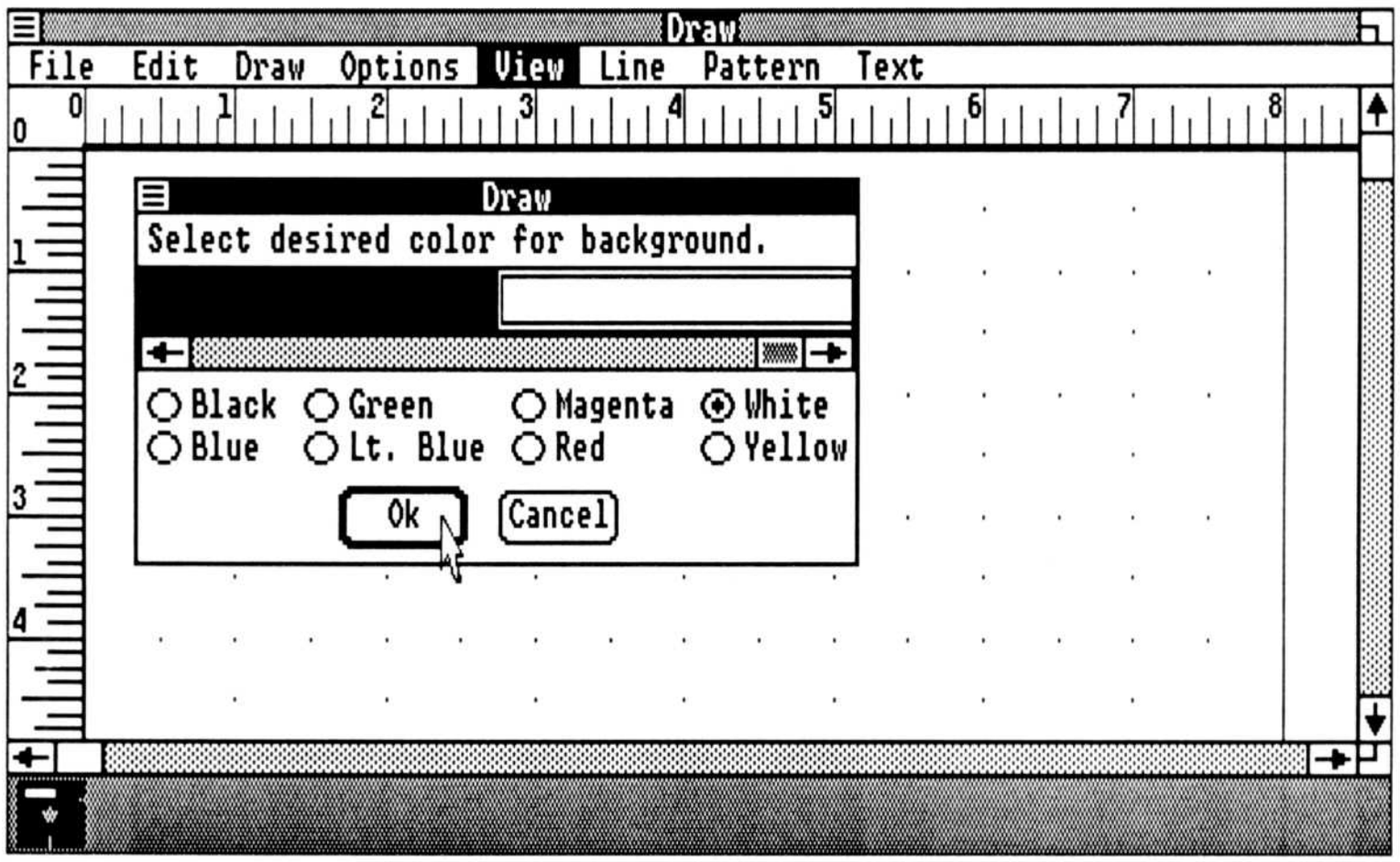
Show Pages The default setting for Show Pages is to display the page boundaries in the drawing window.

Click the option button next to Show Pages to toggle the option on or off, or use the TAB key to move to the option button and press the SPACEBAR to select it.

Colors

You can choose colors for lines, patterns, text, and the background for your drawings from the palette of colors available for your system. Color commands are in the Line, Pattern, Text, and View menus. All of the color commands display the Set Color dialog box.

Set Color dialog box



You can choose a color in two ways: with the palette or with the option buttons. Use the scroll bars to see the range of colors in the palette. When you choose a color option button, that color is displayed and highlighted.

Note When more than 16 colors are available on a system, the chosen color appears in the center of the palette.

Setting colors with the keyboard

To set the color for lines, patterns, text, or background with the keyboard:

1. Choose a Set Color command from the Line, Pattern, Text, or View menu. The Set Color dialog box appears.
2. Use the DIRECTION keys to highlight the color you want in the palette.
3. Choose Ok or press ENTER.

Setting colors with the mouse

To set the color for lines, patterns, text, or background with the mouse:

1. Choose a Set Color command from the Line, Pattern, Text, or View menu. The Set Color dialog box appears.
2. Either point to the scroll box, press Button 1, and move the scroll box right or left until the color you want is highlighted in the palette; or,

   click the color in the palette; or,

   click the option button of the color you want.
3. Click Ok.

Shortcut Double clicking the color chooses the color and closes the dialog box.

Note If your system supports only black and white, but you plan to use the drawing on a color system or print the drawing on a color device, you may choose the colors you want in the dialog box. Colors will appear black and white on your system, but will appear in color on a color system or a color printer. If you create a drawing on a color system, but plan to use the drawing on a black and white system, choose black or white as a background color.

Rulers and Grid

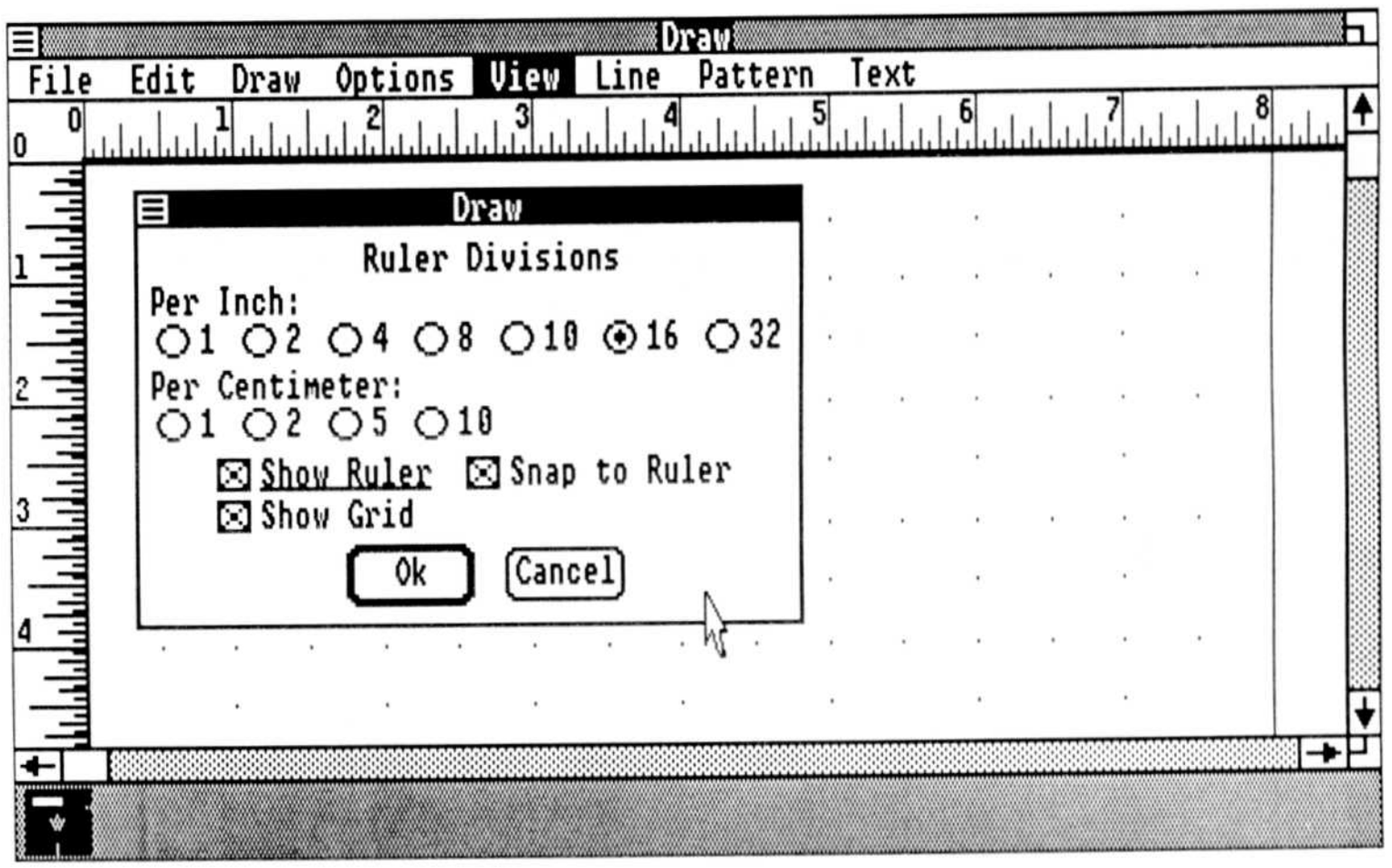
DRAW provides rulers and a grid in the drawing area to assist you in drawing. You can customize the rulers and the grid to fit your needs.

Ruler divisions range from one division per inch to 32 divisions per inch. Alternatively, the ruler can display centimeters with divisions from one per centimeter up to 10 divisions per centimeter.

Use the ruler to make drawings to scale. You can, for example, assign the scale of ¼ " equal to one foot, or one centimeter equal to one meter.

Set the options for the rulers and the grid in the Rulers/Grid dialog box. The default options are rulers marked with divisions every $\frac{1}{16}$", rulers and grid showing in the drawing area, and snap-to-ruler on.

Rulers/Grid dialog box



Setting the ruler options

To set the ruler options:

1. Choose the Set Rulers/Grid command in the View menu to see the dialog box with rulers and grid options.

2. Choose the option button next to 4 ruler divisions per inch.

3. Choose Ok to close the dialog box. The ruler redraws with divisions every ¼ ″.

Note Depending on the resolution of your screen, DRAW may not display all the divisions unless zoomed in on a portion of a drawing.

The grid in the drawing area displays one dot for each ½ ″ ruler division and is useful for lining up symbols in a drawing.

The Snap to Ruler option toggles on and off DRAW's ability to force the pointer and symbols in your drawing to the ruler divisions set in the dialog box.

Unless you have specific reasons for turning it off, leave Snap to Ruler on. If you create symbols when snap-to is turned off, it may be impossible to select them when snap-to is toggled on. If this happens, turn snap-to off or use the Block Select command to select the symbols more easily.

If you create a symbol when Snap to Ruler is turned off and then want to align the symbol to the current ruler divisions, select the symbol, turn Snap to Ruler on, then choose the Align command in the Options menu and select Align to Ruler.

To dispense with the ruler to have more visual space in the drawing area, toggle the Show Ruler option off.

To dispense with the grid for an uncluttered drawing area, toggle the Show Grid option off.

To toggle an option off or on

To toggle off any of the three options (Show Ruler, Show Grid, Snap to Ruler):

1. Choose the Set Rulers/Grid command in the View menu. The dialog box appears.
2. Choose the option buttons next to Show Ruler and Show Grid.
3. Choose Ok to close the dialog box. Look at the results in the drawing window.

Note Follow the same procedure to turn an option on again.

Opening a Drawing

Creating a New Drawing

Use the New command in the File menu to create an empty drawing window. If a changed drawing is already in the drawing window when you choose the New command, a dialog box prompts you to save the changes in the existing drawing. When you save the drawing (or not, as you choose), it disappears and an empty drawing window is displayed.

Creating an empty drawing

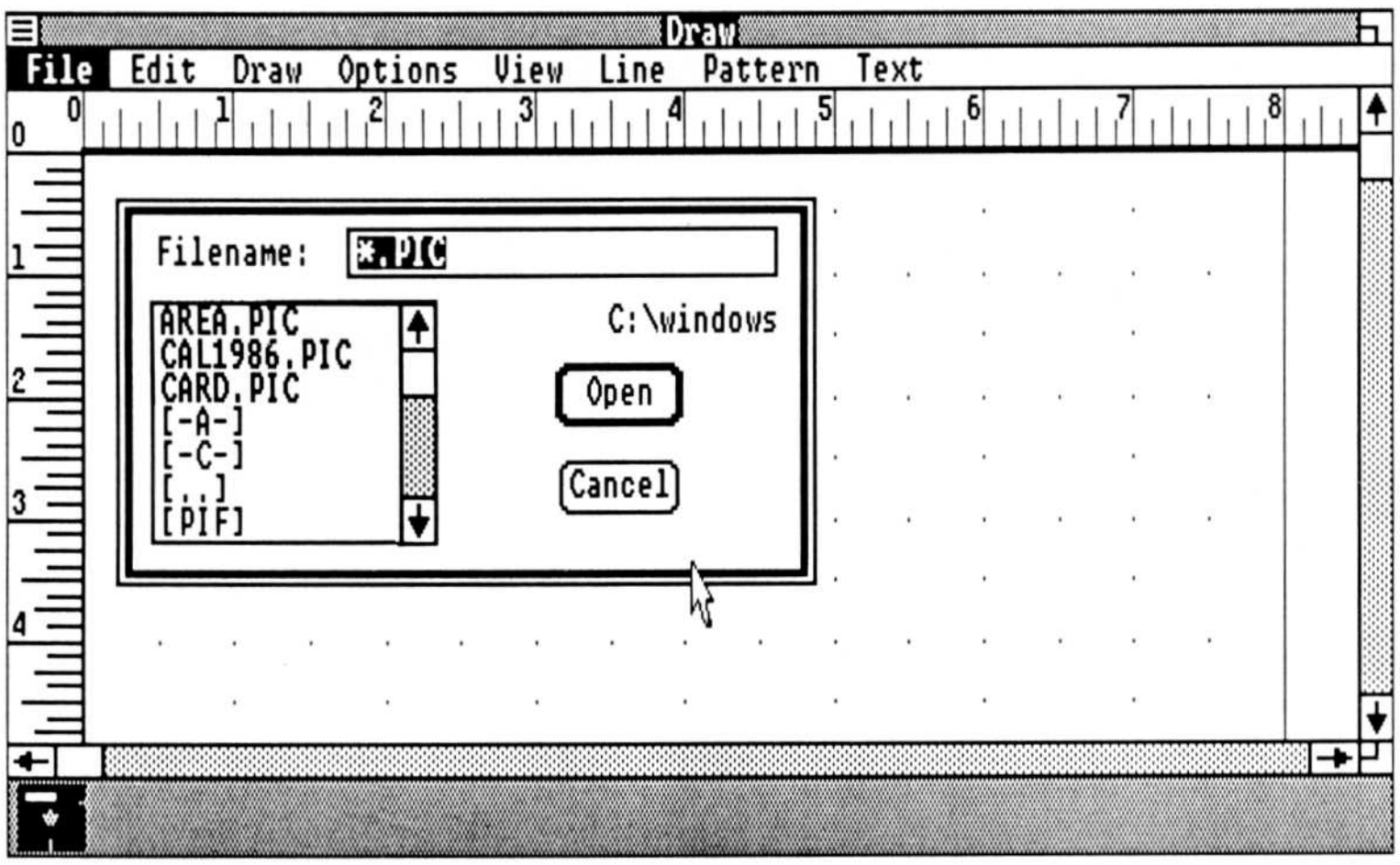
To create an empty drawing:

▣ Choose the New command in the File menu.

Opening an Existing Drawing

Use the Open command in the File menu to load a drawing you wish to edit or print. When you choose the Open command, you see a dialog box containing a list of drawings available. DRAW assigns the extension .PIC to drawings. You can use the scroll bars to view the entire list of files.

Open File dialog box



Other directories and disk drives are shown in brackets in the list box: If you choose **[-A-]**, the directories and files on the disk in drive A are listed in the list box. To see the files in another directory, choose the directory name. The files in that directory are listed in the list box.

Opening a drawing with the keyboard

To open a drawing file with the keyboard:

1. Choose the Open command from the File menu. A dialog box appears.
2. Press TAB to move the cursor to the list box.
3. Highlight the filename using the DOWN key and press ENTER.

Opening a drawing with the mouse

To open a drawing with the mouse:

1. Choose the Open command from the File menu. A dialog box appears.
2. Double click the name of the file you want to open, or click the filename to highlight it and click Open.

If the drawing you are working with has been changed and you have not saved it, a dialog box with the message "Save changes to drawing?" is displayed.

- Choose Yes (press ENTER) to save the changes and load the indicated drawing. After you save the current drawing, the indicated drawing automatically loads.
- Choose No (TAB to No and press SPACEBAR) to *not* save the changes and to open the indicated drawing. Any changes you made to the current drawing since the last time you saved it are lost.
- Choose Cancel (press ESC) to cancel the Open operation and return to the current drawing.

Viewing a Drawing

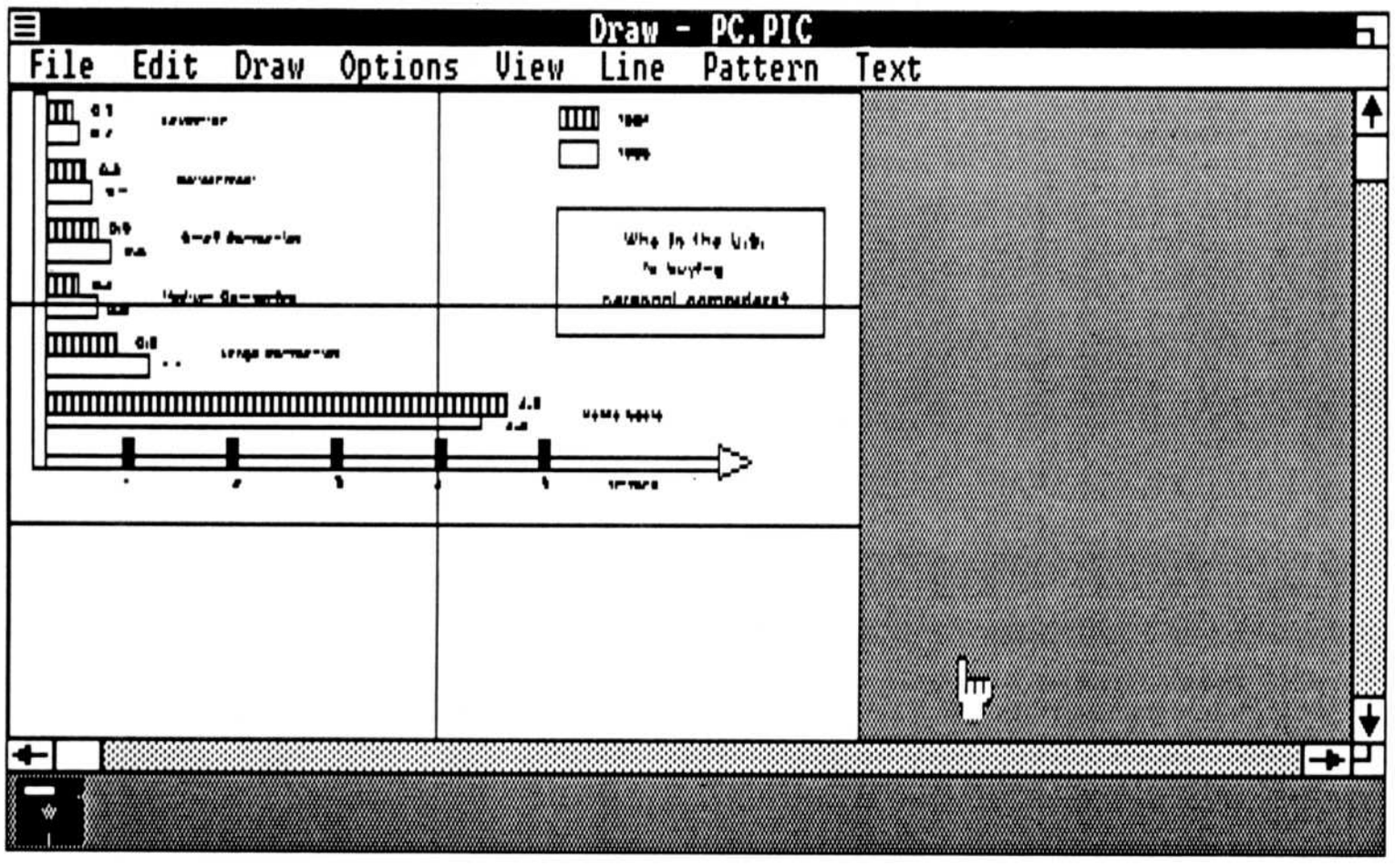
You can view a drawing in its actual size, or view the page you are working on, or view all the pages available. You can zoom in on a small portion of the drawing for detail work. You can return to up to sixteen previous views of a drawing. When you save a drawing, it is saved in the current view mode.

The size of the pages in a drawing is determined by the current setting of the page images in the Set Pages dialog box. See the discussion of page images on pages 98–100 in this chapter.

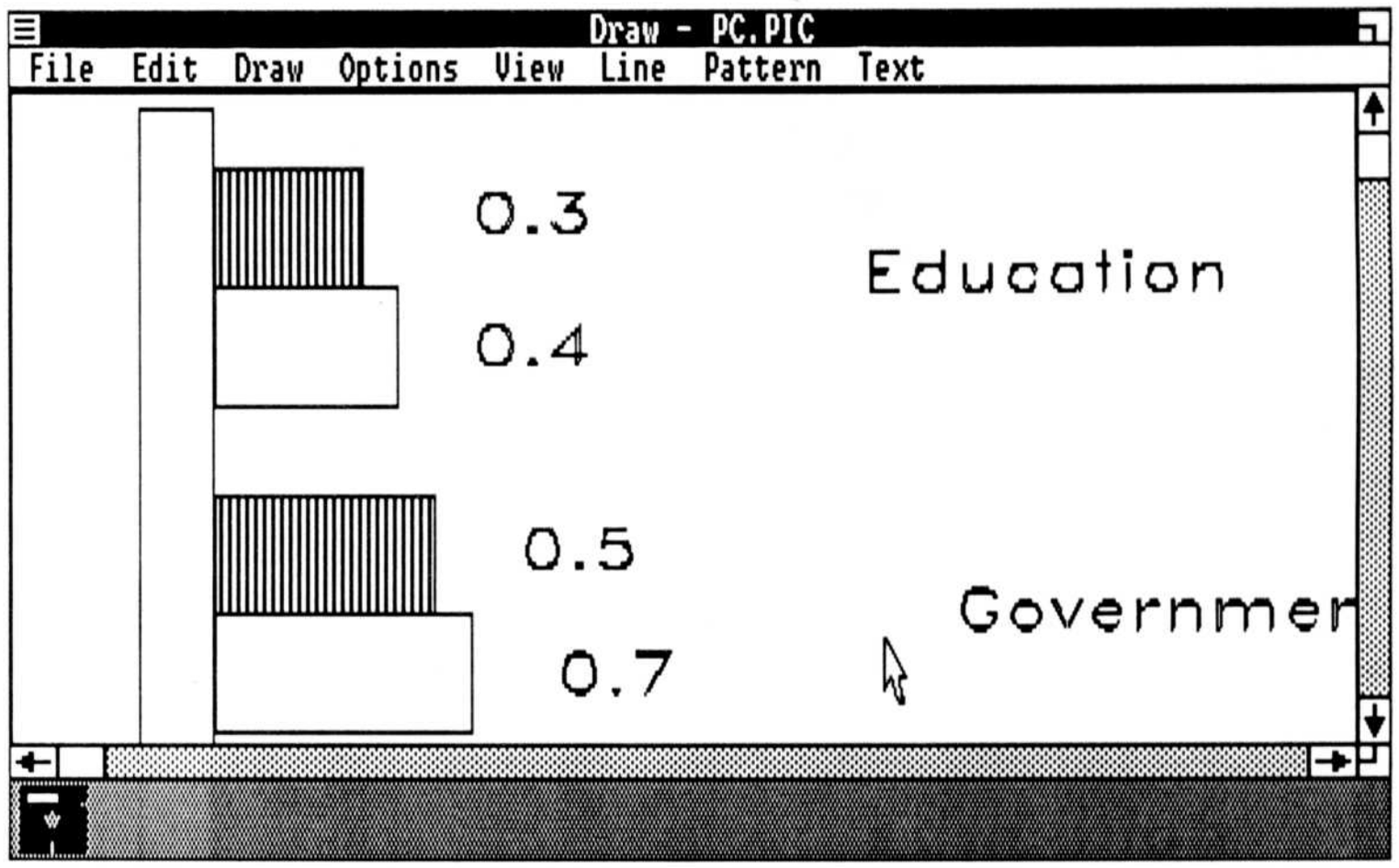
Actual Size

The View Actual Size mode displays symbols in a size corresponding to their size when printed. Standard text is visible and may be edited at actual size.

If this is what your entire drawing looks like,



this is what you would see in the upper left-hand corner of the drawing in after choosing the View Actual Size command.



You can see any part of your drawing in actual size by selecting a symbol in the part of the drawing you want displayed and then choosing the View Actual Size command.

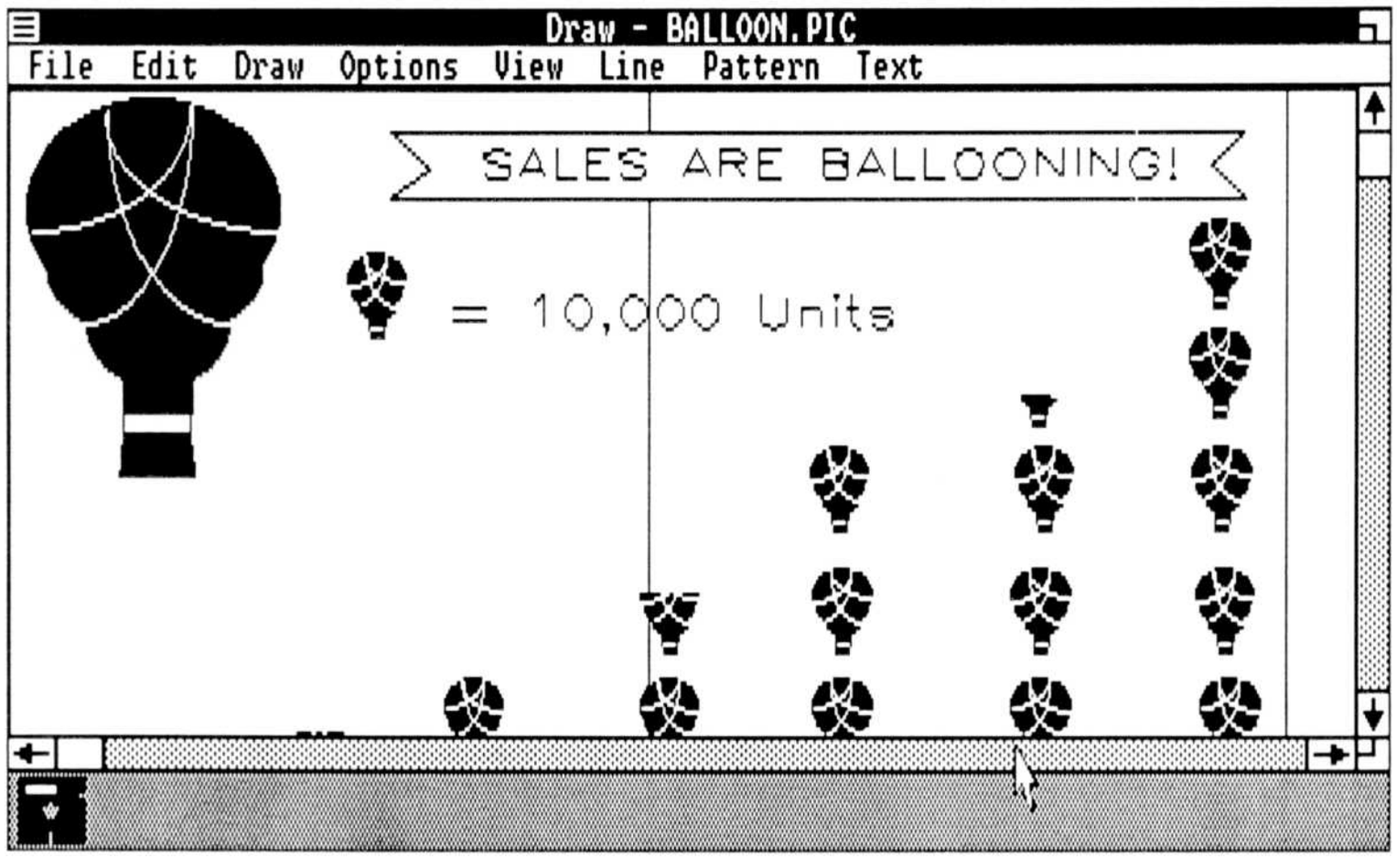
If you leave the View Actual Size mode by choosing the View All Pages, View Current Page, View Previous, or Zoom commands, the symbols appear to be smaller or larger.

However, the symbols have not actually changed size; they are displayed as if you were observing them from a different distance.

Current Page

View Current Page displays the page you are working on or the page containing a selected symbol when the View Current Page command is chosen.

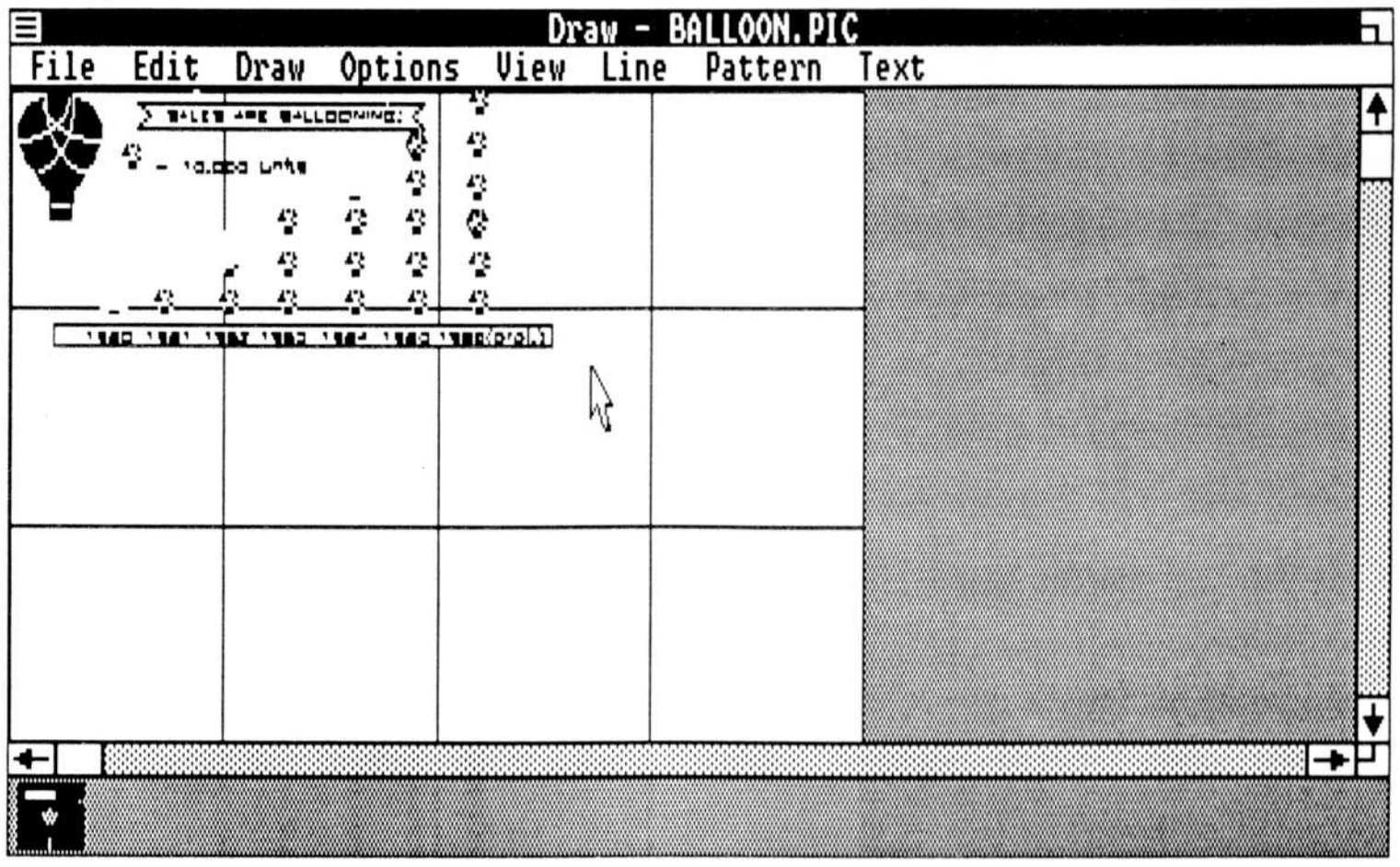
- Choose the View Current Page command to see an entire page on the screen.



All Pages

The View All Pages command displays the entire drawing area that is available for use.

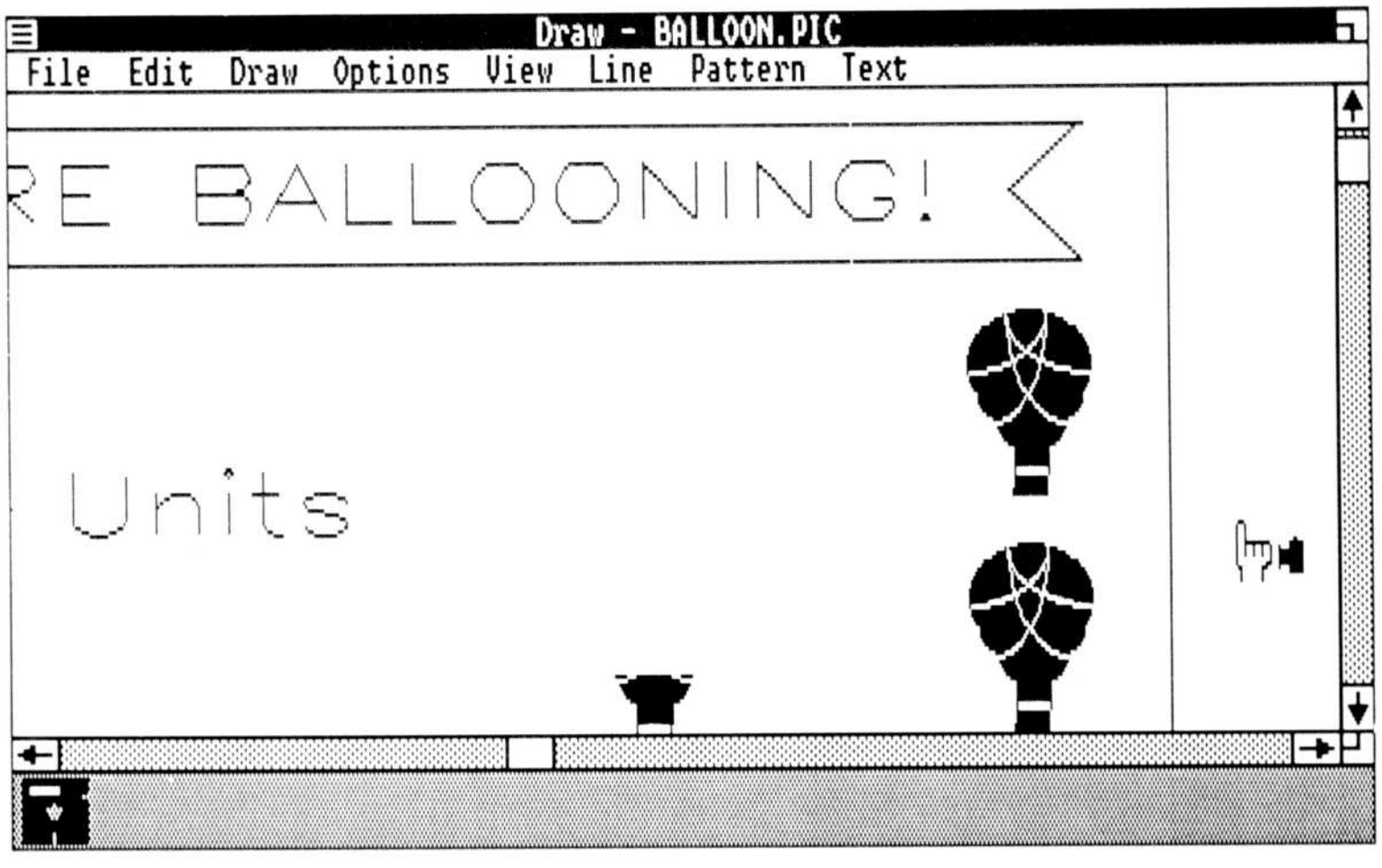
- Choose the View All Pages command from the View menu to see all the pages in the drawing.



Zoom

You can indicate a portion of the drawing to be enlarged so that it occupies the entire window by using the Zoom command.

While the drawing is zoomed, the symbols appear larger. When zoomed in, you can draw symbols in finer detail than is possible when using the other View modes. The Zoom mode is especially useful if you are using a high resolution output device such as a plotter which reflects more detail.



Zooming in on a drawing

To zoom in on a portion of a drawing:

1. Choose the Zoom command from the View menu.
2. Position the pointer so that a rectangle drawn with one corner located at that point encloses the area of the drawing you want to zoom in on.
3. Press and hold down the SPACEBAR or Button 1.
4. Move the pointer in any direction. A dotted rectangle rubberbands.

Note You can move the origin point of the zoom rectangle by pressing the 2 key or Button 2 while you press and hold the SPACEBAR or Button 1. Release the 2 key or Button 2 and continue rubberbanding the zoom rectangle.

5. When the rectangle completely encloses the area of the drawing you wish to zoom in on, release the SPACEBAR or Button 1. The area of the the screen enclosed in the rectangle enlarges and displays on the screen.

Previous View

You can quickly return to any view of your drawing up to the last sixteen views using the View Previous command.

To return to the previous view

Start from a drawing in View Actual Size mode:

1. Zoom in on a portion of the drawing.
2. Zoom in on an even smaller portion of the drawing.
3. Choose View Previous from the View menu. The drawing returns to the first Zoom view.

4 Choose View Previous again. The drawing returns to the view where you began the example.

Scroll

If you have a drawing that is larger than the size of the screen, you can use the scroll bars to display different portions of the drawing.

You can scroll through a drawing in several ways.

Scrolling with the keyboard

To scroll with the keyboard:

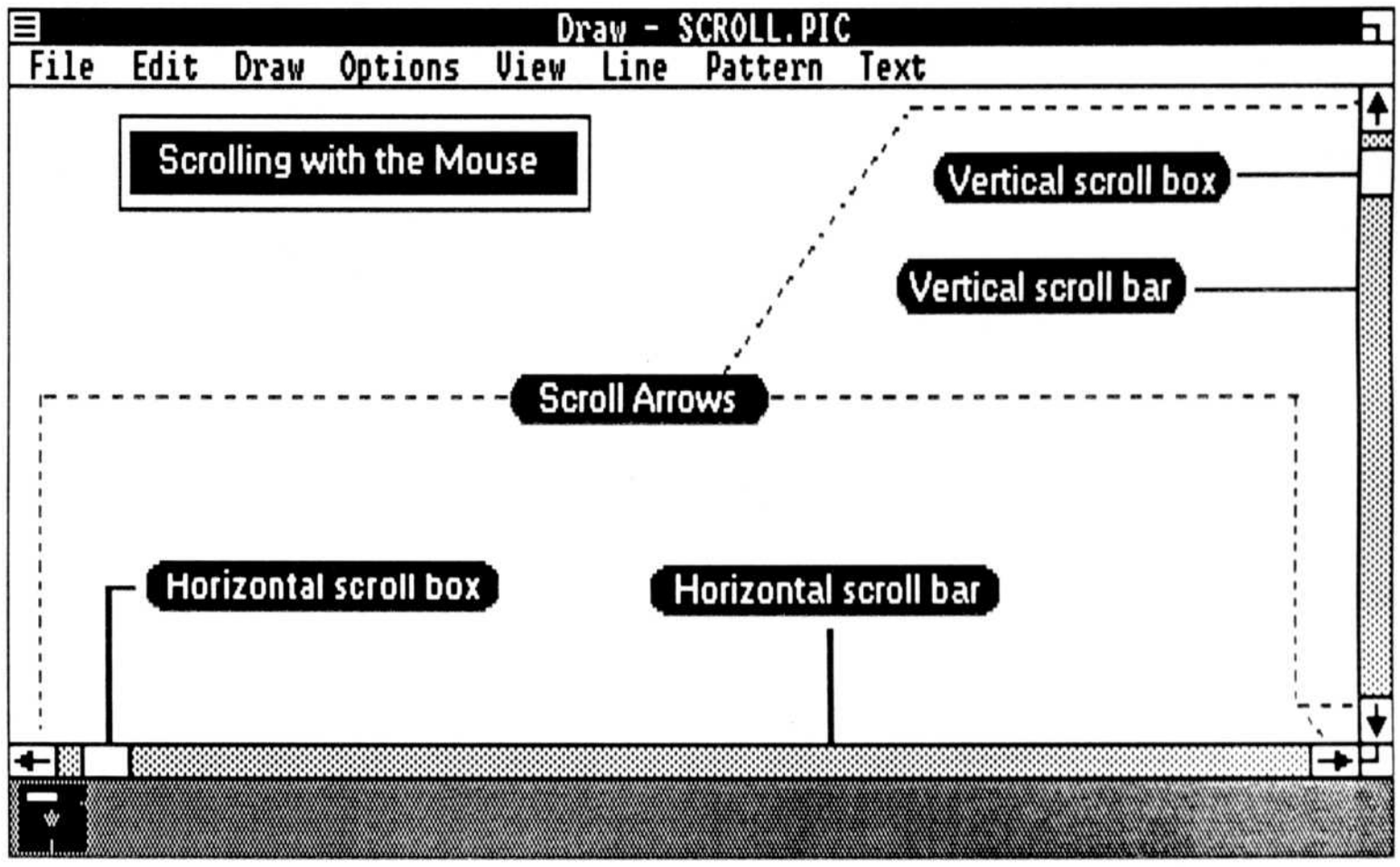
- Scroll vertically one screen at a time by pressing PGUP and PGDN.

- Scroll horizontally one screen at a time by pressing TAB to page to the right and SHIFT-TAB to page to the left.

- Scroll an amount equal to the divisions set for the rulers by pressing a DIRECTION key in the direction you want to scroll. When the pointer touches the scroll bar, the drawing scrolls in the direction the pointer is moving.

Note When rubberbanding a symbol (the SPACEBAR or the 5 key is pressed) or when entering or editing text (the text cursor is displayed), these keys do not scroll because they are assigned other meanings.

Scrolling with the mouse



To scroll with a mouse:

- Click on a scroll bar to scroll one screen. To scroll continuously, point to a scroll bar and hold down Button 1 on either side of a scroll box.

- To move to a relative position in a drawing, point to a scroll box and press Button 1. Drag the scroll box to indicate the position in the drawing. For instance, if the horizontal and vertical scroll boxes are midway on the scroll bars, you are about in the middle of the entire drawing area.

- To scroll one ruler unit (an inch or a centimeter), click on a scroll arrow. To scroll continuously, point to an arrow and hold down Button 1.

Redraw

The Redraw command in the View menu redraws all symbols currently displayed on the screen in the order in which they were created.

To redraw the drawing:

▣ Choose the Redraw command from the View menu.

Redraw also clears the display of unwanted ''leftovers'' that sometimes result from manipulating symbols.

Redrawing symbols

Saving a Drawing

When you save a drawing with the Save command or the Save As command from the File menu, DRAW stores the latest version of the drawing on the disk.

It is a good idea to save your work frequently. When you choose the Open command or close the DRAW window, DRAW prompts you to save the current drawing.

Saving a drawing

To save a drawing:

- ▣ Choose the Save command from the File menu.

The first time you save a drawing, the Save command works as the Save As command.

Use the Save As command to keep both the original version and the new version with the current changes. When the Save File As dialog box appears, type a different name for the drawing and choose Save or press ENTER. The original version remains untouched and the new version is saved with the new name.

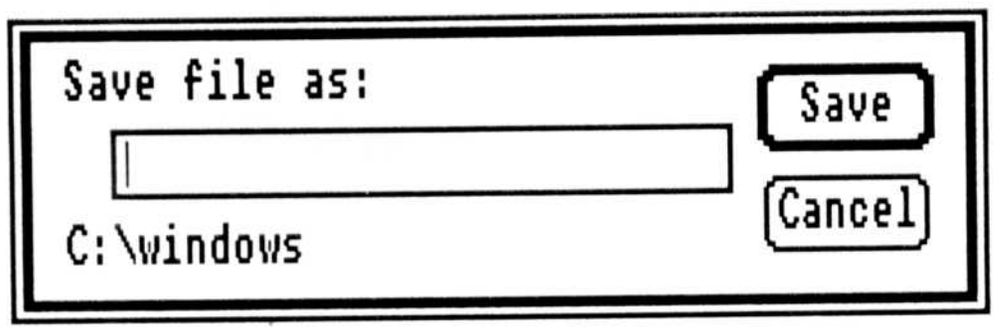
On a two-disk system, DRAW prompts you to insert the data disk containing the file. To save the file on a new diskette, with the same filename, choose Save As and make any change to the filename; for instance, instead of typing DRAW.PIC, type A:DRAW.PIC.

Saving with the Save As command

To use the Save As command:

1 Choose the Save As command from the File menu. The Save File As dialog box appears.

Save File As Dialog Box



2 Type a name for the drawing.

Note If a highlighted name is in the text box, pressing any character key makes the name disappear. To edit the name in the box, press the RIGHT key to move the cursor, then begin typing. Use the BACKSPACE key to correct typing errors in the text box.

3 Choose Save or press ENTER.

If you type a name that already exists, DRAW asks you if you want to replace the existing file. Choose Yes only if you want to delete that file and replace it with the current drawing. Otherwise, choose No and type a different name.

Closing a Drawing Window

When you are finished using DRAW, close the drawing window.

Ending the DRAW session

To close the DRAW window:

▣ Choose the Close command from the System menu.

Or, double click the System menu box with the mouse.

If you have unsaved changes in a drawing, you are prompted to save the changes.

If you end a Windows session without closing the DRAW window, Windows closes it for you, first prompting you to save changes to the drawing.

4 Editing a Drawing

This chapter tells you how to create symbols and how to manipulate the symbols you create. You see how to enter and edit text. You can practice by following step by step instructions.

If you need to review how to select symbols, choose a command, move the pointer, and other techniques, see Chapter 3, "The Basics."

In this chapter:

- Creating Symbols
- Manipulating Symbols
- Using Text
- Merging a Lotus Graph

Creating Symbols

Creating symbols in DRAW is as simple as choosing a command and moving the pointer.

All of the basic shapes and lines draw in the line color, line width/style, fill color, and fill pattern currently selected in the Line and Pattern menus.

Basic Geometric Shapes

Ellipses, rectangles, and rounded rectangles are all created in the same way.

Create circles using the Ellipse command and squares using the Rectangle command.

Creating geometric shapes with the keyboard

To create any basic geometric shape with the keyboard:

1. Choose the appropriate drawing command from the Draw menu.
2. Move the pointer where you want to begin creating the symbol.
3. Press and hold down the SPACEBAR.
4. Move the pointer. The symbol appears on the screen and changes size and proportion as you move the pointer.

When you are satisfied with the symbol, release the SPACEBAR to end the creation process.

To move the symbol while you are still creating it, press and hold down the 2 key while still pressing the SPACEBAR and drag the symbol. After you release the 2 key, you can continue creating the symbol.

Creating geometric shapes with the mouse

To create a basic geometric shape with the mouse:

1. Choose the appropriate drawing command from the Draw menu.
2. Move the pointer where you want to begin creating the symbol.
3. Press and hold down Button 1.
4. Move the pointer. The symbol appears on the screen and changes size and proportion as you move the pointer.

When you are satisfied with the symbol, release Button 1 to end the creation process.

To move the symbol while you are still creating it, press and hold down Button 2 while still pressing Button 1 and drag the symbol. After you release Button 2, you can continue creating the symbol.

Horz/Vert Line

You can create a horizontal or vertical line of any length using the Horz/Vert Line command in the Draw menu.

Creating a horizontal or vertical line with the keyboard

To create a horizontal or vertical line with the keyboard:

1. Choose the Horz/Vert Line command.
2. Press and hold the SPACEBAR.
3. Move the pointer in the direction you want the line to draw, to the right or left for a horizontal line or up or down for a vertical line.
4. Release the SPACEBAR when the line is the desired length.

Creating a horizontal or vertical line with the mouse

To create a horizontal or vertical line with the mouse:

1. Choose the Horz/Vert Line command.
2. Press and hold Button 1.
3. Move the pointer in the direction you want to line to draw, to the right or left for a horizontal line or up or down for a vertical line.
4. Release Button 1 when the line is the desired length.

Lines

You can create a line of any length and any angle using the Line command in the Draw menu.

Creating a line with the keyboard

To create a line with the keyboard:

1. Choose the Line command from the Draw menu.
2. Press and hold down the SPACEBAR.
3. Move the pointer to draw the line.
4. Release the SPACEBAR when the line is the desired length and angle to end creation of it.

As with the creation of the basic geometric symbols, you can press and hold down the 2 key while continuing to press the SPACEBAR to move the line around on the screen. Release the 2 key to resume creation of the line.

Creating a line with the mouse

To create a line with the mouse:

1. Choose the Line command from the Draw menu.
2. Press and hold down Button 1.
3. Move the pointer to create the line.
4. Release Button 1 when the line is the desired length and angle to end creation of it.

As with the creation of the basic geometric symbols, you can press and hold down Button 2 while continuing to press Button 1 to move the line around on the screen. Release Button 2 to resume creation of the line.

Jointed Lines

You can use the Jointed Line command in the Draw menu to create a line that has several straight line segments in it (such as in a business or statistical graph).

If the beginning point and end point of the jointed line are the same point, the resulting closed symbol fills automatically with the current color and pattern selected in the Pattern menu.

Note If you do not like a line segment you create, you can delete it by immediately choosing the Undo command from the Edit menu. During creation of the jointed line, repeatedly choosing Undo deletes the previous line segment until all line segments in the symbol are deleted.

Creating a jointed line with the keyboard

To create the first segment of a jointed line with the keyboard:

1. Choose the Jointed Line command from the Draw menu.
2. Press and hold down the SPACEBAR.
3. Move the pointer to an end point for that line segment.
4. Release the SPACEBAR to end creation of that line segment.

To create the remaining segments of the jointed line:

1. Press and hold down the SPACEBAR again. A line segment draws from the end point of the previous line segment to the pointer.
2. Move the pointer to an end point for the current line segment.
3. Release the SPACEBAR to end creation of that line segment.
4. Repeat steps 1 through 3 as many times as you wish to create a line with any number of segments.
5. Quickly press and release the SPACEBAR to complete the symbol.

Creating a jointed line with the mouse

To create the first segment of a jointed line:

1. Choose the Jointed Line command from the Draw menu.
2. Press and hold down Button 1.
3. Move the pointer to an end point for that line segment.
4. Release Button 1 to end creation of that line segment.

To create the remaining segments of the jointed line:

1. Press and hold down Button 1 again. A line segment draws from the end point of the previous line segment to the pointer.
2. Move the pointer to an end point for the current line segment.
3. Release Button 1 to end creation of that line segment.
4. Repeat steps 1 through 3 as many times as you wish to create a line with any number of segments.
5. Click Button 1 to complete the symbol.

Closed Polygons

Create closed polygons in exactly the same way as jointed lines.

However, when you are ready to close the polygon, you do not have to draw the final side. Quickly press and release the SPACEBAR or click Button 1 and a line automatically draws to close the polygon.

Closed polygons fill automatically with the current color and pattern selected in the Pattern menu.

Arcs

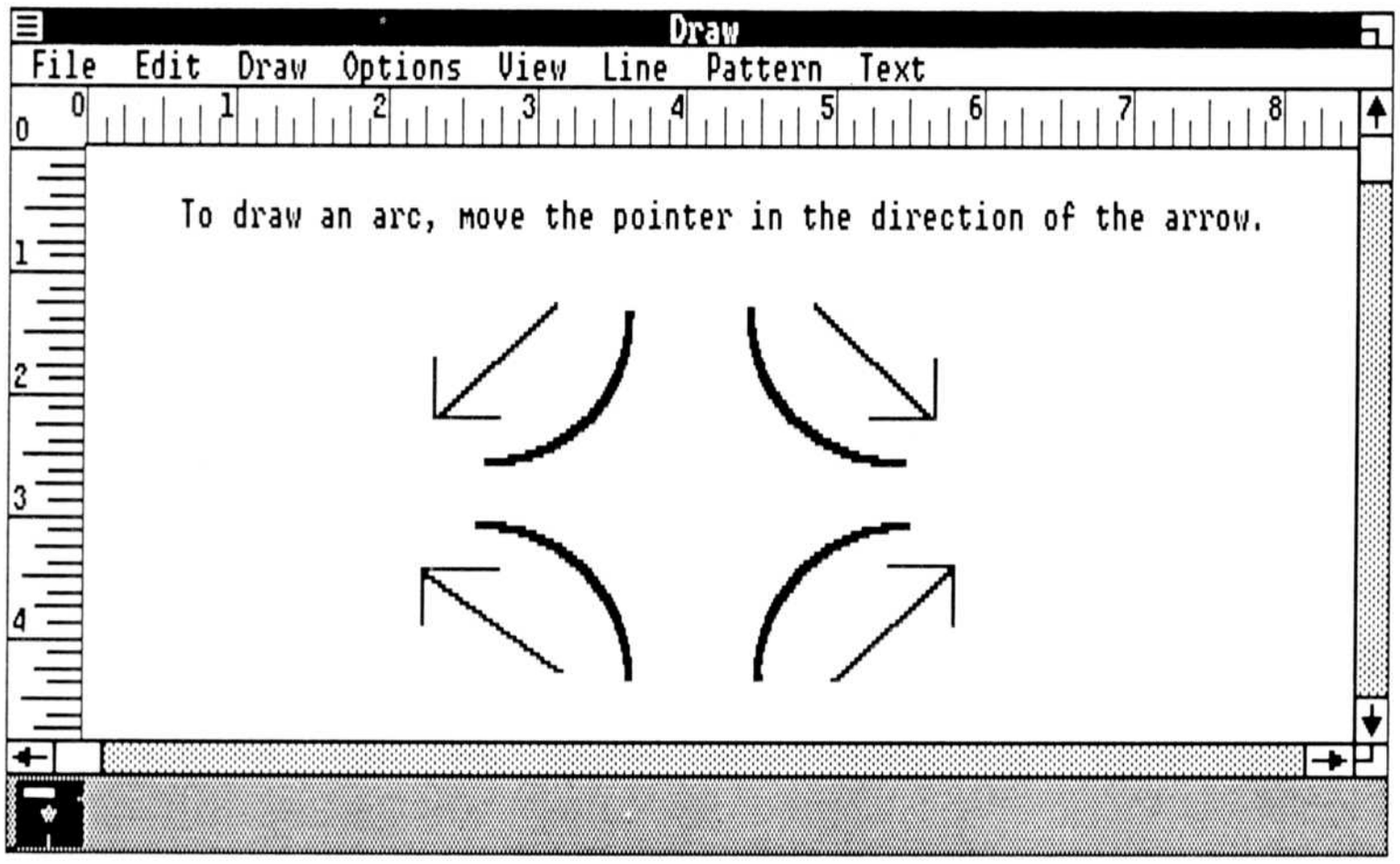
The Arc command creates an arc that is the size and shape of ¼ of an ellipse.

The arc draws in the current line color, width, and style selected on the Line menu.

Creating an arc with the keyboard

To create an arc with the keyboard:

1. Choose the Arc command from the Draw menu.
2. Press and hold down the SPACEBAR.
3. Move the pointer to rubberband an arc until it is the desired proportion.
4. Release the SPACEBAR to end the creation process.



Creating an arc with the mouse

To create an arc with the mouse:

1. Choose the Arc command from the Draw menu.
2. Press and hold down Button 1.
3. Move the pointer to rubberband an arc until it is the desired proportion.
4. Release Button 1 to end the creation process.

Pies and Pie Slices

You can create a pie or one or more pie slices using the Pie command in the Draw menu.

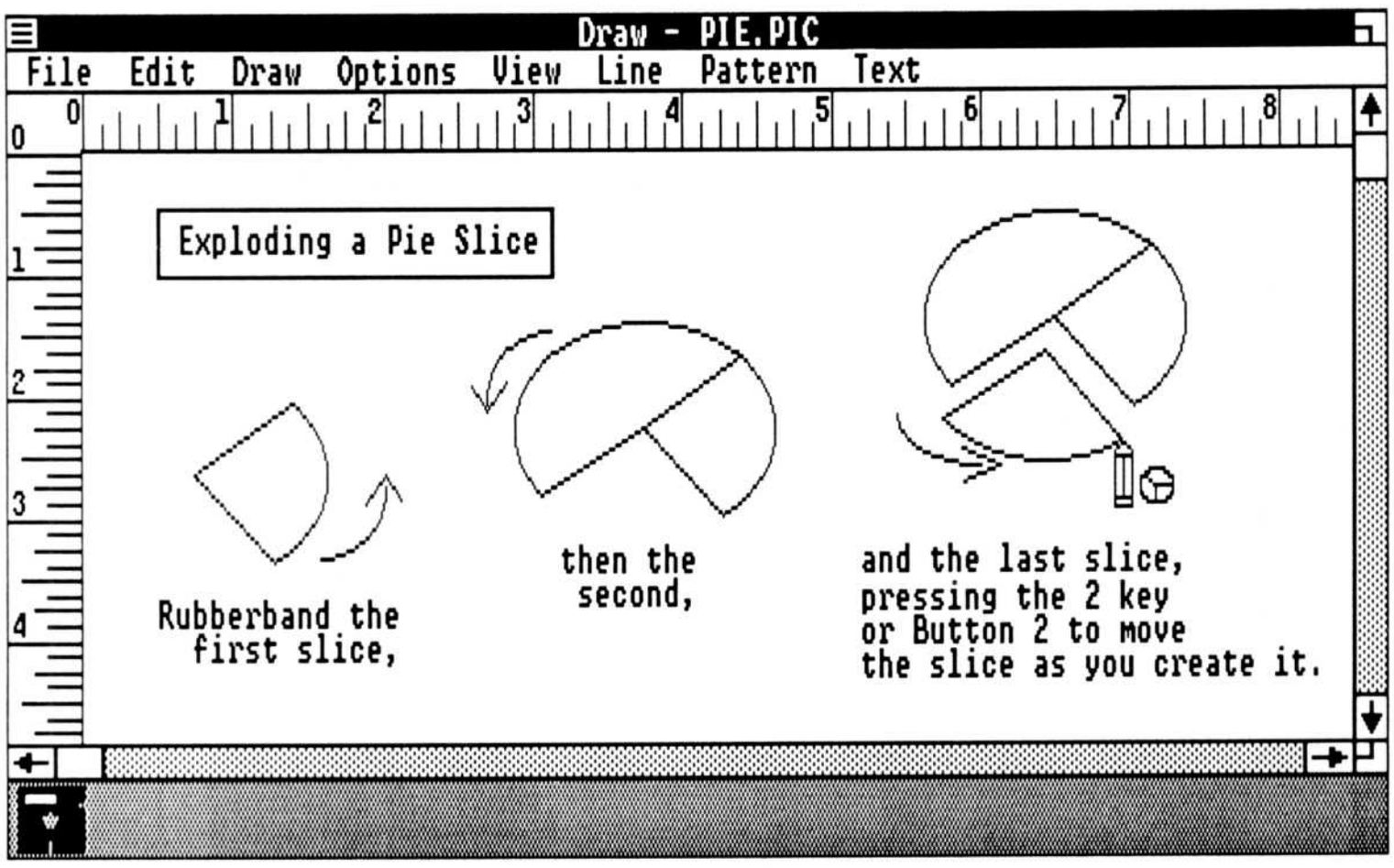
Pies and pie slices draw in the current line color, width, and style selected in the Line menu and automatically fill with the current color and pattern selected from the Pattern menu.

DRAW stores each pie slice as a separate symbol. Each slice can then be manipulated independently of the other slices. This makes it easy to fill slices with different colors or patterns and to explode pie slices for emphasis in a business graph.

If you hold down the 2 key or Button 2 while rubberbanding a pie slice, you can move the slice to a different location.

If you want to manipulate the entire pie, including all pie slices, use the Block Select command to select the entire pie.

As you create pie slices, delete an unsatisfactory slice by choosing Undo immediately from the Edit menu. Then create the slice again.



Creating a pie with the keyboard

To create a pie with pie slices:

1. Choose the Pie command from the Draw menu.
2. Move the pointer to the desired center of the pie.
3. Press and hold down the SPACEBAR.
4. Move the pointer to rubberband a circle.
5. Release the SPACEBAR.
6. Move the pointer to the position where the first slice is to start.
7. Press and hold down the SPACEBAR. The pie disappears.
8. Move the pointer either direction around the pie border to rubberband a pie slice.
9. When the pie slice is the desired size, release the SPACEBAR.
10. Repeat steps 6 through 9 to create additional pie slices. When the pie is full of slices, its creation is automatically completed.

Note When rubberbanding slices, take care to press and hold the SPACEBAR. Quickly pressing and releasing the SPACEBAR may end the creation process too soon.

Creating a pie with the mouse

To create a pie with pie slices with the mouse:

1. Choose the Pie command from the Draw menu.
2. Move the pointer to the desired center of the pie.
3. Press and hold down Button 1.
4. Move the pointer to rubberband a circle.
5. Release Button 1.
6. Move the pointer to the position where the first slice is to start.
7. Press and hold down Button 1. The pie disappears.
8. Move the pointer either direction around the pie border to rubberband a pie slice.
9. When the pie slice is the desired size, release Button 1.
10. Repeat steps 6 through 9 to create additional pie slices.
11. When you have created all of the pie slices, click Button 1 to complete the symbol.

Note Clicking Button 1 may end the creation process too soon. Take care to *press* Button 1 when creating the slices.

Freehand

To provide even greater flexibility in drawing symbols, DRAW includes a Freehand mode that allows you to create any symbol as if you were using pencil and paper.

Symbols created in Freehand mode automatically fill with the current color and pattern selected in the Pattern menu if the end point of the symbol is the same as the beginning point of the symbol.

Freehand symbols draw using the current line color, width, and style selected in the Line menu.

Hint Create complicated freehand symbols as several symbols. Creating a complex symbol in small pieces lets you alter small parts of the symbol without starting over. Use the Block Select and Combine commands to group the pieces into a single symbol when you are finished.

Creating a freehand symbol with the keyboard

To create a freehand symbol with the keyboard:

1. Choose the Freehand command from the Draw menu.
2. Press and hold down the SPACEBAR.
3. Move the pointer to draw a freehand symbol.
4. Release the SPACEBAR to complete the symbol.

Creating a freehand symbol with the mouse

To create a freehand symbol with the mouse:

1. Choose the Freehand command from the Draw menu.
2. Press and hold down Button 1.
3. Move the pointer to draw a freehand symbol.
4. Release Button 1 to complete the symbol.

Manipulating Symbols

Drawing symbols is only the first step in creating a drawing. You may want to edit the drawing by deleting symbols, adding symbols, changing the size or shape of symbols, or rearranging the symbols you have created.

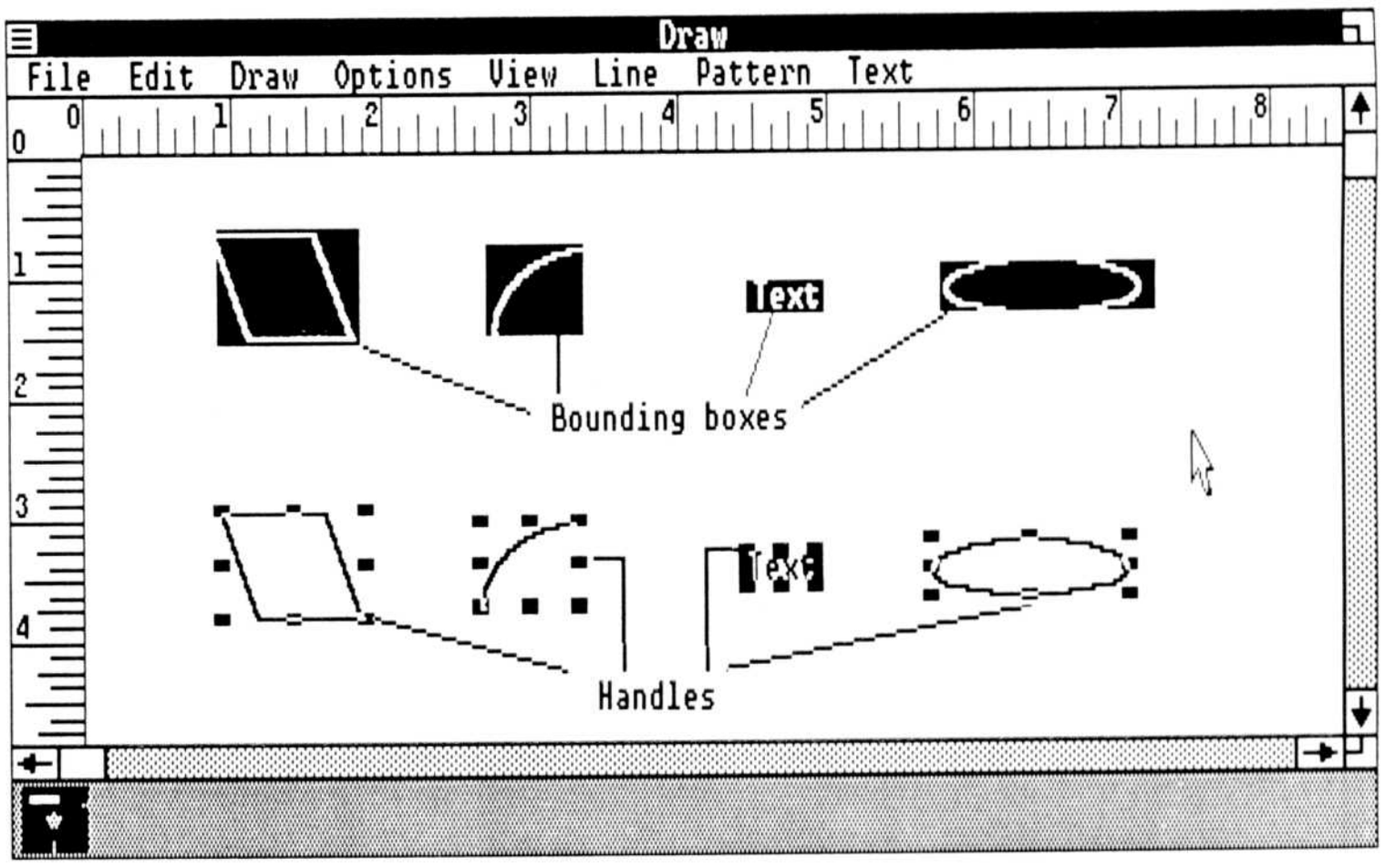
DRAW performs all of these operations, and more, in a simple and straight-forward way.

Selecting Single Symbols

Symbols are not automatically selected when you create them. If you want to perform any editing function on the symbol, such as duplicating it, you must first select it.

DRAW uses the concept of the ''bounding box'' for selecting symbols. Each symbol has an invisible box surrounding it that encompasses the entire symbol. A selected symbol displays ''handles'' that appear on the corners and in the center of the sides of the bounding box of that symbol. Handles on lines appear at each end of the line.

Bounding box of a symbol and handles



To select a single symbol

To select a single symbol to edit:

- Point within the bounding box of the symbol and press the SPACEBAR or click Button 1.

  If several symbols are overlapping, repeatedly pressing the SPACEBAR or clicking Button 1 alternately selects each symbol so that you can easily select the one you want.

After you select the symbol, you can edit it in a wide variety of ways as described on the following pages.

Selecting Groups of Symbols

Sometimes you may want to perform the same function on several symbols at the same time. Use the Block Select command to select a group of symbols. Block selected symbols remain as a group for one operation.

If you want to combine the block selected symbols into one complex symbol permanently, choose the Combine command. To break apart a combined symbol, choose the Break Apart command.

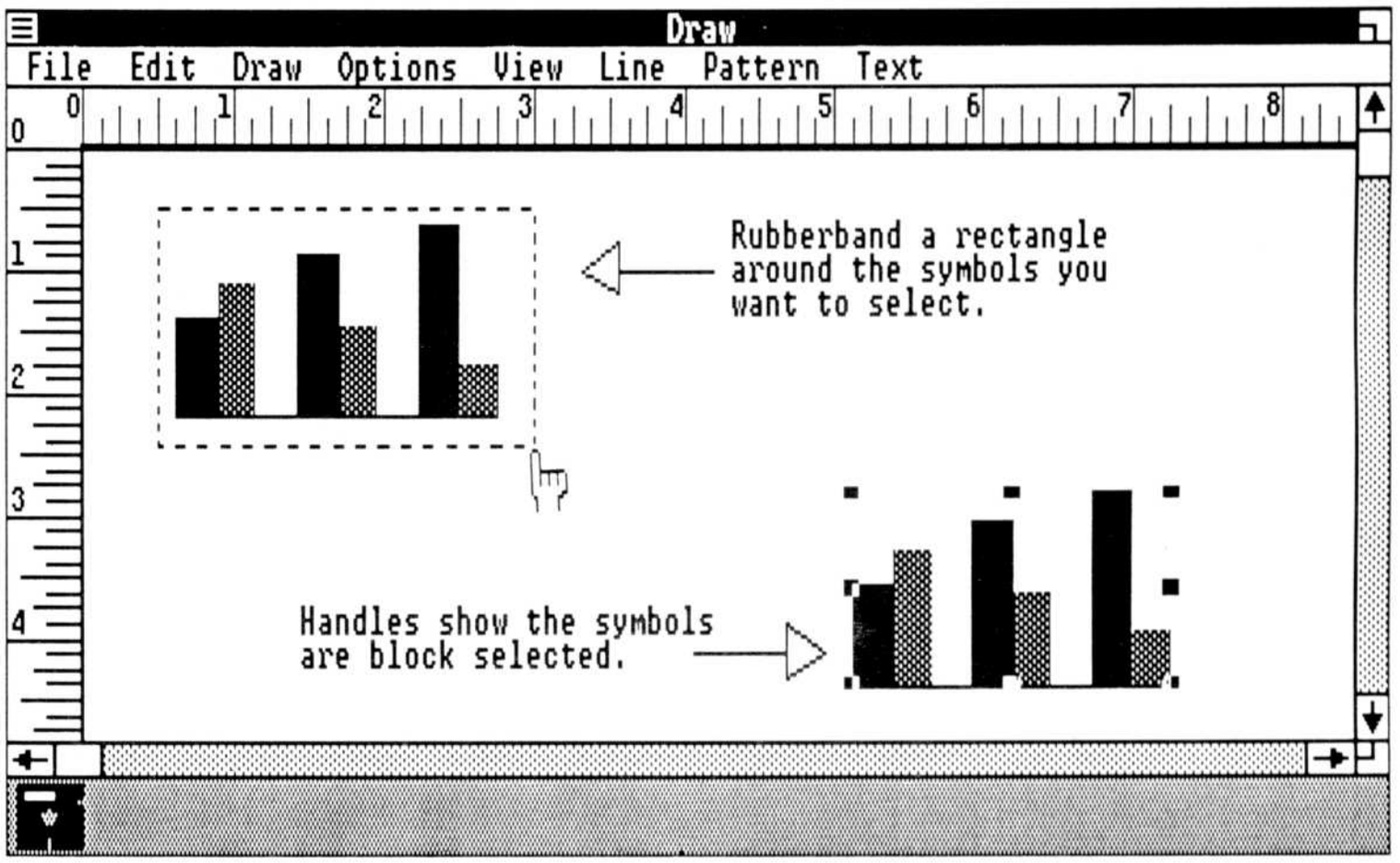
Block selecting with the keyboard

To select a group of symbols with the keyboard:

1. Choose the Block Select command from the Edit menu.
2. Press and hold down the SPACEBAR.
3. Move the pointer to rubberband a dotted rectangle that completely encloses the symbols.

Note You can move the origin point of the block select rectangle by pressing the 2 key while you press and hold the SPACEBAR. Then release the 2 key and continue rubberbanding the rectangle.

4. Release the SPACEBAR. Handles appear around a bounding box that surrounds all the symbols enclosed in the rubberbanded rectangle.



Block selecting with the mouse

To select a group of symbols with the mouse:

1. Choose the Block Select command from the Edit menu.
2. Press and hold down Button 1.
3. Move the pointer to rubberband a dotted rectangle that completely encloses the symbols.

Note You can move the origin point of the block selected rectangle by pressing Button 2 while you press and hold Button 1. Then release Button 2 and continue rubberbanding the rectangle.

4. Release Button 1. Handles appear around a bounding box that surrounds all the symbols enclosed in the rubberbanded rectangle.

Combining a Group of Symbols

The Combine command lets you create a complex symbol made up of individual symbols.

Use the Block Select command to select the symbols to combine and then choose the Combine command from the Options menu. The symbols automatically combine into one symbol.

Combining symbols

To combine a group of symbols:

1. Create two or three symbols using any command from the Draw menu.

2. Choose the Block Select command from the Edit menu.

3. Rubberband a rectangle around the symbols to select all of them. Handles appear around the bounding box of the block selected symbols.

4. Choose the Combine command from the Options menu. The block selected symbols remain one symbol until you break them apart with the Break Apart command.

Note Standard text cannot be combined.

Breaking Apart Combined Symbols

You can break a combined symbol apart into its original components.

Breaking apart combined symbols

To break apart combined symbols:

1. Select the combined symbol.
2. Choose the Break Apart command from the Options menu. The combined symbol automatically returns to the original individual symbols. It remains block selected until you deselect it or select one of the individual symbols.

If one of the original symbols is a combined symbol, that symbol can, in turn, be broken apart using the Break Apart command. This process can be repeated until all of the combined symbols are broken into individual symbols.

Only one combined symbol should be selected when you choose the Break Apart command. If you use the Block Select command to select multiple combined symbols, the Break Apart command is dimmed (appears gray).

Dragging Symbols

Dragging symbols simply means selecting a symbol or group of symbols, pressing and holding down the SPACEBAR or Button 1, and moving the pointer to a new location. The bounding box of the symbol(s) moves with the pointer as you move the pointer across the drawing. When you release the SPACEBAR or Button 1, the symbols appear in the new location.

If you are not in a drawing mode, that is, if the pointer appears as a plain arrow without a special cursor, you do not have to select the symbol before dragging it. Simply point, press, and drag.

To return a symbol to its original position, press ESC while still pressing the SPACEBAR or Button 1.

Duplicating Symbols

If you want to make duplicates of a symbol or group of symbols and place the duplicate in another location in the drawing, you can use either the Duplicate command from the Options menu or the SHIFT/Drag method.

Duplicate Command Use the Duplicate command to copy symbols within a drawing.

To duplicate a symbol or group of symbols using the Duplicate command:

Duplicating symbols with the keyboard

1. Select the symbol to copy. Use the Block Select command to select more than one symbol.

2. Choose the Duplicate command from the Options menu.
3. Move the pointer within the bounding box of the selected symbols.
4. Press and hold down the SPACEBAR.
5. Drag the duplicate of the symbols to a new location. The bounding box of a duplicate of the selected symbol(s) appears and is dragged as you move the pointer.
6. Release the SPACEBAR.

Duplicating symbols with the mouse

To duplicate symbols with the mouse:

1. Select the symbol to copy. Use the Block Select command to select more than one symbol.
2. Choose the Duplicate command from the Options menu.
3. Point in the bounding box of the selected symbols.
4. Press and hold down Button 1.
5. Drag the duplicate of the symbols to a new location. The bounding box of a duplicate of the selected symbol(s) appears and is dragged as you move the pointer.
6. Release Button 1.

SHIFT/Drag The SHIFT key method is an extremely fast way of making copies of symbols in the drawing. It works in any command mode.

SHIFT/Drag with the keyboard

To duplicate symbols using the SHIFT key:

1. Press and hold down the SHIFT key.
2. Move the pointer within the bounding box of the symbols and press and hold down the SPACEBAR.
3. Drag the duplicate of the symbols to a new location. The bounding box of a duplicate of the selected symbol(s) appears and is dragged as you move the pointer.
4. Release the SHIFT key and the SPACEBAR.

SHIFT/Drag with the mouse

To duplicate symbols using the SHIFT key and the mouse:

1. Press and hold down the SHIFT key.
2. Point in the bounding box of the symbols and press and hold down Button 1.
3. Drag the duplicate of the symbols to a new location. The bounding box of a duplicate of the selected symbol(s) appears and is dragged as you move the pointer.
4. Release the SHIFT key and Button 1.

Deleting Symbols

You can delete symbols that you no longer want in your drawing.

Deleting a symbol

To delete a symbol:

1. Select the symbol you want to delete.
2. Choose the Delete command from the Edit menu. The symbol disappears.

Hint If you delete the wrong symbol or for any reason want to restore a symbol that you have just deleted, use the Undo command from the Edit menu immediately after deleting the symbol. If any other operation that changes your drawing is performed after you delete the symbol, Undo does not restore the deleted symbol.

Deleting a group of symbols

To delete more than one symbol:

1. Choose the Block Select command from the Edit menu.
2. Rubberband a rectangle around the group of symbols you want to delete.
3. Choose the Delete command from the Edit menu. The symbols are deleted.

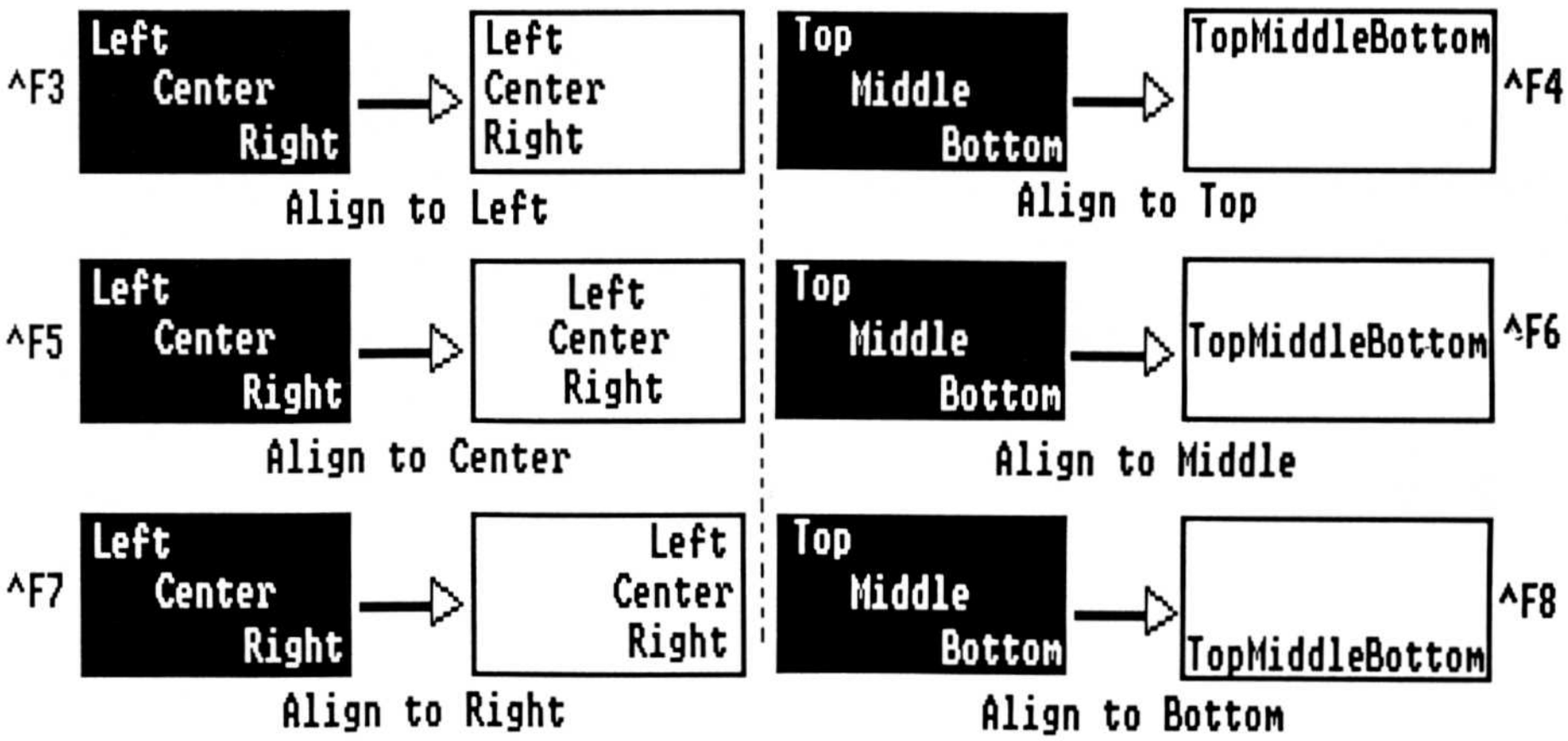
If you choose Undo before any other changes are made to the drawing, Undo restores the deleted symbols.

Note The New command in the File menu can be used to delete all symbols in a drawing because it displays an empty drawing. You have an opportunity to save the current symbols in a file before the screen clears and an empty drawing area is displayed.

Aligning Symbols

To make it easy for you to line up symbols, including lines of text, DRAW provides the Align command in the Options menu. With the Align options, you can align selected symbols in several ways:

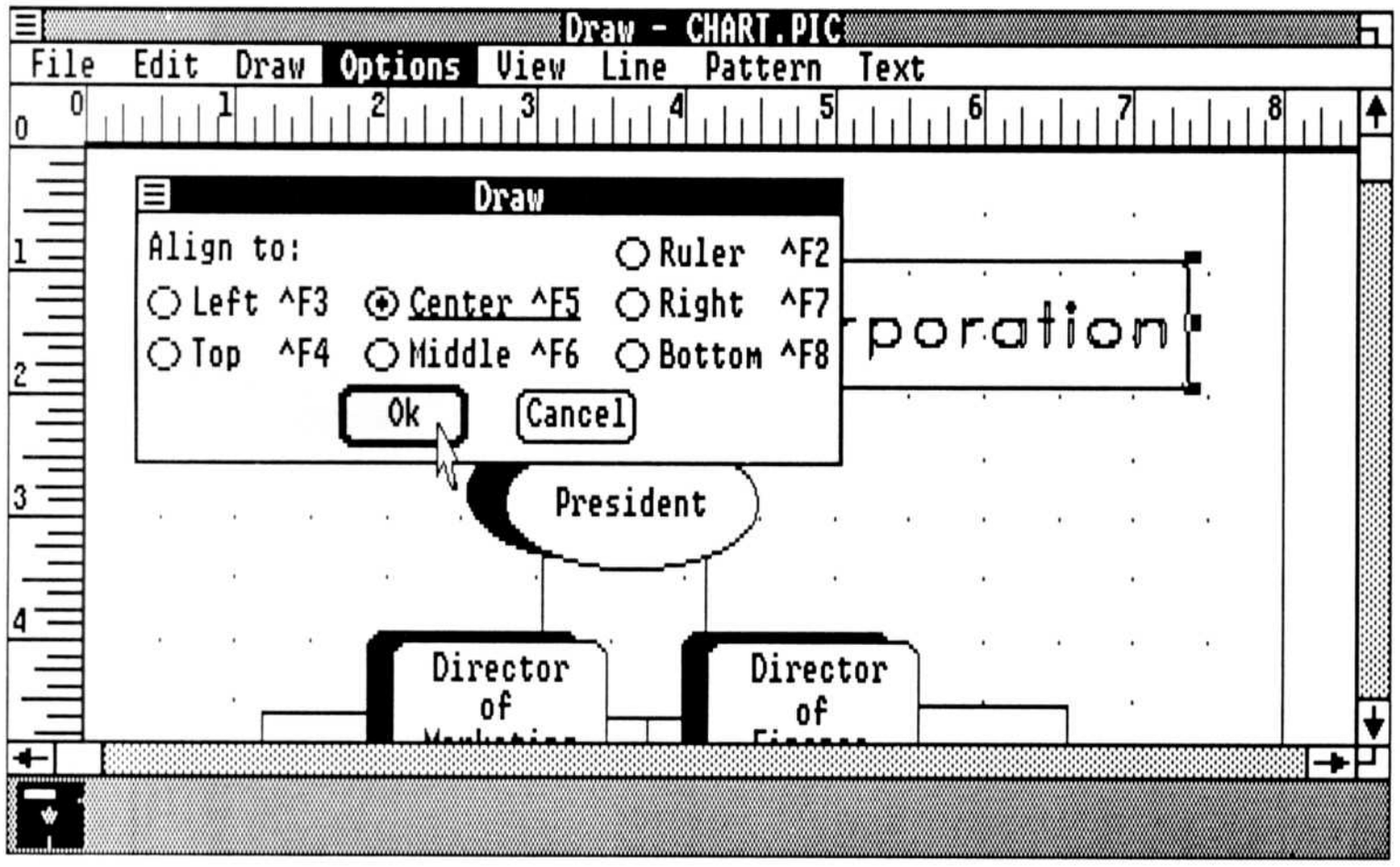
- Align to Ruler aligns a selected symbol(s) to the current ruler divisions.
- Align to Left aligns selected symbols to the left side of the bounding box of those symbols.
- Align to Center centers selected symbols in the bounding box.
- Align to Right aligns selected symbols to the right side of the bounding box.
- Align to Top aligns selected symbols to the top of the bounding box.
- Align to Middle centers selected symbols midway between the top and the bottom of the bounding box.
- Align to Bottom aligns selected symbols to the bottom of the bounding box.



Aligning selected symbols

To align selected symbols:

1. Block select the symbols you want to align.
2. Choose the Align command. A dialog box appears with the alignment choices.



3 Choose an Align option, such as Align to Center.

4 Choose Ok. The selected symbols align accordingly.

Use the Align options to line up the bullets in a bulleted list, to center lines of text, or to assure a straight left or right margin.

All of the Align choices have accelerator keys which bypass the display of the Options menu and the dialog box. If you press ^F3, for example, the selected symbols align with one another to the left. A list of accelerator keys for the Align options appears in the dialog box. A complete list of accelerator keys is in Appendix A.

If you have a list of words or lines of text in a box, block select the text symbols and align the text to the left or to the right. Then, block select the rectangle and the text inside and move the symbol where you want it in the drawing. If you want to center the text in the rectangle, block select both the rectangle and the text and choose the Align to Center option.

Note The Align to Right and Align to Center options may not produce expected results with Standard text, depending on your printing device. If you have a problem, use Graphics text, which will align properly with all of the Align options.

If you create a symbol when Snap to Ruler is turned off and then want to align the symbol to the current ruler divisions, you can use the Align to Ruler function in the Options menu.

Aligning a symbol to the ruler

First, create some symbols with Snap to Ruler off:

1. Choose the Set Rulers/Grid command from the View menu.
2. Choose Snap to Ruler to toggle it off and choose Ok.
3. Draw a rectangle with the Rectangle command from the Draw menu.

Then, to align a symbol to the current ruler divisions:

4. Select the rectangle. You may need to use the Block Select command because symbols created with Snap to Ruler off may be difficult to select.
5. Choose the Set Rulers/Grid command and choose the Snap to Ruler option. The X in the box indicates the option is on.
6. Choose the Align command from the Options menu and choose the Align to Ruler option. The symbol aligns to the closest intersection of ruler divisions.

Filling Symbols

All symbols that can be filled draw in the current fill color and pattern selected from the Pattern menu. The default fill pattern is "None," that is, the default is for symbols not to fill.

With the exception of arcs and lines, all symbols can be filled. Freehand and jointed line symbols, however, fill only if the beginning point and end point of the symbol are the same.

To change the fill color or pattern of a symbol, you first select the symbol and then choose the new fill color or pattern from the Pattern Menu. The selected symbol fills with the new color or pattern chosen from the Pattern menu.

To remove the fill color and pattern from a selected symbol, choose the None command from the Pattern menu.

When a pattern is selected and you select a color with the Color command, a selected symbol and subsequent symbols fill with both the pattern and the color you chose. If you want to fill subsequent symbols with solid color, choose the Solid command and then choose the color with the Color command.

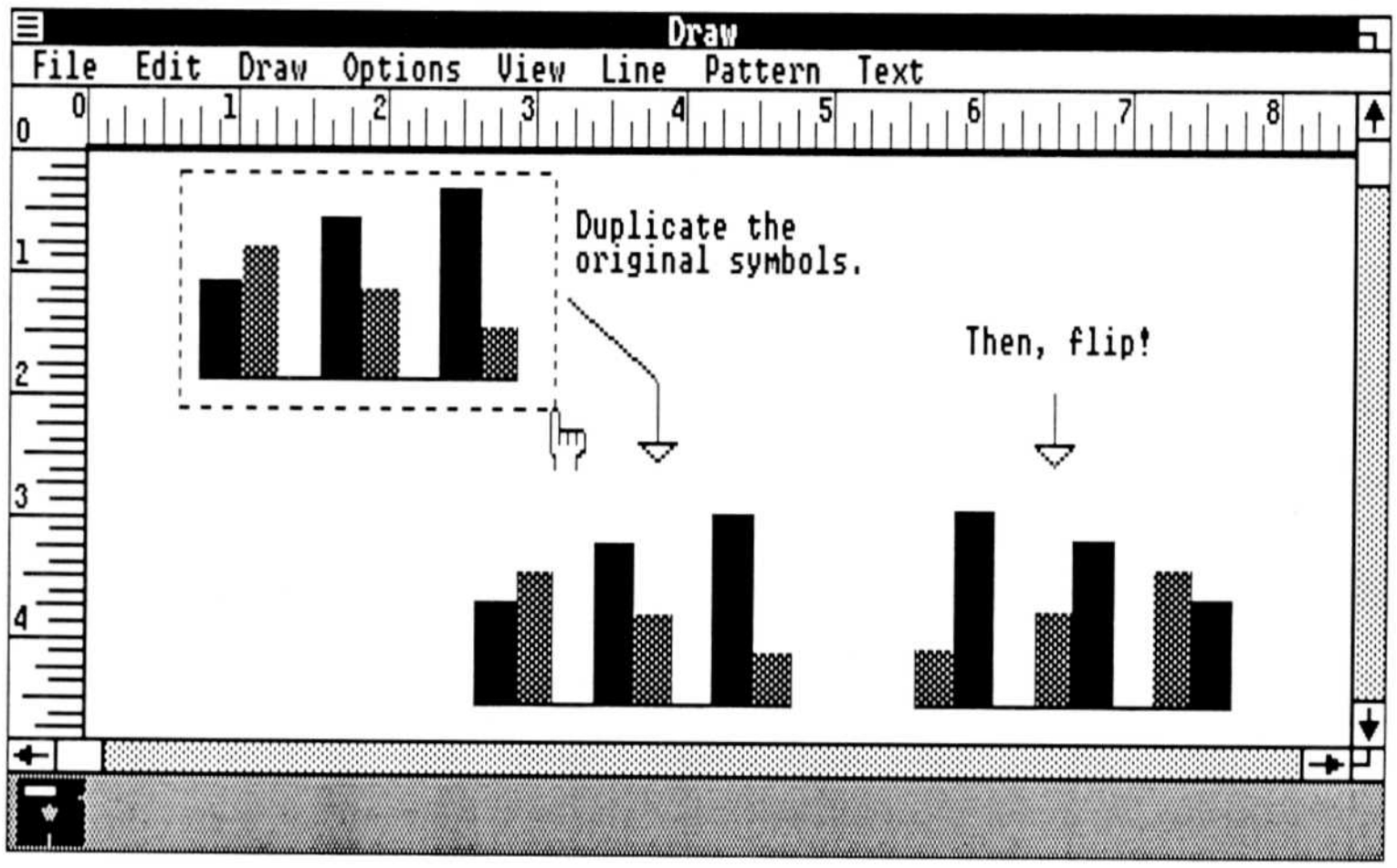
Note If the fill color is the same as the background color, the pattern is not visible. To make the fill pattern visible, simply change the fill color or background color.

Flipping Symbols

You can flip symbols horizontally using the Flip command in the Options menu. Each time you choose the Flip command, the selected symbol(s) flips to a reverse image.

All symbols flip within the bounding box that encloses the symbol. If you use Block Select to indicate a group of symbols to flip, the entire group of symbols flips within the bounding box enclosing the group.

To have two symbols mirror each other, make a duplicate of one symbol and flip the duplicate.



Flipping a symbol

To flip a symbol:

1. Choose the Polygon command from the Draw menu.
2. Draw an asymmetrical polygon.
3. Select the polygon.
4. Choose the Flip command from the Options menu. The polygon flips horizontally.

Note Text cannot be flipped.

Rotating Symbols

You can rotate symbols counterclockwise in ninety degree increments using the Rotate command. Each time you choose the Rotate command from the Options menu, the selected symbol(s) rotates ninety degrees.

All symbols rotate around the center point of the bounding box that encloses the symbol. If you use Block Select to indicate a group of symbols to rotate, the entire group of symbols rotates around the center point of the bounding box enclosing the group.

Rotating a symbol

To rotate a symbol:

1. Choose the Polygon command from the Draw menu.
2. Draw an asymmetrical polygon.
3. Select the polygon.
4. Choose the Rotate command from the Options menu. The symbol rotates ninety degrees counterclockwise.

Note Standard text cannot be rotated.

Stretching and Shrinking Symbols

After you create a symbol, you can change its size and shape. Stretch or shrink a selected symbol by dragging a handle.

All selected symbols except lines display handles on each corner and in the center of each side of the bounding box. You drag a corner handle to stretch or shrink a symbol proportionally, changing the symbol's size but not its shape. You drag a side handle to stretch or shrink a symbol nonproportionally, changing the symbol's size and shape.

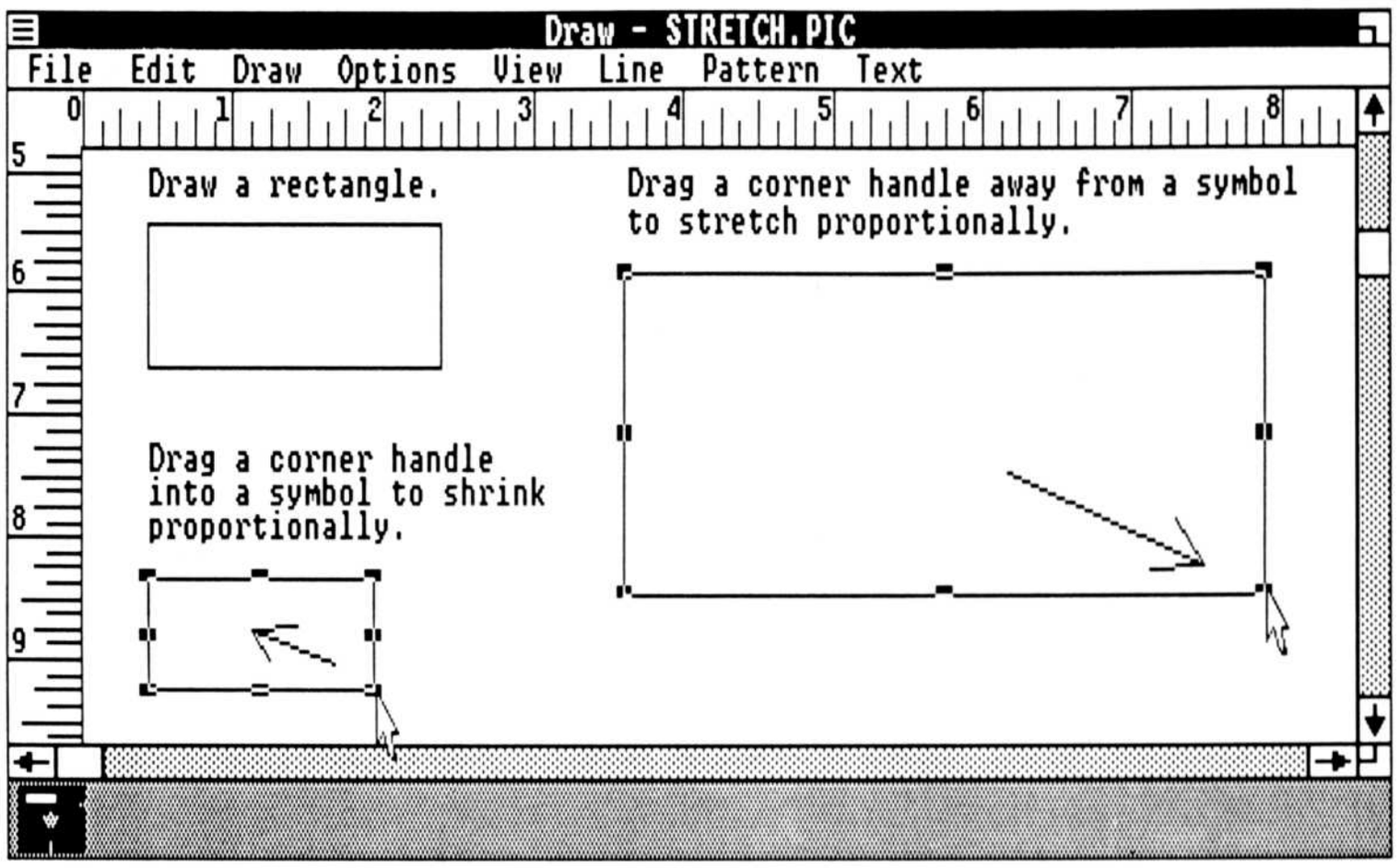
Lines have handles at each end of the line. By dragging the handle at either end of a line, you can begin rubberbanding the line just as if you were creating a new line.

Stretching or shrinking proportionally

To stretch or shrink a symbol proportionally:

1. Draw a rectangle using the Rectangle command from the Draw menu.
2. Select the rectangle. Handles appear around the symbol.
3. Point to a corner handle and press and hold the SPACEBAR or Button 1.
4. Drag the handle by moving the pointer away from the symbol. The symbol expands, stretching proportionally in all directions.

Note To end a stretch operation and return the symbol to its original size and shape, press ESC while dragging a handle.



5 Drag the handle by moving the pointer into the symbol. The symbol shrinks proportionally.

6 Release the SPACEBAR or Button 1 when the symbol is as you want it.

Stretching or shrinking a symbol nonproportionally

To stretch or shrink a symbol nonproportionally:

1 Draw an ellipse using the Ellipse command from the Draw menu.

2 Select the ellipse. Handles appear around the symbol.

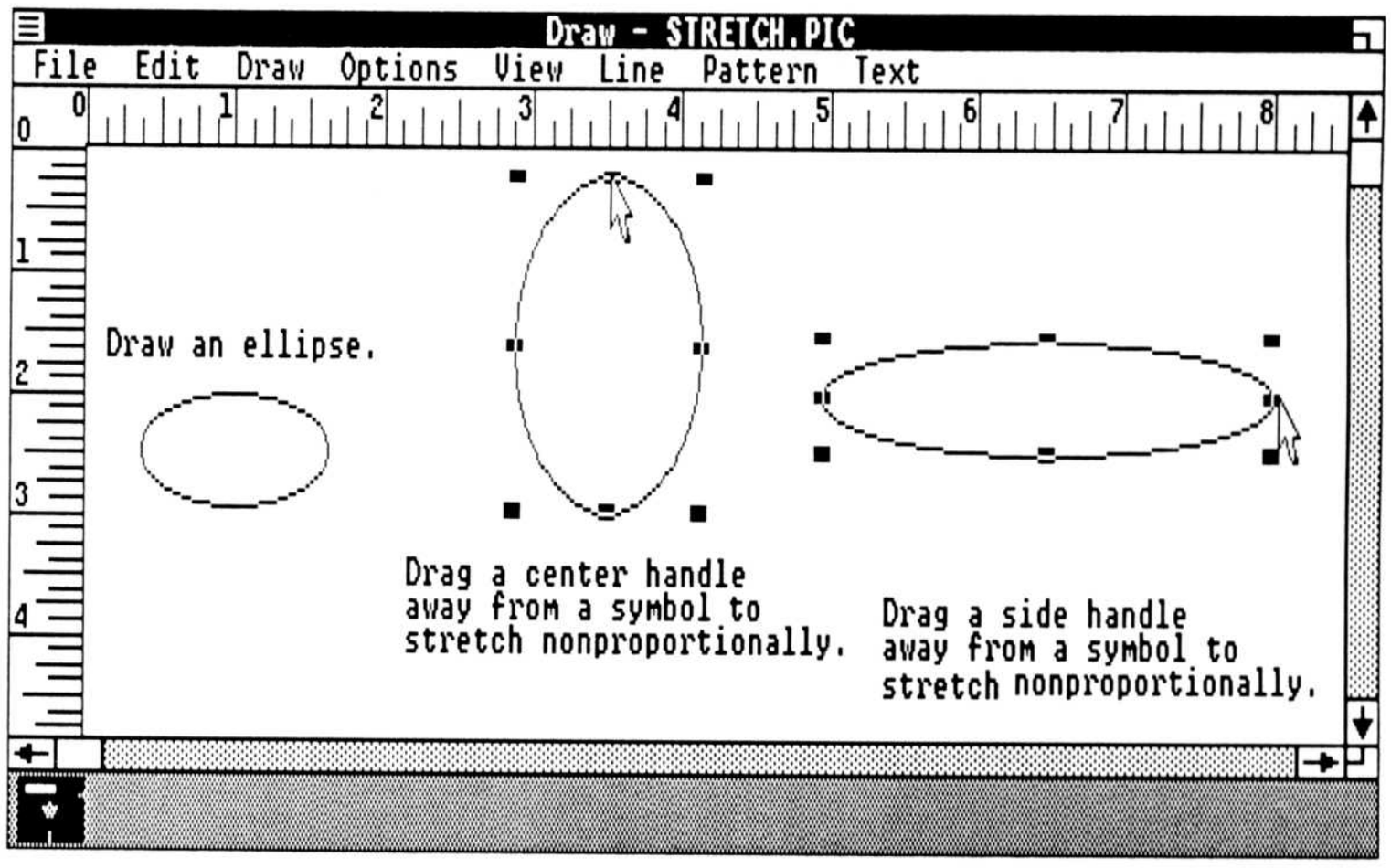
3 Point to the top center handle and press and hold the SPACEBAR or Button 1.

4 Drag the handle by moving the pointer toward the top of the drawing window. The symbol stretches nonproportionally.

5 Release the SPACEBAR or Button 1.

6 Point to a side handle and press and hold the SPACEBAR or Button 1.

7 Drag the handle by moving the pointer away from the symbol. The symbol stretches nonproportionally in the other direction.



8 Drag the handle by moving the pointer into the symbol to shrink it nonproportionally.

9 Release the SPACEBAR or Button 1 when the symbol is as you want it.

Move to Bottom / Move to Top

You can rearrange the order in which overlapping symbols are layered using the Move to Top and Move to Bottom commands in the Options menu.

Unless the symbols are filled, the order in which they overlap may not be obvious in the drawing.

DRAW keeps track of the order in which overlapping symbols were created and always keeps the symbols in that order unless you change it. The symbol created first is on the bottom and all symbols created after it are on top.

The Move to Top and Move to Bottom commands work with any number of overlapping symbols and may be used on block selected symbols to move an entire group.

Moving a symbol to the top

To move an overlapping symbol to the top:

1. Choose the Solid command from the Pattern menu.
2. Choose the Rectangle command from the Draw menu and create a rectangle.
3. Choose a pattern from the Pattern menu.
4. Choose the Ellipse command from the Draw menu and create an ellipse overlapping the rectangle.
5. Select the rectangle.

Note Repeatedly selecting overlapping symbols alternately selects each one.

6 Choose the Move to Top command from the Options menu. The rectangle overlaps the ellipse.

7 Choose the Move to Bottom command from the Options menu. The rectangle moves to the bottom and the ellipse is again on top.

Undo

The Undo command in the Edit menu reverses the last function performed which results in a change to your drawing. This includes symbol creation, symbol movement, delete, line widths and styles, fills, etc.

Undo must be chosen immediately after the action you want reversed and before any other changes are made which permanently affect the drawing.

Undoing an action

To undo an action:

1 Choose the Ellipse command from the Draw menu.

2 Create a circle.

3 Select the circle.

4 Choose a pattern from the Pattern menu. The circle fills with the pattern.

5 Choose the Undo command from the Edit menu. The pattern disappears.

6 Choose Undo again. The pattern reappears.

Using Text

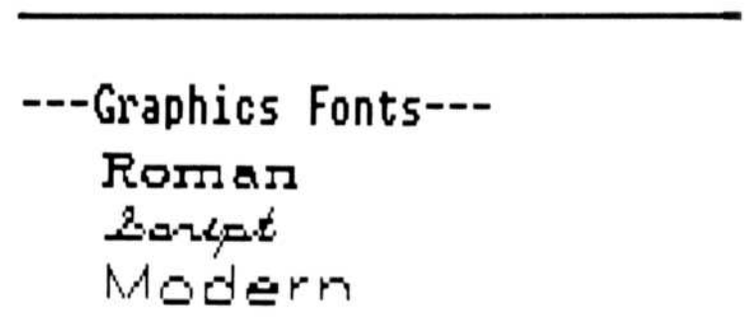
Titles, labels, and captions are an important part of a presentation or a drawing. DRAW gives you a choice of typefaces, type sizes, text colors, and emphasis features.

Graphics and Standard Text Fonts

Styles of type are called "fonts." DRAW contains several fonts and supports fonts compatible with Microsoft Windows. Any fonts you have on the system diskette or in the subdirectory where DRAW is loaded are displayed in the Text menu.

DRAW provides two types of fonts: Graphics and Standard. Each has unique capabilities.

Graphics Fonts Graphics fonts can be stretched and rotated like any drawing symbol, and can be combined with drawing symbols with the Combine command. Graphics fonts are printed in the exact size indicated in the drawing and are excellent for labels and titles.



To use Graphics fonts, simply select the Graphics font you want from the Text menu. A check mark appears next to the selected font.

Standard Fonts Standard Fonts draw more quickly than Graphics fonts, but they cannot be combined, rotated, or stretched. They are only visible in the View Actual Size mode. Standard fonts are ideal for creating longer text sections and have a more attractive appearance in the standard point sizes (8, 10, and 12) than do the Graphics fonts. Standard fonts print within one point ($\frac{1}{72}$") of the size indicated in the drawing.

To use Standard fonts, simply select the Standard font you want from the Text menu. A check mark appears next to the selected font.

Entering Text

Use the Text command in the Draw menu to add text to a drawing.

DRAW treats each line of text that you end

by pressing the ENTER key,

by moving the text cursor to a new location, or

by leaving the Text mode

as one symbol. You may select, move, duplicate, and delete text symbols just like any other symbol.

Tab stops are built into DRAW at every fifth space from the left side of the drawing area. These tabs are convenient for lining up text and for making columns. Tabs are active after the Text command is chosen from the Draw menu and the text cursor is displayed. Pressing the TAB key moves the text cursor to the next tab position. Pressing SHIFT-TAB moves the text cursor to the tab position to the left.

In the Insert mode, pressing the TAB key inserts five spaces to the next tab stop.

Entering text with the keyboard

To enter text in your drawing:

1. Choose the Text command from the Draw menu.
2. Move the pointer to a starting point for the text.
3. Press and release the SPACEBAR to place a blinking text cursor at that location.

Note To make the text cursor appear, be sure to press, hold, and release the SPACEBAR.

4. Begin typing. The size, font, and emphasis features of the text are those currently selected in the Text menu.

To end text entry:

To end a line of text and continue entering text on the next line as you would when typing a paragraph, press the ENTER key. The cursor moves to the next line and aligns below the beginning of the previous line.

To end text entry at the current location, press ESC. To begin text entry at a new location, move the pointer and press and release the SPACEBAR.

Entering text with the mouse

To enter text in your drawing with the mouse:

1. Choose the Text command from the Draw menu.
2. Move the pointer to a starting point for the text.
3. Press and release Button 1 to place a blinking text cursor at that location.

Note To make the text cursor appear, be sure to *press*, not click, the mouse button.

4. Begin typing. The size, font, and emphasis features of the text are those currently selected in the Text menu.

To end text entry:

To end a line of text and continue entering text on the next line as you would when typing a paragraph, press the ENTER key. The cursor moves to the next line and aligns below the beginning of the previous line.

To end text entry at the current location, move the pointer to a different part of the drawing and either click Button 1 to end the Text mode or press and release Button 1 to begin text entry at the new location.

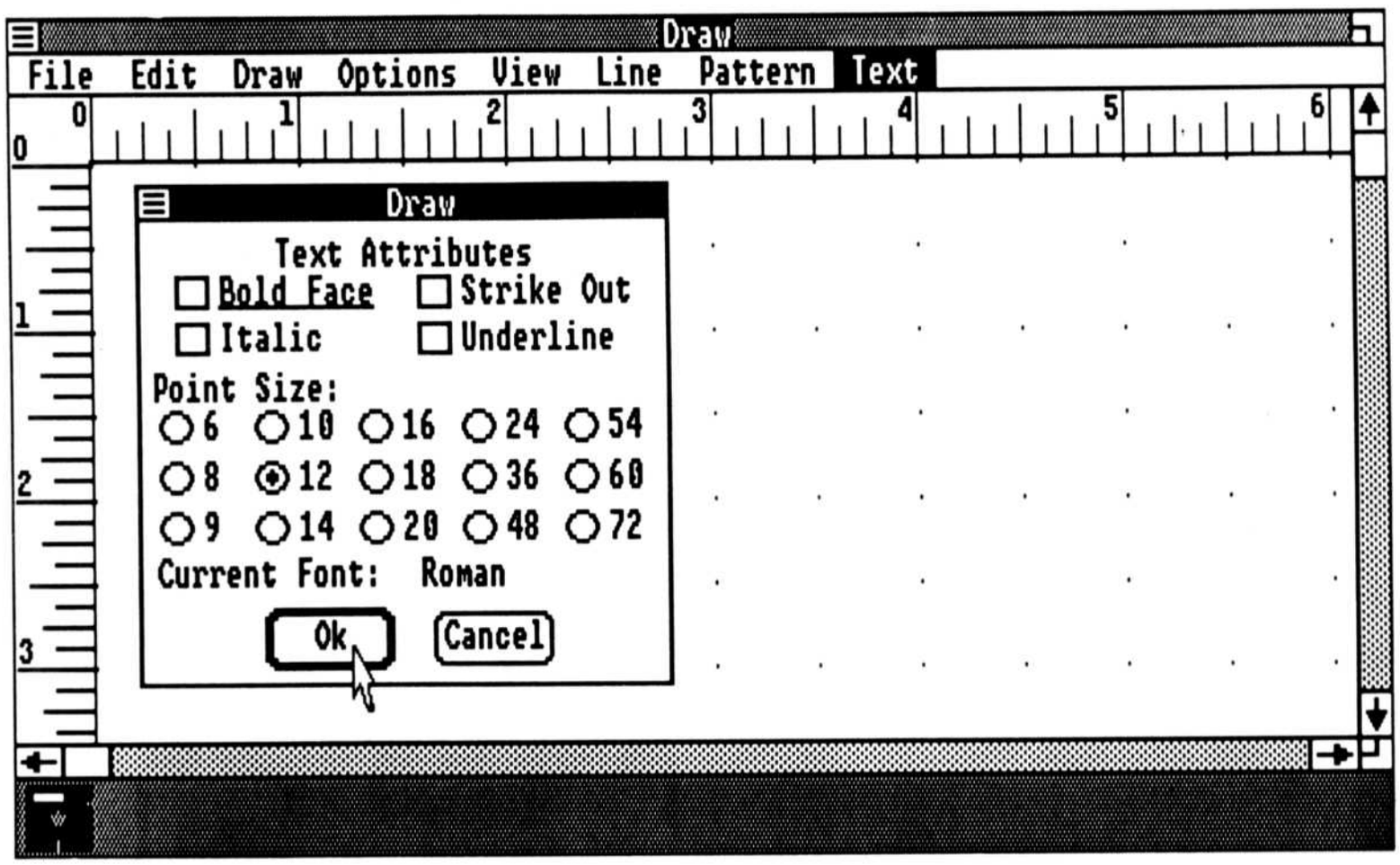
Emphasizing Text

The ability to emphasize text adds a new dimension to otherwise bland headings or labels. You can emphasize text in four ways:

- Bold Face
- Strike Out
- Italics
- Underline

You select the emphasis features from a dialog box using the Set Attributes command from the Text menu. You can use each feature alone or combined with any other feature. For example, you can bold and italicize the same text for added emphasis.

Set Text Attributes dialog box



Emphasizing text

To emphasize text with the keyboard:

1. Choose the Set Attributes command from the Text menu.
2. Press the TAB key to move to the emphasis feature area.
3. Use the DIRECTION keys to move to "Bold Face" and press the SPACEBAR to select it.
4. Use the DIRECTION keys to move to "Italics" and press the SPACEBAR to select it.
5. Press ENTER to close the dialog box.
6. Choose the Text command from the Draw menu.
7. Move the pointer into the drawing area and press the SPACEBAR. A text cursor appears.
8. Type your name. The text appears in bold face and italics.

To emphasize text with the mouse:

1. Choose the Set Attributes command from the Text menu.
2. Click "Bold Face" and "Italics."
3. Click Ok.
4. Choose the Text command from the Draw menu.

5 Move the pointer into the drawing area and press Button 1. A text cursor appears.

6 Type your name. The text appears in bold face and italics.

If you want to emphasize one word in a line of text, type the text up to the word you want emphasized, move the pointer over one space, and press and release Button 1.

You are actually ending the creation of the first text symbol and beginning creation of a new text symbol.

Select the desired emphasis features from the Text menu. Then type the word. The word appears using the emphasis features you selected.

To type the remainder of the line using the normal type style, move the text cursor over one space as you did to type the emphasized word, set the original text attributes from the Text menu, and finish typing the line.

Text Size

You select the size of text from the Text Attributes dialog box. Choose the Set Text Attributes command from the Text menu.

The size of the text is indicated in points. A point is equivalent to 1/72 of an inch. Text used in books typically ranges from 8 to 12 points. The point size for text in this manual is 11.

Choosing a point size for text with the keyboard

To choose a point size for text:

1. Choose the Set Attributes command from the Text menu.
2. Press the TAB key to move to the point size area.
3. Use the DIRECTION keys to move to point size 24 and press the SPACEBAR to select it.
4. Press ENTER to close the dialog box.
5. Choose the Text command from the Draw menu.
6. Move the pointer into the drawing area and press the SPACEBAR. A text cursor appears.
7. Type your name. The text appears in 24 point type.

Choosing a point size for text with the mouse

To choose a point size for text with the mouse:

1. Choose the Set Attributes command from the Text menu.
2. Click the option button next to point size 24.
3. Click Ok.
4. Choose the Text command from the Draw menu.

5 Move the pointer into the drawing area and press Button 1. A text cursor appears.

6 Type your name. The text appears in 24 point type.

Text Color

You select the color for text with the Set Color command in the Text menu.

See the discussion of color and a description of the Set Color dialog box on pages 101–103 in Chapter 3, ''The Basics.''

Editing Text

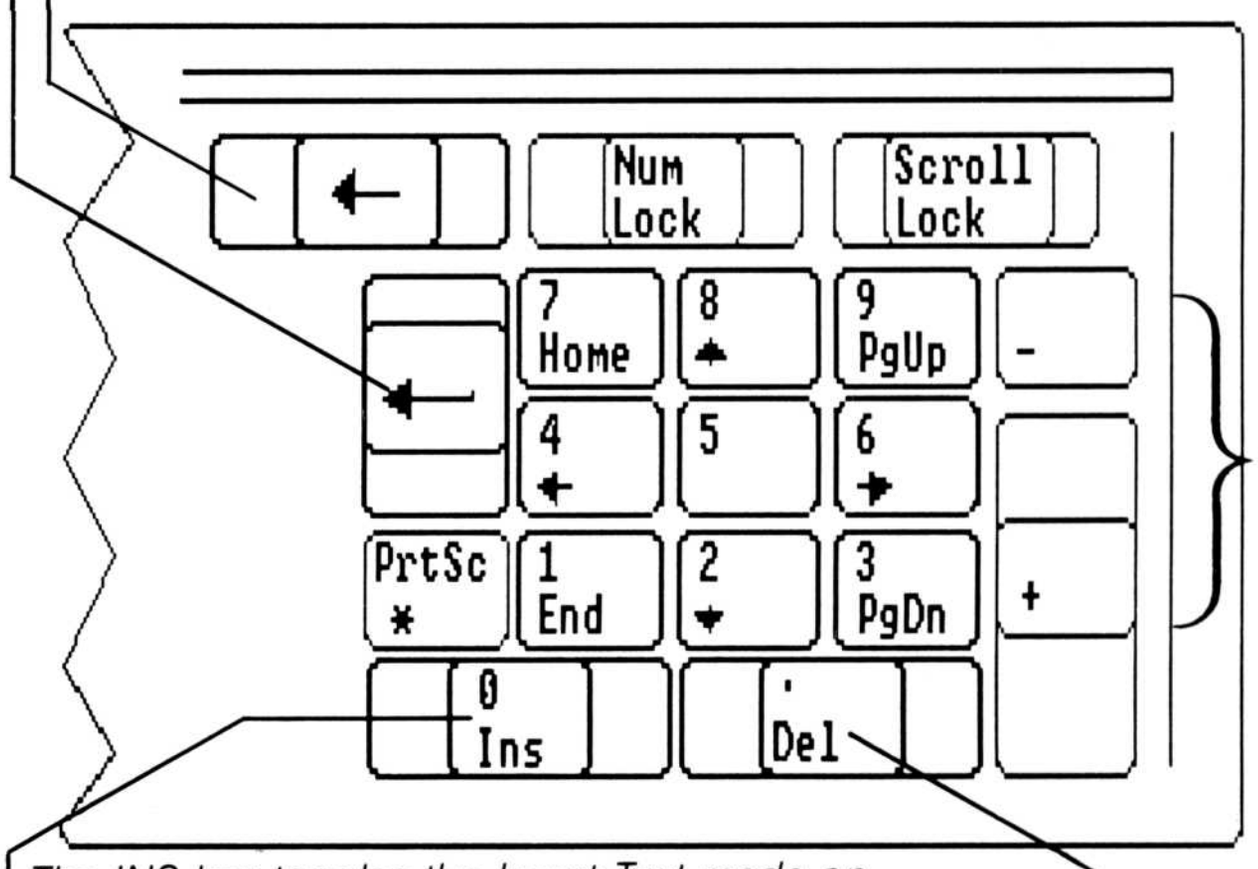
You can edit text that you type in a drawing by inserting, deleting, and overstriking characters.

If you want to manipulate more than one line of text, such as a paragraph, you can use the Block Select command to select all the lines.

ENTER moves the cursor to the beginning of the next line. In Insert mode, ENTER ends a line at the cursor position and moves the following text to the next line.

The ARROW keys, the HOME key, and the END key move the cursor within lines of text.

The BACKSPACE key deletes the character to the left of the cursor. All characters to the right of the deleted character move one space to the left.



The INS key toggles the Insert Text mode on and off. When Insert is on, text is inserted in front of the character the cursor is on. In Insert mode, the cursor is a blinking rectangle.

The DEL key deletes the character the cursor is on. All characters to the right of the cursor move one space to the left.

Editing text

To edit text:

1. Choose the Text command from the Draw menu.
2. Move the pointer to the starting point for editing.
3. Press and release the SPACEBAR or Button 1 to place the blinking text cursor at that location.
4. Edit the line by inserting or deleting characters, or by overstriking the existing characters.

Note The attributes used to create the text are used for editing it, regardless of the current settings in the Text Attributes dialog box.

Editing by Changing the Attributes You can change the font, point size, and emphasis features of text in a drawing.

Changing text attributes

To change the attributes of text you previously entered:

1. Select the text you want to edit.
2. Choose the Set Attributes command from the Text menu.
3. Choose the new attributes from the dialog box or choose a new font from the Text menu.
4. Choose Ok or press ENTER. The selected text shows the new attributes.

Editing Rotated Graphics Text You can edit Graphics text that has been rotated. Before editing, use the Break Apart command on text that is combined with other symbols.

Editing rotated Graphics text

To edit rotated Graphics text:

1. Select the text symbol to edit.
2. Choose the Rotate command from the Options menu to return the symbol to its original alignment.
3. Choose the Text command from the Draw menu.
4. Edit the text by inserting or deleting, or by changing attributes as described above.
5. Choose the Rotate command again if you wish.

Editing Stretched Graphics Text You can edit Graphics text after it has been stretched. Before editing, use the Break Apart command on text that is combined with other symbols.

Editing stretched Graphics text

To edit stretched Graphics text:

1. Select the text symbol to edit.
2. Choose a point size in the Set Attributes dialog box to remove the stretching.
3. Edit the text.
4. Stretch the text again, if you wish.

Merging a Lotus Graph

You can easily add a Lotus 1-2-3 or Symphony graph to a DRAW file with the Merge Lotus Graph command in the File menu. Graphs in Lotus are sized to an 8″×10″ landscape page. In DRAW, the merged graph is sized to the current page.

When merged with a drawing, a graph is the same as any other group of symbols. The graph appears in DRAW block selected, but not combined. You can shrink or enlarge it and move it to the desired location in the drawing. Text appears in a graphics font, from the fonts installed with Windows, which you can change or edit.

As with any drawing, you can change the text attributes, flip or rotate symbols, change the line styles, add fill patterns, and change the colors of lines and patterns.

To enhance a Lotus or Symphony graph for a business presentation, you can

- annotate the graph, using any of DRAW's fonts and text attributes, by adding a title, a legend, or explanatory information
- compare graphs by placing two or more on a single page
- show differences in a line graph by changing the line widths or line styles of line segments or of whole lines to dotted or dashed-dotted
- distinguish bars or pie slices by adding color and fill patterns
- add new symbols, such as a border, people, a map, or office equipment to make your presentation outstanding.

Merging a Lotus graph

To merge a Lotus graph:

1. Choose the View Current Page command from the View menu. (You may want to scroll to a blank page for the graph.)

2. Choose the Merge Lotus Graph command from the File menu. The Open File dialog box appears.

3. Choose the filename of the graph just as you would to load a drawing. (Type the name of the subdirectory where the Lotus file is, if necessary.) The graph appears in the current page of the drawing.

4. Use a corner handle to shrink or stretch the graph to the size you want.

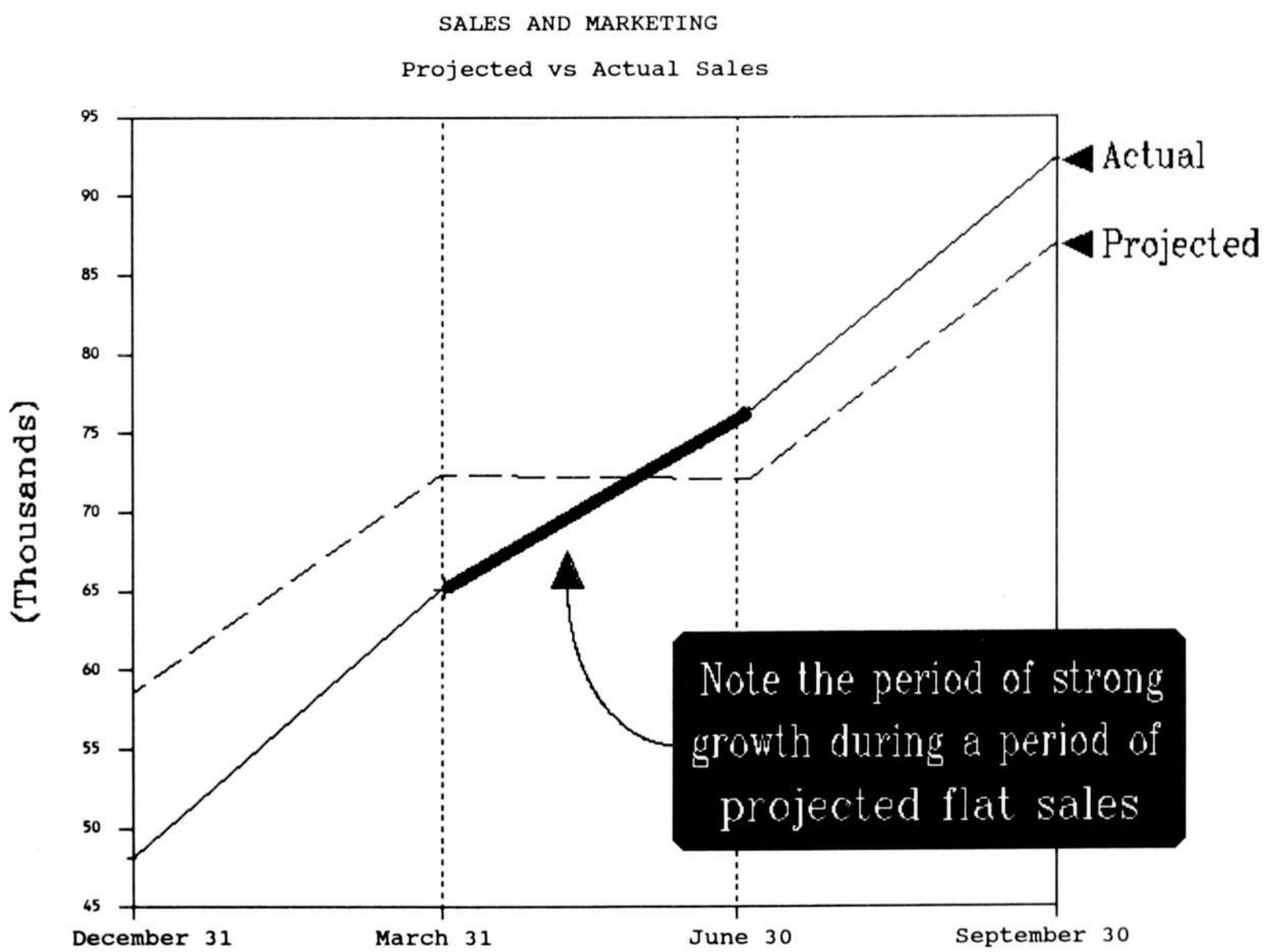
5. Move the graph to the desired location in the drawing and edit it in any way you wish.

Some hints for creating graphs in Lotus 1-2-3 or Symphony:

- Create symbols with solid color or leave them unfilled. When merged with a drawing in DRAW, hatch patterns act as individual lines making manipulation difficult. Once in DRAW, the graph may be filled with any color or pattern.

- Depending on your version of Lotus, you may not be able to manipulate a pie graph easily. Once the graph is merged with a drawing, use the Pie command in DRAW to easily draw a pie over the original Lotus pie and then delete the original. You can move and fill the DRAW pie slices. (Refer to pages 130–133 if you need help creating a pie and pie slices.)

- Create line or XY graphs using the Lotus options that allow the flexibility you need after you merge a graph into DRAW. You can create a Lotus line graph with symbols at the data points and lines between the data points. Then, in DRAW, you will be able to edit the individual line segments (see the line labeled "Actual" in the graph below). If, instead, you create the Lotus graph with only lines between data points, the lines will behave as a jointed line in DRAW, allowing you to edit the line as one symbol (see the line labeled "Projected" in the graph below).



5 Exchanging Data

You can exchange data (transfer symbols from one window to another) between DRAW and other DRAW windows and between DRAW and other Windows applications.

Some ways to exchange data:

- Transfer graphics from DRAW into a database
- Transfer graphics from DRAW into a word processor
- Transfer graphics between DRAW windows to make symbol libraries
- Transfer text into DRAW from a word processor
- Transfer graphics into DRAW from a DRAW-compatible application (e.g., MICROGRAFX In•a•Vision)

In this chapter:

The Clipboard

The Clipboard

DRAW places symbols that you are transferring from one drawing window to another on the ''Clipboard.'' The Clipboard is an electronic storage area for data that is being moved between windows. The Clipboard retains symbols, however, only until the next transfer operation.

To transfer data, use the Cut, Copy, and Paste commands in the Edit menu. When you cut or copy symbols from one window, make sure you paste the symbols into another application or drawing window. If left on the Clipboard, the symbols are replaced by subsequent transfers.

You can run the Clipboard to see what is on it anytime during a Windows session.

Running the Clipboard

To run the Clipboard:

1. Open the MS-DOS Executive window.
2. Select and run CLIPBRD.EXE.

Note When exchanging data between one window and another, you can display both windows simultaneously or one window at a time. Run a second application from the MS-DOS Executive window. You can display a second DRAW window using the Add Window command in the DRAW System menu.

Copying Data

Copying symbols from one drawing to another leaves a copy of the symbols in the original location and transfers a copy to the Clipboard.

Copying data to the Clipboard

To copy data to the Clipboard:

1. Select the symbol to copy. (Use the Block Select command to select more than one symbol to copy.)

2. Choose the Copy command from the Edit menu. The data is now in the Clipboard and may be pasted into this or any other window.

Note Pressing the accelerator key F2 also chooses the Copy command.

Cutting Data

You can move data from DRAW to the Clipboard with the Cut command in the Edit menu. You cut (delete) symbols from the first window and can then paste them into this or any other window.

Cutting (or moving) data to the Clipboard

To cut (or move) data to the Clipboard:

1. Select the symbol to cut from one application and move to another. (Use the Block Select command to select more than one symbol to cut.)
2. Choose the Cut command from the Edit menu. The data is now in the Clipboard and may be pasted into this or any other window.

Note Pressing the accelerator key Del also chooses the Cut command.

To avoid accidentally losing data, use the Copy command to move symbols from one drawing to another. Then delete the symbols from the first drawing. You can use the Undo command to undo a Cut operation before the symbols are pasted into the receiving window.

Pasting Data

You use the Paste command in conjunction with the Cut or the Copy command. Choose the Paste command from the Edit menu in the receiving window to insert data cut or copied from another application window.

You can paste text into DRAW from database applications and from programs such as Microsoft Write and Notepad. You can paste graphics into DRAW from DRAW and DRAW-compatible applications, such as MICROGRAFX In•a•Vision.

Pasting data into DRAW from the Clipboard

To paste data into DRAW from the Clipboard:

1. Choose the Paste command from the Edit menu. Notice the cursor becomes a cross.

2. Press the SPACEBAR or Button 1 to make the data appear at the cursor location.

Note Pressing the accelerator key Ins also chooses the Paste command.

Using a Symbol Library

Two unique features of Windows and DRAW make it possible for you to create symbols only once and then use them in drawings again and again. One of these features is the ability to transfer data as described in this chapter. The other feature is DRAW's Add Window command in the System menu.

When you create a symbol that you expect to use again in another drawing, copy the symbol to a drawing file you create especially for storing symbols. You can create as many files as you need to use as symbol libraries.

A symbol library file is actually a drawing where you store symbols that you plan to use again. You can create and edit the symbols in the symbol library file. Save the file just as you save any drawing.

When you are ready to use a symbol from a symbol library, use the Add Window command in DRAW's System menu to load another DRAW window. Then open the symbol library file, and transfer the needed symbol to the drawing in progress.

To transfer the data, choose the Copy command in the Edit menu so that the symbol remains in the symbol library file for later use. In the receiving window, choose the Paste command to complete the symbol transfer. This chapter contains complete information about exchanging data.

6 Printing a Drawing

Two Print commands allow you to choose the command to suit your needs. The Print All Pages command prints the pages on which there are symbols. The Print Current Page command prints only one page.

In this chapter:

- Getting Ready to Print
- Printing a Drawing
- Using the Print Spooler

Getting Ready To Print

The Windows Control Panel and DRAW's Change Printer command provide the means to prepare your printing device(s) for printing a drawing.

Control Panel Settings

DRAW uses the printing device that you specified when you installed Windows. Choosing CONTROL.EXE in the MS-DOS Executive Window opens the Control Panel window where you can add and remove printing devices and configure your system by

- setting up printer connections,
- setting up a communications port (including baud rate, stop bits, parity, word length, and handshake) to match a plotter's DIP switches,
- setting the default background color, and
- setting your preference for the primary mouse button.

Refer to the *Microsoft Windows User's Guide* for complete instructions for using the Control Panel.

Change Printer

Draw provides a Change Printer command in the File menu, which allows you to specify the printer you want to use and the output modes for that printer.

Selecting a printer

To select a printer:

1. Choose the Change Printer command from the File menu. The Printer dialog box appears with a list of all the available printers and their port connections.

2. Select the printer you want from the list box.

3. Choose Ok. Another dialog box appears containing options for the selected printer.

4. Choose the page orientation (portrait or landscape), the paper size, the pen colors you wish to use with a plotter, and any other options available for your printing device.

Make sure that the default page orientation matches the page orientation you set with the Set Pages command. For instance, if you set your drawing pages to landscape orientation in the Set Pages dialog box, you must set the default page orientation to landscape mode in order for the drawing to be printed in a landscape format.

You can change the output mode settings at any time by reselecting your printer and choosing new settings in the output mode dialog boxes.

Printing a Drawing

Drawings are printed in three stages: choosing the command, spooling the drawing to the printer, and printing the drawing.

Choosing a Print Command

Print All Pages You can print all the pages in a drawing. The drawing can be in any view mode when you choose the Print All Pages command.

Printing all pages

To print all pages:

- Choose the Print All Pages command from the File menu. All pages, except blank ones, will be printed in sequence, starting with the upper left page and continuing down the first column, then the second column, and so on.

Printing the Current Page You can print the page of your choice no matter how many pages are in your drawing.

Printing the current page

To print the current page:

1 If the drawing consists of two or more pages:

- display the page you want to print with View Current Page or View Actual Size so that the page is in the upper left part of the screen,

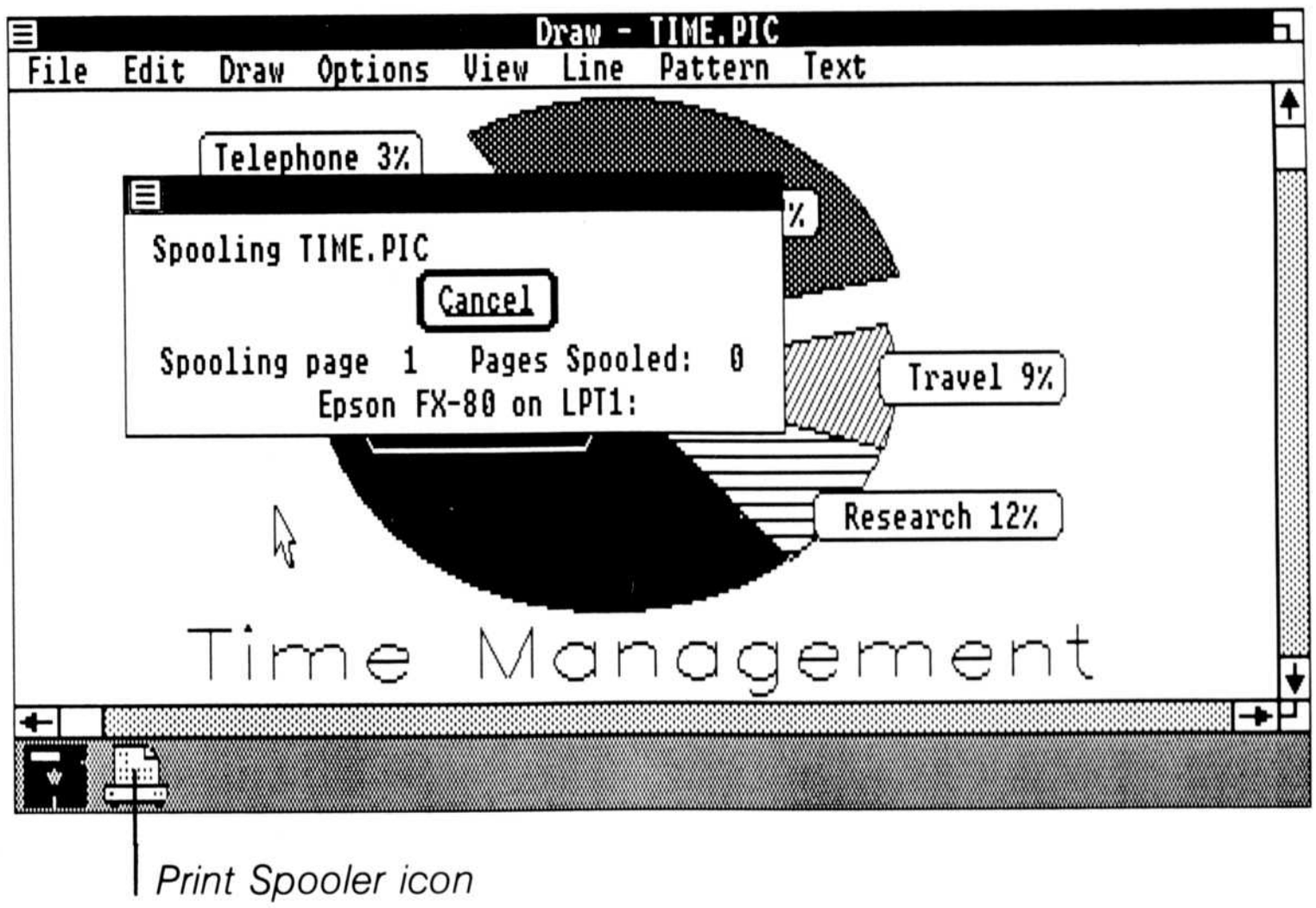
  or,

- select a symbol in the page you want to print regardless of the view mode.

2 Choose the Print Current Page command from the File menu. The current page will be printed.

Spooling the Drawing

After you choose one of the Print commands, you see a Print dialog box that shows which pages are spooling to the printer.



You can stop the drawing from spooling at this point, if you wish, and return to the drawing.

Cancelling spooling the drawing to the printer

To cancel spooling to the printer:

- Press ESC or click Cancel in the Print dialog box. Spooling stops, the dialog box closes, and the drawing is available for editing.

Printing the Drawing

When the drawing is spooled, printing begins. The Print dialog box closes and the drawing is available for editing. If you want to print another page or pages, simply choose the Print command again.

The Print Spooler icon remains in the icon area. The next section discusses how to use the Print Spooler.

Using the Print Spooler

When you choose one of the Print commands, DRAW creates a print spooler file and begins to send the drawing to the printer. A Print Spooler icon appears in the icon area. You can expand the Print Spooler icon into a window to control the print operation. For information about expanding icons, see page 191 in Chapter 7, ''Command Summary,'' or the *Microsoft Windows User's Guide*.

Use the Priority menu commands to specify how fast you want to print your work.

- Choose the High command to print your work faster. If other applications are running, they will run slower because the computer is giving high priority to the print operation.
- Choose the Low command to print more slowly, allowing the computer to give more resources to other applications.

You can interrupt or cancel the printing operation after the drawing is spooled and printing begins.

Terminating printing

To terminate printing:

1. Expand the Print Spooler icon. Notice that the filename of the drawing that is printing is highlighted.

2. Choose the Terminate command from the Controls menu. The printing stops. (Alternatively, choose the Pause command to interrupt printing and the Resume command to restart the print operation.)

Caution If you terminate a print operation, you may need to reset your printer (turn it off and then on), adjust the paper, or relocate the top of the page.

The Print Spooler sometimes displays information about a print operation. If the Spooler has a message, but the Spooler window or icon is not selected, its title bar or icon will flash. Select the Spooler's window or icon to display the message.

You may want DRAW to print directly, without spooling, as in the case of spooling a very large drawing on a two-disk drive system. To have drawings print without spooling, you must edit the WIN.INI (Windows Initializing) file. In the file, under **[Windows]**, is a line that reads "Spooler=Yes." Edit the line to read "Spooler=No." Instructions for editing the WIN.INI file are in the *Microsoft Windows User's Guide*. This is a feature for advanced users.

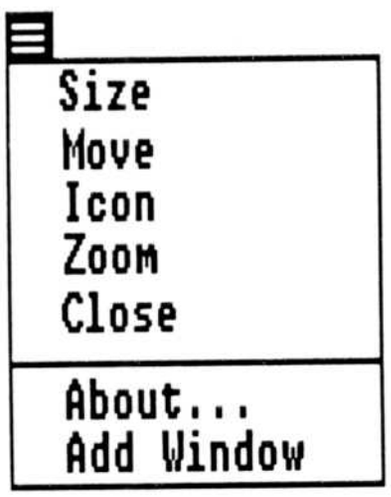
7 Command Summary

This section provides a brief description of each command in the DRAW menus, arranged in order as the menus appear in the DRAW window.

Look next to the command name for the CTRL key sequence or Function keys that accelerate execution of the command. A complete list of the Accelerator Keys is in Appendix A.

Command names followed by an ellipsis (. . .) offer options in a dialog box before the command is carried out.

In this chapter:



The System Menu

The System Menu is common to all windows and contains commands for manipulating windows and dialog boxes. Open the System Menu by pressing ALT-SPACEBAR or by pointing to the System Menu box and pressing the mouse button.

Size

The Size command changes the size of a window. Choosing the Size command displays a size icon. You move the size icon with the ARROW keys or the mouse. A dotted line appears when you move the icon to a window border. Move the icon until the dotted line indicates the window size you want. Then press ENTER or release the mouse button.

With a mouse, you can size a window using the size boxes in the upper and lower right corners of the window. Drag the box to the window size desired. To make the window smaller, drag the size box outside the window's border, then back inside the border to the desired size.

Move

The Move command moves a window to another place on the screen, expands an icon, or shrinks a window.

Select a window (press ALT-TAB or ALT-SHIFT-TAB, or click the mouse button in the window) and choose the Move command. You see an icon in the window. When you press an ARROW key, the icon moves to the nearest window center or window border. Press ENTER to open the window.

If you have a mouse, move a window in one of two ways: (1) Choose the Move command, move the icon, and click Button 1 to open the window; or (2) point to a window's title bar and press the mouse button (the pointer becomes the window icon), drag the icon to a new location, and release the mouse button to open the window.

Icon

The Icon command shrinks a window into an icon and places it in the icon area.

Use the Icon command also to expand a selected icon into window that opens above the icon's place in the icon area.

With a mouse, double click on the icon to expand the application into a window. Double click on the title bar to shrink the window into an icon.

Zoom

The Zoom command expands a window or a selected icon to fill the entire screen. Choose the Zoom command again to return the window or icon to its original size and position.

With a mouse, double click on the size box to zoom the window out, and again to zoom it in.

Close

The Close command closes the application and removes the program from memory. To start the program again, run it from the MS-DOS Executive window.

With a mouse, double click on the System menu box to close the window.

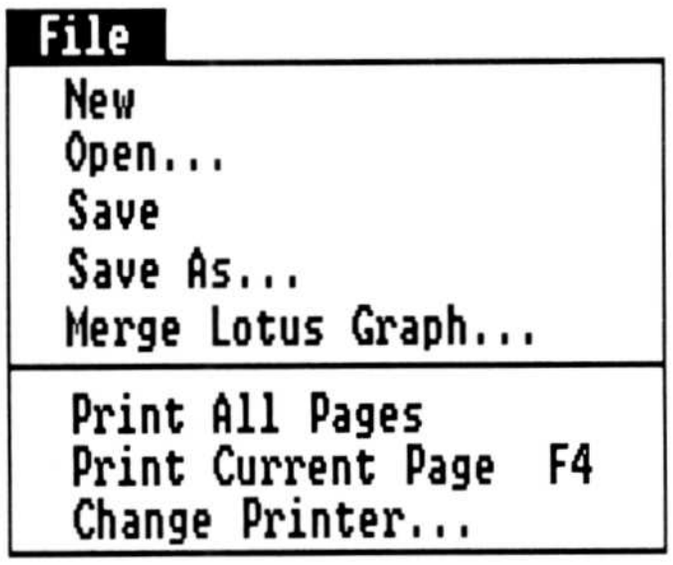
About

The About command gives information about the program, its version, copyright date, the memory available, and the number of symbols in the current drawing.

Add Window

The Add Window command loads another DRAW window beside the current window. You can transfer symbols between DRAW applications using commands in the Edit menu.

The File Menu



The File Menu

The commands in the File Menu open, save, and print drawings. Both the Open and New commands prompt you to save changes to the current drawing before proceeding.

New

The New command clears the drawing area and displays an empty drawing.

Open

The Open command loads a drawing to edit or to print. You choose the filename from the Open File list box.

You can open different directories and disk drives with the Open command. Directories and disk drives are shown in brackets in the list box. Choose **[-A-]** to see the files and directories on a disk in drive A. Choose a directory name (**[..]** indicates the parent directory) to see the filenames and subdirectories in that directory.

To provide access to files not in the current directory, DRAW makes the disk drive or directory you choose the default drive or directory.

Save

The Save command saves the drawing that you are editing to the name assigned, overwriting the previous version.

The Save command works like the Save As command if the drawing is untitled.

Save As

The Save As command saves a new drawing you are creating or saves a new version under a different name.

Save a drawing to a different subdirectory by typing the complete pathname; for example: *\GRAPHS\CHART1*. A subdirectory must already exist before you can save to it. Use commands in the MS-DOS Executive window to create new subdirectories.

If you have a hard disk, save a drawing to a different disk by including the drive in the pathname; for example: *B:\CHART1*.

Merge Lotus Graph

The Merge Lotus Graph command allows you to copy a graph from a Lotus 1-2-3 or Symphony file into a DRAW .pic file (a drawing). DRAW loads the .PIC file created when a graph is saved in Lotus 1-2-3 or Symphony.

Choose the Merge Lotus Graph command, select the file from a list in the dialog box, and the graph appears in the current page of the drawing. Use the handles around the graph to shrink or enlarge it and place it where you want it. You can edit a Lotus 1-2-3 or Symphony graph as you would any other group of symbols.

Print All Pages

The Print All Pages command prints each page in the drawing according to the options set in the Set Pages dialog box, which should correspond with the options set for your printing device with the Change Printer command. See the Set Pages command description in the discussion of View menu commands.

Print Current Page F4

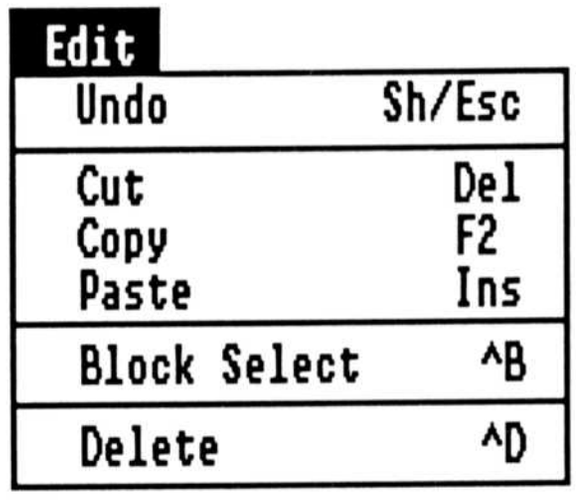
The Print Current Page command prints the page displayed on the screen or the page in which a symbol is selected when you choose the command. The page is printed according to the options set in the Set Pages dialog box. (See the Set Pages command description in the discussion of View menu commands in this chapter.) The default setting is a portrait orientation of page size A (8″×10″).

Change Printer

The Change Printer command displays a dialog box listing the printers installed and their connections. When you select a printer, another dialog box appears with output mode options such as page orientation and plotter pen colors. Use this command to select a printer and to change the output mode options.

The Edit Menu

The commands in the Edit menu undo operations, transfer data to and from the Clipboard, select a group of symbols, and delete symbols.



Undo Sh/Esc

The Undo command reverses the last function performed which results in a change to your drawing. Undo reverses symbol creation, symbol manipulations (duplicating, flipping, rotating, etc.), deletions, line width and style changes, fills, etc.

Undo must be chosen before there are any other changes to the drawing or it does not undo the previous action.

Cut Del

The Cut command removes selected symbols from a drawing and puts them in the Clipboard. Pressing the Del key is the same as choosing the Cut command.

You can use the Cut command to delete symbols from a drawing by not retrieving them from the Clipboard. Data that remains on the Clipboard is overwritten by subsequent transfers to the Clipboard. For more information, see Chapter 5, "Exchanging Data."

Copy F2

The Copy command copies selected symbols from an application to the Clipboard. From the Clipboard, data may be pasted back into the same drawing, into another DRAW window, or into another application window. Pressing F2 is the same as choosing the Copy command.

Paste Ins

The Paste command receives data from the Clipboard that has been cut or copied from another application. See the Cut and Copy command descriptions above. Pressing the Ins key is the same as choosing the Paste command.

You can paste symbols from other DRAW windows, and text from other applications, into a drawing. Display the receiving window and choose the Paste command from the File menu. Move the "cross" cursor to a location for the data and press the SPACEBAR or the mouse button to transfer the data.

Block Select ^B

The Block Select command temporarily combines two or more symbols so that they can be manipulated as one symbol.

Use the Combine command described below to combine a block selected group permanently, or until you break them apart.

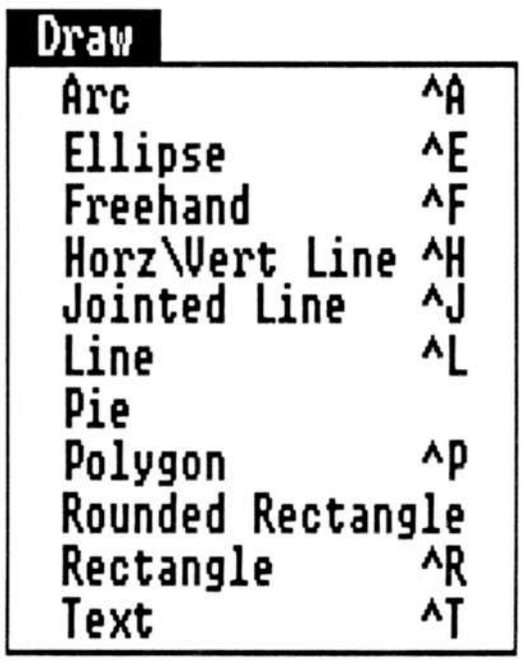
Delete ^D

The Delete command removes a selected symbol from the drawing window.

Return the deleted symbol to the drawing by immediately choosing the Undo command from the Edit menu.

Delete two or more symbols at the same time by block selecting the symbols before choosing the Delete command. See the Block Select command described above.

The Draw Menu



The commands in the Draw menu draw geometric shapes, lines, pies, freehand, and text.

Some characteristics of creating symbols are common to all the items in the Draw menu.

- All symbol boundaries and lines draw in the current line color and line width or style chosen in the Line menu. Geometric symbols fill with the current color and fill pattern chosen in the Pattern menu.

- The DIRECTION keys (the RIGHT arrow, LEFT arrow, UP arrow, DOWN arrow, HOME, PGUP, PGDN, and END keys located on the numeric keypad) are used with the SPACEBAR or the 5 key on the numeric keypad to move the pointer as you create symbols.

  When you press and hold the SPACEBAR (or the 5 key on the numeric keypad) and press a DIRECTION key at the same time, the pointer moves. You move the pointer and manipulate symbols in this way. The SPACEBAR and the 5 key are interchangeable.

- The ability to place a symbol exactly where you want it while you are creating it is a unique function.

  With the keyboard, press the SPACEBAR and a DIRECTION key to begin creating a symbol. Then press and hold the 2 key (on the top row of the keyboard) while still pressing the SPACEBAR and drag the symbol to a new location. After you release the 2 key, you can continue creating the symbol.

With the mouse, press Button 1 and move the pointer to begin creating a symbol. Then press and hold down Button 2 while still pressing Button 1 and drag the symbol to a new location. After you release Button 2, you can continue creating the symbol.

Arc ^A

The Arc command creates an arc that is ¼ of an ellipse.

Ellipses and Circles ^E
Rectangles and Squares ^R
Rounded Rectangles

The Ellipse, Rectangle, and Rounded Rectangle commands create the basic geometric shapes. You can draw circles using the Ellipse command and squares using the Rectangle command.

Freehand ^F

The Freehand command creates free-form designs limited only by your imagination.

Draw a complicated freehand symbol in sections, unless it must be filled. Because each section is really an individual symbol, if you are unhappy with any section, you can select and delete it, or use the Undo command. When your freehand symbol is finished, you can use the Block Select and Combine commands to combine all the sections into one symbol.

For even more control when drawing a freehand symbol, create the symbol after zooming in on the drawing area.

If you create a freehand symbol so that the beginning point and the end point are the same, you can fill the symbol with color and/or pattern from the Pattern menu.

Horz/Vert Line ^H

The Horz/Vert Line command creates a horizontal or vertical line of any length you determine. You move the pointer to the right or left for a horizontal line or up or down for a vertical line.

Jointed Line ^J

The Jointed Line command creates a line with any number of straight line segments. Quickly pressing and releasing the SPACEBAR or clicking the mouse button ends creation of the jointed line.

If you create an unsatisfactory line segment, choose the Undo command in the Edit menu to delete it immediately after drawing the segment. Repeatedly choosing Undo deletes each previous line segment in the unfinished jointed line. Choosing Undo after the jointed line is complete will delete the whole jointed line.

A symbol created with the Jointed Line command can be filled if the beginning and end points are the same.

Line ^L

The Line command creates a line of any length in any direction.

Pie

The Pie command creates a pie with pie slices.

Each pie slice is stored as a separate symbol and can be manipulated independently of the other slices.

If you want to manipulate the entire pie, including all pie slices, you can use the Block Select command.

Polygon ^P

The Polygon command creates a closed polygon in the same way that jointed line segments are created. Quickly pressing and releasing the SPACEBAR or clicking the mouse button automatically closes the polygon.

If you create an unsatisfactory side, choose the Undo command in the Edit menu to delete it immediately after drawing the side. Repeatedly choosing Undo deletes each previous side in the unfinished polygon. Choosing Undo after the polygon is complete will delete the whole polygon.

A polygon fills with the color and pattern currently selected in the Pattern menu.

Text ^T

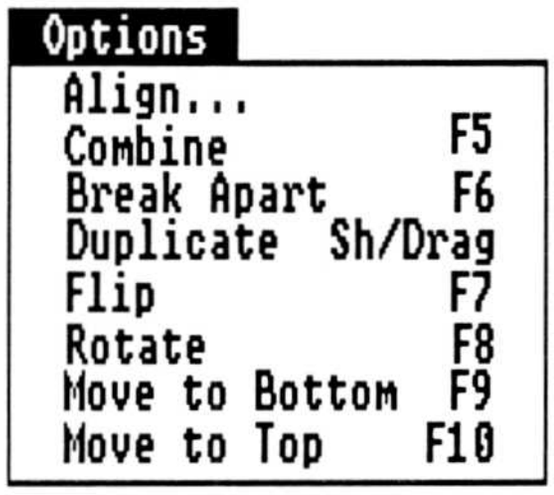
The Text command allows you to type information into your drawings. Choose the Text command and then press the SPACEBAR or the mouse button to see a text cursor. The text you type begins at the cursor. Press ESC to end the creation of a text symbol, which may be one character, one word, a sentence, or a paragraph.

Edit text with the HOME, END, INSERT, DELETE and TAB keys. See Chapter 4, ''Editing a Drawing,'' for more information about using text.

See the discussion of text fonts and attributes in the Text menu at the end of the Command Summary.

The Options Menu

The Options Menu



The commands in the Options menu manipulate symbols.

Align ^F2 ^F3 ^F4 ^F5 ^F6 ^F7 ^F8

The Align command has seven options for lining up selected symbols: Align to Left, Align to Center, Align to Right, Align to Top, Align to Middle, Align to Bottom, and Align to Ruler.

The first six Align options align selected symbols within the bounding box of the symbols. See Chapter 4, ''Editing a Drawing,'' for more information about aligning symbols.

The Align to Ruler option aligns selected symbols to the nearest intersection of the divisions set in the ruler. See the Set Rulers/Grid command in the View menu discussion in the Command Summary.

Note If the Snap to Ruler function is toggled on in the Set Rulers/Grid dialog box, symbols automatically align to the current ruler divisions when they are created or moved.

Combine F5

The Combine command combines two or more symbols into a complex symbol. You can move, duplicate, fill, stretch, and rotate the combined symbol as a single symbol.

Block select the symbols you want to combine, and then choose the Combine command. The symbols remain combined until you break them apart with the Break Apart command discussed below.

Break Apart F6

The Break Apart command breaks a combined symbol into its original parts.

If the complex symbol you break apart is composed of other complex symbols, you must choose the Break Apart command for each one. Break apart only one complex symbol at a time.

Duplicate — Sh/Drag

The Duplicate command makes a copy of one or more selected symbols. Select the symbol to copy, choose the Duplicate command, and drag a copy of the symbol to a new location.

A faster way to duplicate symbols does not use the Duplicate command. Use the SHIFT key and a drag motion to duplicate a symbol.

Flip — F7

The Flip command flips a selected symbol horizontally within its bounding box.

You can make identical symbols that face each other by duplicating a symbol and then flipping the duplicate.

To flip a selected symbol vertically, first use the Rotate command to rotate the symbol 180 degrees. Then use the Flip command to flip the rotated symbol. See the Rotate command described below.

To flip a group of symbols, block select the symbols before choosing the Flip command.

Rotate F8

The Rotate command rotates a selected symbol 90 degrees counterclockwise.

Repeatedly choose the Rotate command until the symbol is rotated to your satisfaction. Use the Rotate command with the Flip command to turn symbols in a variety of ways. See the Flip command described above.

To rotate a block of symbols, block select the symbols before choosing the Rotate command. The entire block of symbols rotates as if it were one symbol.

Move to Bottom F9

The Move to Bottom command moves a selected overlapping symbol under all the other symbol(s).

Symbols are layered bottom to top in the sequence they are created. Unless the symbols are filled, the order in which they overlap may not be obvious in the drawing.

Use the Redraw command in the View menu to see the order in which symbols were created.

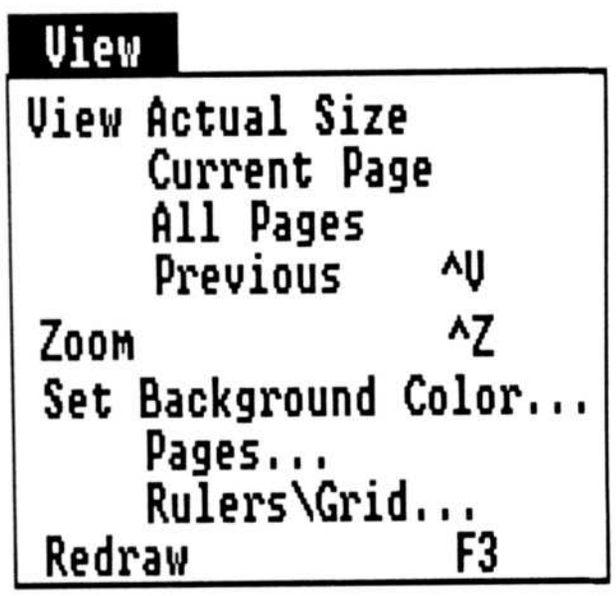
Move to Top F10

The Move to Top command moves a selected overlapping symbol to the top of all the other symbol(s).

Symbols are layered bottom to top in the sequence they are created. Unless the symbols are filled, the order in which they overlap may not be obvious in the drawing.

Use the Redraw command in the View menu to see the order in which symbols were created.

The View Menu



The commands in the View menu provide a variety of view modes and ways to customize your drawings.

View Actual Size

The View Actual Size command shows the drawing in the size it is when printed. The drawing area initially shown for a new drawing is the upper left-hand corner of the page.

Use the View Actual Size command to see the symbols in the drawing in their actual dimensions. To see any part of a page, select a symbol in that part of the page and choose the View Actual Size command.

View Current Page

The View Current Page command shows the entire page.

Use the View Current Page command to see the entire page on which you are currently working. To see any other page, select a symbol in that page and choose the View Current Page command to see the entire page containing the selected symbol.

View All Pages

The View All Pages command shows all the pages available in the drawing area. The page images are determined by the current settings made with the Set Pages command described below.

Use the View All Pages command to see the entire drawing or to see all the pages available for your drawing.

View Previous ^V

The View Previous command shows the last chosen view of the drawing up to the last sixteen previous views.

Use the View Previous command after viewing your drawing from various view modes to return to a view you want to see again, up to the last sixteen previous views. If, for example, you zoom in on a portion of your drawing, and then zoom in again, choose the View Previous command to return to the first zoom view. Choose View Previous again to return to the original view.

Zoom ^Z

The Zoom command shows an enlarged portion of the drawing. Because symbols appear to be larger, you can draw in greater detail than is possible in the other view modes.

The Zoom command is disabled (appears gray) when the drawing is zoomed as much as possible.

Set Background Color

With the Set Background Color command, you set the background color for the drawing window from a palette of colors available on your system.

Set Pages

The Set Pages command offers you choices for setting the page layout of your drawing pages.

The default settings for the drawing page are page size A (8″×10″), portrait orientation, and page boundaries showing in the drawing area.

Page size A is designed to be printed on 8½″×11″ paper. Page size B is for printing on 11″×17″ paper. (The difference between page size and paper size provides the margins that many printing devices require.)

The page sizes provided by DRAW are as follows, with the default page size listed first:

- Page size A in portrait mode allows twelve 8″×10″ pages in a 4×3 matrix.
- Page size A in landscape mode allows twelve 8″×10″ pages in a 3×4 matrix.
- Page size B in portrait mode allows six 10″×16″ pages in a 3×2 matrix.
- Page size B in landscape mode allows six 16″×10″ pages in a 2×3 matrix.

You can set your own custom page sizes by typing the desired page width and height in the appropriate boxes in the Set Pages dialog box.

Caution Set only page sizes that your printer can accommodate. If the page sizes you set are larger than the paper used in your printer, or if the alternate orientation mode is set with the Change Printer command, the edges of your drawing are truncated.

You can toggle the page boundaries off so that they are not visible in the drawing area.

Set Rulers/Grid

The Set Rulers/Grid command customizes the rulers and the grid to your specifications.

The default options are rulers marked with divisions every ⅛ inch (visible when drawing is zoomed), rulers and grid showing in the drawing area, and snap to ruler on.

The ruler divisions range from one division per inch to 32 divisions per inch. Alternatively, the ruler can display centimeters with divisions from one per centimeter up to 10 divisions per centimeter.

The grid in the drawing area displays a dot every ½ inch horizontally and vertically.

You can toggle the rulers and grid off so that they are not visible in the drawing area.

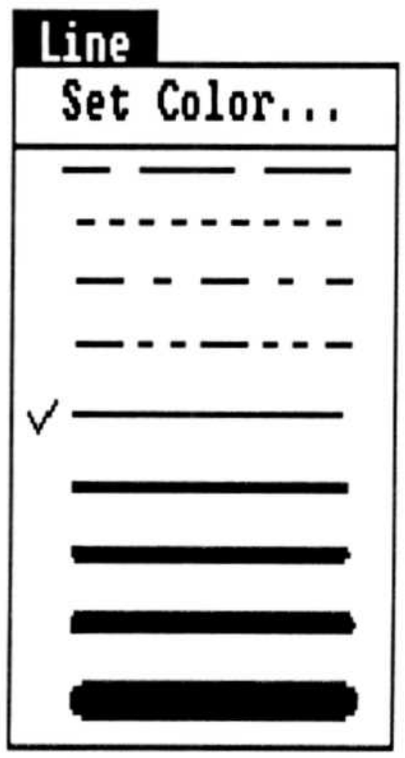
The Snap to Ruler option toggles on and off the ability to force the pointer and symbols in your drawing to the divisions set in the Rulers/Grid dialog box. For more information, see Chapter 3, "The Basics."

Redraw F3

The Redraw command in the View menu redraws all the symbols in the drawing in the order in which they were created.

Use the Redraw command to see where a particular symbol is located within overlapping symbols. DRAW remembers the order in which symbols were created and overlaps them in that order, with the first symbol created on the bottom and subsequent symbols on top.

Redraw also clears the display of unwanted "leftovers" that sometimes result from manipulating symbols.



The Line Menu

The Line menu provides changes of color, style, and width for lines and borders in a drawing.

To change the appearance of lines and symbol borders, select them before choosing a command from the Line menu. If no symbol is selected, the command applies to the next symbol you draw.

Set Color

The Set Color command sets the color for lines and borders of symbols from a palette of colors available on your system.

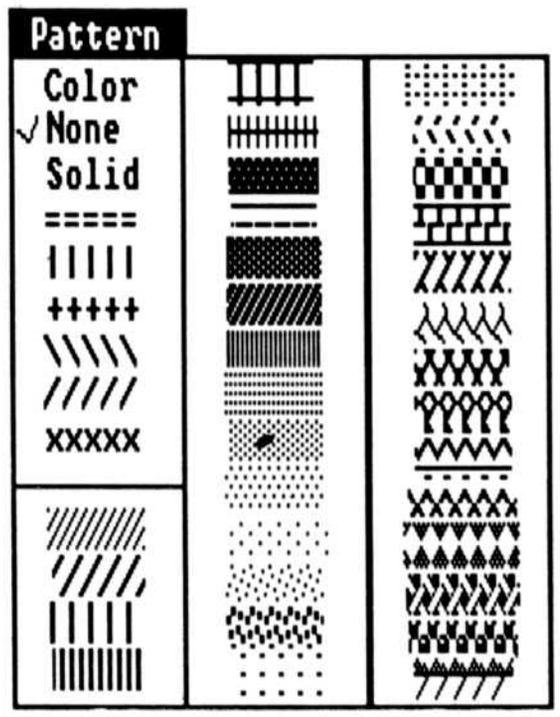
All lines and symbol borders draw in the color selected.

Line Style

Nine line styles are available, four dotted styles and four solid widths, in addition to the default fine line. Dotted line styles are only available in the fine line width.

All lines and symbol borders draw in the line style selected.

The Pattern Menu



The Pattern menu provides colors and patterns to fill closed symbols.

To change the fill color or pattern of a symbol, select the symbol before choosing a command from the Pattern menu. If no symbol is selected, the command becomes the current color or pattern for subsequent symbols.

Color

The Color command allows you to choose the color for solid fills and for patterns from a palette of the colors available on your system.

None

The None command is the default for filling symbols. To remove the color or pattern from a selected symbol, choose the None command.

Solid

The Solid command fills symbols with the color chosen in the Color dialog box (see the Color command above).

Patterns

A wide variety of hatch and bitmap patterns are available in the Pattern menu.

The first six patterns after "Solid" are hatch patterns which print on any output device. The remaining patterns are bitmap patterns. Bitmap patterns may not appear on a plotter the way they appear on the display screen.

The Text Menu

The Text menu provides various fonts, point sizes, emphasis features, and colors for text. For a discussion of text entry and text editing, see the Text command in the Draw menu.

Set Attributes

The Set Attributes command sets the emphasis features and the point size for text fonts.

Emphasis Features Four emphasis features are available for text: Bold Face, Strike Out, Italic, and Underline.

Point Size Text fonts are measured in points. A point is $\frac{1}{72}$", so 72-point text is one inch tall. Text size in most books ranges from 10 to 12 points.

In the Text Attributes dialog box, twelve point sizes are provided for each text font. The highlighted point sizes for Standard text fonts provide the best appearance in DRAW. The currently selected font is shown in the dialog box and is checked in the Text menu.

To see the attributes of a line of text, choose the Text command and place the text cursor in the line. Then choose the Set Attributes command. The dialog box will reflect the attributes of the edited text.

Set Color

The Set Color command sets the color for text from a palette of the colors available on your system.

Fonts

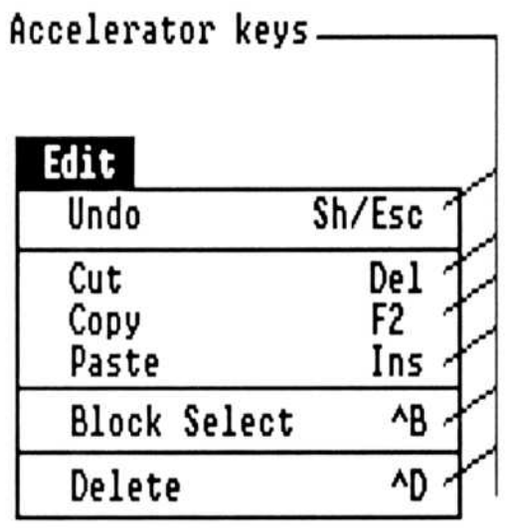
Fonts are type styles created for alphabetical character sets. DRAW provides several fonts and supports fonts compatible with Microsoft Windows. Any fonts that were installed when Windows was installed or that were installed in the Windows Control Panel are displayed in the Text menu.

Graphics Fonts Graphics fonts (Roman, Script, and Modern) can be stretched and rotated like any drawing symbol and can be combined with drawing symbols with the Combine command. Graphics fonts are printed in the exact size indicated in the drawing.

Standard Fonts Standard fonts (System, Courier, Helv, and Tms Rmn) draw more quickly than Graphics fonts, but you cannot combine, rotate, or stretch them. They are only visible in the View Actual Size mode and have a more attractive appearance in the smaller point sizes than do the Graphics fonts. Standard fonts print using the closest available font on the printer. If no font is available to match the size of the text as displayed on the screen, DRAW may substitute a graphics font.

Appendix A
Accelerator Keys

The most commonly used commands in DRAW have accelerator keys. Pressing an accelerator key is the same as choosing the command. Accelerator keys bypass displaying the menu when choosing the command; the command is immediately executed. For example, pressing F2 carries out the Copy command from the Edit menu.



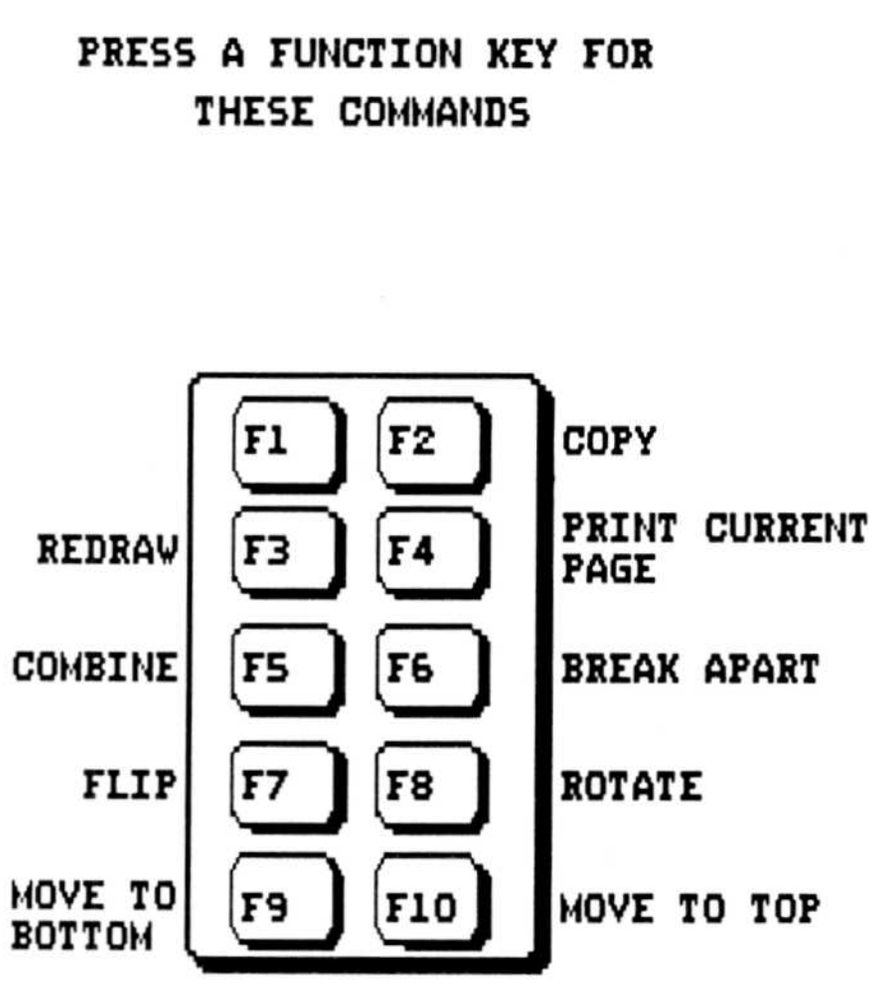
Whether you are a keyboard or mouse user, the convenient Accelerator keys save you time.

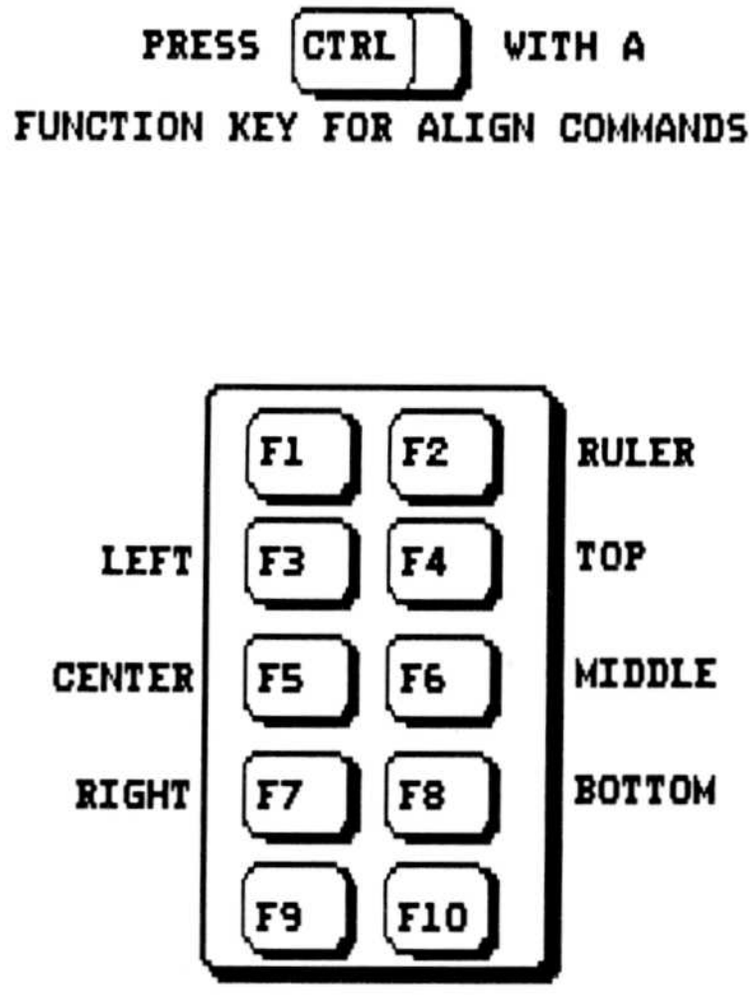
Use the chart to see an overview of all the Accelerator keys. In the menus, you find the Accelerator key next to each command that has one. The symbol ^ represents the CTRL key. To execute a command, press and hold the CTRL key while you type the letter key.

Accelerator Key Chart

For this command	Press
Cut	Del
Copy	F2
Paste	Ins
Redraw	F3
Print Current Page	F4
Combine	F5
Break Apart	F6
Flip	F7
Rotate	F8
Move to Bottom	F9
Move to Top	F10
Arc	CTRL-A
Block Select	CTRL-B
Delete	CTRL-D
Ellipse	CTRL-E
Freehand	CTRL-F
Jointed Line	CTRL-J
Horz/Vert Line	CTRL-H
Line	CTRL-L
Polygon	CTRL-P
Rectangle	CTRL-R
Snap to Ruler	CTRL-S
Text	CTRL-T
View Previous	CTRL-V
Zoom	CTRL-Z
Undo	SHIFT-ESC
Duplicate	SHIFT/Drag

For this command	Press
Align to Ruler	CTRL-F2
Align Left	CTRL-F3
Align Center	CTRL-F5
Align Right	CTRL-F7
Align Top	CTRL-F4
Align Middle	CTRL-F6
Align Bottom	CTRL-F8





Appendix B
System Messages

This section alphabetically lists the error and information messages you may encounter while working with DRAW.

Each message is followed by a description of the message and the recommended action to correct or address the situation.

Messages appear in the center of the window. After you have read the message, choose Ok to continue.

Disk is full — unable to save drawing.

- *There is not enough room on the disk to save the drawing.*

  Delete some files to make room or insert another formatted disk and try again.

Drawing cannot be loaded by this version of DRAW.

- *The specified drawing was created by a version of DRAW that is incompatible with your version. To load the specified drawing, you must have a version of DRAW which supports the version used to create the drawing.*

  Call MICROGRAFX for information about a program update.

Error reading file — drawing not loaded completely.

- *The drawing you indicated does exist but cannot be completely loaded for some reason.*

  Check the disk drives and try again.

Error writing file — drawing not saved.

- *The drawing is not saved on the disk.*

  Insert another formatted disk and try again.

File does not exist (new drawing).

- *The drawing indicated is not in the current directory or on the diskette in the current disk drive, or the subdirectory does not exist. The drawing is assumed to be new. The name entered appears in the title bar.*

  Change directories to the directory containing the desired drawing or reenter the complete pathname. Or, create your drawing in the empty window. Choosing Save will save it under the name in the title bar.

Invalid page size.

- *You have indicated a page size that cannot be set.*

  Enter new numbers for a page size smaller than or equal to 17″×17″. Refer, if necessary, to the Set Pages information in Chapter 3, ‘‘The Basics.’’

No printer — please select a printer.

- *You have not indicated a printer to receive output.*

  Select a printer with the Change Printer command in the File menu. If no printers are available, install a printer using the Installation menu in the Windows Control Panel.

Not a valid Lotus Graph.

- *The specified Lotus Graph file was not created by Lotus 1-2-3 or Symphony, or was created with an incompatible version of these programs.*

  Specify the filename of a compatible .pic file.

Not enough disk space to spool drawing.

- *There is not enough room on the disk to contain the spool file for the drawing to be printed.*

  Delete the .TMP files from the DRAW Program disk in order to make more room for spooling. Or, see the *Microsoft Windows User's Guide* or *Windows Update* to see how to set up a .TMP file directory or how to spool to a disk that has more room. Or, to have the drawing print without spooling to a disk file, open the WIN.INI file in Notepad and edit the spooler line to read "Spooler = No."

Not enough memory.

- *There is not enough system memory on your computer to run DRAW or to complete the current operation. The operation is not completed.*

  Either close one of the windows currently open or add additional memory to your computer. Another way to free memory is to choose the About command from the System Menu, and then return to your drawing. This action performs a housekeeping task, releasing more memory for immediate use.

Not enough memory to transfer symbols to Clipboard.

- *When the DRAW window was closed there was not enough memory to transfer symbols that had been copied or cut.*

  Close other applications that are currently running, or save your drawing, close Windows, and start again.

Standard fonts may be used only at actual size.

- *You tried to enter text using a standard font while in a view mode other than Actual Size.*

  Choose the Actual Size view mode or use graphics fonts in the other view modes.

Standard text cannot be combined.

- *You tried to combine standard text with other symbols.*

  Use Block Select each time you want to manipulate more than one standard text symbol or standard text with other symbols, or use graphics text.

This function changes one symbol at a time. Please choose a single symbol.

- *You have selected more than one symbol before choosing the Break Apart command.*

  Select a single combined symbol to break apart.

Unable to load *(drawing name)*.

- *The file exists, but was not created by DRAW and cannot be opened by DRAW.*

  Load a different file.

Unable to load specified graph.

- *The file does not exist, or cannot be opened.*

  Load a different graph file.

Unable to open file — drawing not saved.

- *The specified file from which the drawing was loaded has been deleted.*

  Choose a different filename with which to save the file.

Unable to print drawing. Please check printer.

- *The printer is not available for printing.*

  Check the printer to make sure that it is online, has paper installed, and is properly set up for printing. Make sure that the printer driver is in a directory on the path or in the current directory.

Unable to transfer symbols — Clipboard busy.

- *Another application is using the Clipboard, making the Clipboard unavailable to DRAW.*

  Close other applications that are currently running, or save your drawing, close Windows, and start again.

Terms

This section provides definitions of terms and concepts associated with the DRAW program and the Windows environment.

Accelerator key A Function key, or a mnemonic key used with the CTRL key, that executes a command quickly. Accelerator keys that correspond with commands appear in the DRAW menus.

Active window The window in which you are working. To activate a different window or an icon, click the mouse button on the window or icon, or press ALT-TAB until the window's title bar or the icon is highlighted.

Application A program used for a particular kind of work, such as drawing, word processing, or database management.

Bitmap pattern An intricate fill pattern composed of dots.

Bounding box The invisible rectangle that encloses the entire symbol. A symbol is selected by pointing anywhere inside its bounding box and clicking the mouse button. When a symbol is moved, the bounding box of the selected symbol is displayed instead of the actual symbol.

Cancel An option found in most dialog boxes. When you choose it, the dialog box closes and you are returned to the drawing window. No changes are made to the drawing. The ESC key also chooses Cancel.

Choose To select a command from a menu.

Click To press and release the mouse button quickly. When you click the mouse button, you should hear and feel a faint click. On the keyboard, quickly pressing and releasing the SPACEBAR or the 5 key on the numeric keypad is the equivalent action.

Clipboard A Windows data exchange storage area for symbols cut or copied from an application. The Clipboard retains symbols only until another symbol is transferred to it.

Close To remove an application window from the screen. You close an application by using the Close command from the System menu.

Command A word or phrase, usually found in a menu, that carries out an action.

Data exchange The process of cutting or copying symbols to the Clipboard and then pasting them in another application.

Default settings The preset options built into a program. Some of DRAW's default settings are rulers, grid, and pages displayed, 8 ruler divisions per inch, and portrait page orientation.

Deselect a symbol To make a symbol no longer selected by moving the pointer and selecting another symbol, or by quickly pressing and releasing the SPACEBAR or clicking the mouse button where there are no symbols.

Dialog box A window that appears when the program needs further information from you before it can carry out an action.

Direction keys The ARROW keys (UP, DOWN, RIGHT, and LEFT), and the HOME, END, PGUP, and PGDN keys on the numeric keypad. When used with the SPACEBAR or the numeric keypad 5 key, the DIRECTION keys rubberband or move a symbol in the direction indicated (HOME, END, PGUP, and PGDN allow diagonal movement). When used alone, the ARROW keys move the pointer in the direction indicated. The HOME and END keys move the pointer to the upper left of the screen and to the lower right of the screen. The PGUP and PGDN keys move one screen up and one screen down.

Double click To press and release the mouse button twice rapidly without moving the mouse.

Drag With the keyboard, to point to a symbol, press and hold the SPACEBAR (or the 5 key on the numeric keypad) while pressing a DIRECTION key in order to move the symbol. With a mouse, to point to a symbol, press and hold down the mouse button, and move the mouse so that the symbol moves across the screen.

Drawing window The area displayed when DRAW is started. You can use the View menu commands to display more or less of the drawing window.

Edit To change or alter symbols using the commands in the Options, Line, Pattern, or Text menus.

Expand To make an icon into a window in the work area.

Font An alphabetical character set for a style of type. DRAW provides Standard and Graphics fonts.

Handles Rectangular boxes that appear on the corners and sides of the bounding box of a symbol when the symbol is selected. The handles are used to stretch or shrink the symbol.

Hatch pattern A fill pattern composed of lines occurring at regular intervals.

Highlight To use the pointer to indicate a selection. The selection appears in reverse video, light on a dark background or dark on a light background.

Hourglass cursor The pointer changes to an hourglass symbol to show that the program is working for a moment or two. When the cursor returns to a pointer, you can continue.

Icon A small graphic symbol that represents an application. An icon can be expanded into a window for the application.

List box A list of available files in a dialog box.

Menu A group of commands organized under a menu title in the menu bar.

Menu bar The bar under the title bar of a window that contains menu titles.

Mouse A pointing device that you move across a flat surface to move the pointer on your screen. A mouse can have one or more buttons which you press to carry out various actions.

New The command in the File menu that displays an empty drawing window.

Open The command in the File menu that displays a list of available files.

Page orientation The position of a drawing on paper. In portrait orientation, the drawing is longer than it is wide. In landscape orientation, the the drawing is wider than it is long.

Page size The drawing area available for each page.

Palette The spectrum of colors available on a computer system.

Paper size The physical size of the paper in a printing device.

Point To move the pointer on the screen until it rests on the symbol you want.

Pointer A graphic symbol used to show the current screen location. You move the pointer by moving the mouse or by pressing the ARROW keys. The pointer is usually shaped like an arrow, but changes shape depending on the commands you choose.

Press To press down a mouse button.

Print spooler Code that creates a print file for the drawing before printing begins.

Pull down a menu To display a menu by pointing to the menu title and pressing the ALT key and the first letter of the menu title; with the mouse, by pressing and holding the mouse button.

Redraw A command in the View menu that clears the screen and redraws the symbols in the order they were created.

Rubberband The method used to create most of the primitive symbols and to identify groups of symbols in commands such as Block Select and Zoom. By pressing and holding the SPACEBAR or the mouse button and then moving the pointer, you ''rubberband'' a symbol and can size and proportion it as you create it.

Run To start an application. When you run an application, a window is created for the application.

Save A command in the File menu that puts a copy of the current edited drawing in a file to be used again. The Save command writes over the existing file with the same name.

Save as A command in the File menu that puts a copy of the current drawing in a file to be used again. The Save As command prompts you to assign a name to the drawing.

Scroll To change the visible portion of a drawing window without changing the size in which the symbols are displayed. Scroll through a drawing using the scroll keys or the scroll bars.

Scroll bars The gray bars that may appear at the right side or bottom of some application windows. You use scroll bars to scroll through the information in a window when there is more information than can be shown in the window at one time. The scroll bar at the right side of a window is used to scroll vertically. The scroll bar at the bottom of a window is used to scroll horizontally.

Scroll keys The TAB key and SHIFT-TAB scroll one screen to the right and one screen to the left, respectively. The PGUP and PGDN keys scroll one screen up and one screen down, respectively. Pressing an ARROW key until it touches the edge of the drawing area scrolls the drawing in the direction of the key.

Select a symbol To point within the bounding box of a symbol and press the SPACEBAR (or the 5 key on the numeric keypad) or click the mouse button.

Shrink a symbol To drag a handle of a selected symbol into the symbol to reduce the size of the symbol. Dragging a corner handle reduces the size of the symbol proportionally. Dragging a side handle reduces the size of the symbol nonproportionally.

Shrink a window To make a window on the screen into an icon. You shrink a window by either dragging its title bar into the icon area, by double clicking its title bar, or by choosing the Icon command from its System menu.

Size box A small square on the right of a window's title bar used to make the window larger or smaller.

Sizing windows To change the size of application windows so that you can see all the windows on the screen. When you open a window, other windows already on the screen are automatically resized to make room for the new window.

Spool a drawing To send a drawing to a file before printing. When spooling is complete, the drawing begins to print and you may work in the drawing window again or select another print operation.

Stretch a symbol To drag a handle of a selected symbol away from the symbol to enlarge the symbol. Dragging a corner handle stretches the height and width of the symbol proportionally. Dragging a side handle stretches nonproportionally in that direction only.

Symbol Any graphic object created using DRAW. A drawing is composed of multiple symbols.

Symbol transfer Sending (cutting or copying) data to the Clipboard to be transferred (pasted) to another application.

System menu A menu common to all windows containing commands to size, move, icon, zoom, or close the window. The System menu also contains the About command for information about the application. The DRAW System menu includes an Add Window command.

System menu box The small square on the left of a window's title bar which contains the System menu.

Text cursor A blinking horizontal bar that indicates where characters you type appear. In insert mode, the cursor becomes a blinking rectangle.

Title bar The bar across the top of each window that contains the name of the application in that window. The title bar also contains the window's Close box and the System menu box.

Toggle To alternately turn a function on and off by choosing it. The Show commands (Show Ruler, Show Grid, Show Pages) and the Snap to Ruler function in DRAW toggle on and off.

Window A rectangular area on the display screen in which you use an application. Every window has a title bar and a menu bar and may have one or two scroll bars.

Zoom To expand a portion of a drawing so that it occupies the entire drawing area, allowing detailed work to be performed.

Zoom a window To expand a window so that it occupies the entire screen, covering the icon area.

Index

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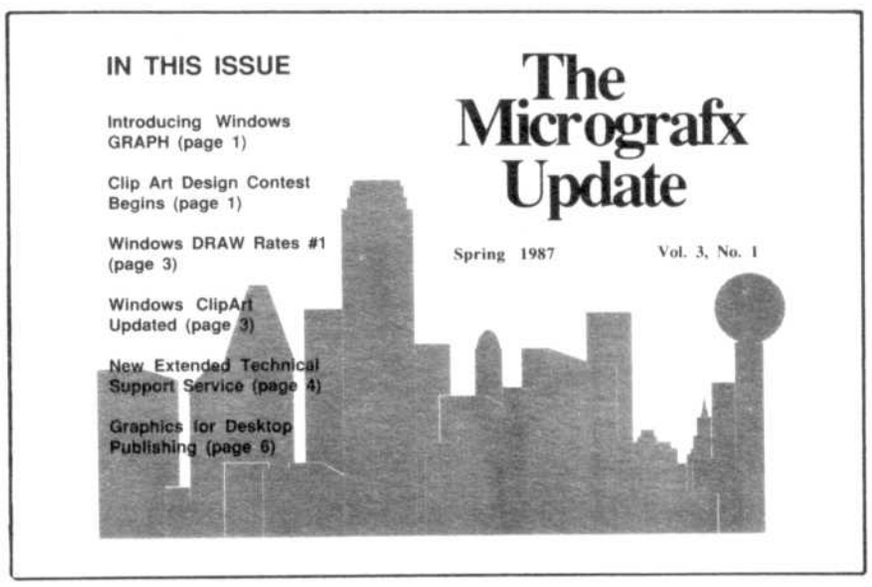

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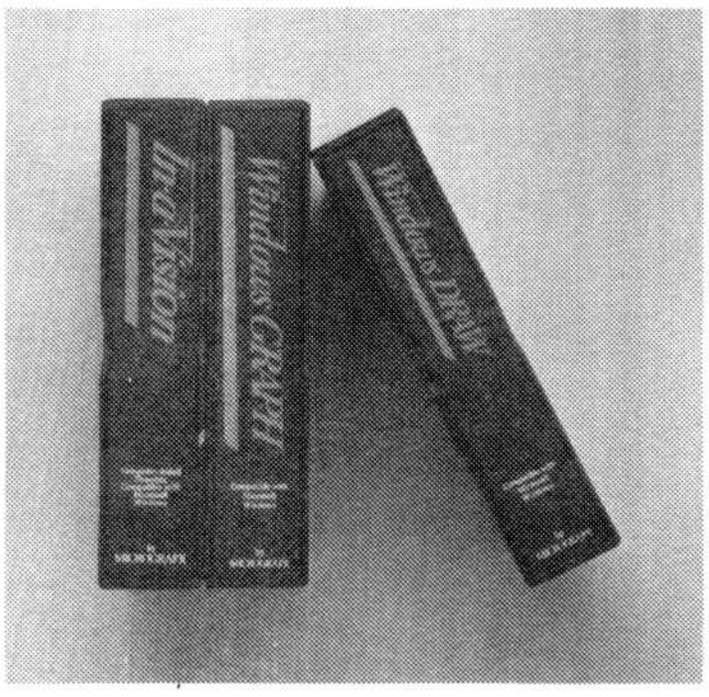

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Where did you first hear about this product? _____

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☐ Wholesale/retail	☐ Government	☐ Graphic Design
☐ Financial services	☐ Publishing	☐ Other _____
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For what purposes do you plan to use this product?

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☐ Org. charts	☐ Forms Design	☐ Graphic arts
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