



REFERENCE MANUAL

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SECTION ONE: THE BASICS

INTRODUCTION TO DRAW

DRAW is a program that lets you create and file charts, graphs, forms and other illustrations. These illustrations can contain lines, curves, and text and may be inserted into documents created with your EDITOR. The appendix at the end of this manual shows some documents that have been created with DRAW.

1.1 ENTERING DRAW FROM THE EXECUTIVE

At the EXECUTIVE, type:

draw or **d** **RETURN**

(See section X.3 "Changing Default Values")

1.2 QUITTING FROM DRAW

a. To exit DRAW and return to the EXECUTIVE, type:

LOOK Q

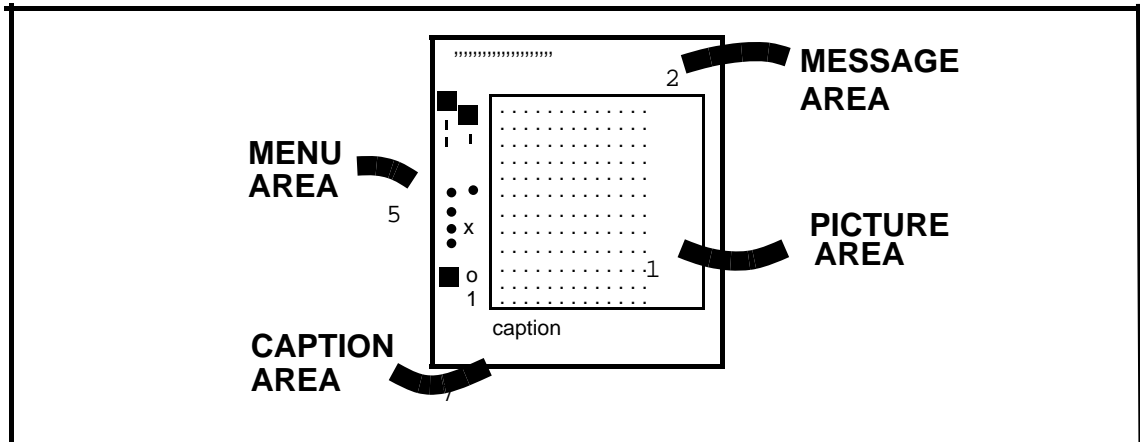
b. A message will appear at the top of your screen asking you to confirm. It will look like this:

Quit ? [yes no]

Typing a **y** will return you to the EXECUTIVE. Typing an **n** will cancel the command. Pressing the **RETURN** key is equivalent to typing **y**.

1.3 BECOMING FAMILIAR WITH THE SCREEN:

When you enter DRAW you'll see that the screen is divided into several areas:



Picture area

This is the area in which you'll create your drawing; it's the work space for composing your document or illustration. Though the picture area is smaller than a full 8 1/2 x 11 page, illustrations larger than the picture area can be created. (See section X.2, "Drawing Documents Larger Than The Picture Area")

Menu area

Here's where you'll select the functions or tools to create your DRAW document.

Caption area

Here's where text is created before depositing it in the picture area.

Message area

This is the space where your instructions to the DRAW program will appear and where, in return, DRAW will communicate to you certain status messages and prompts. (see section 4.6, "Interpreting Messages")

1.4 TURNING THE GRID ON AND OFF:

In the diagram above, you see a grid of dots in the picture area. These help you line up and space the elements in the document. When you enter DRAW, no grid will show in the picture area. To turn the grid on, press:

LOOK G (for grid) RETURN

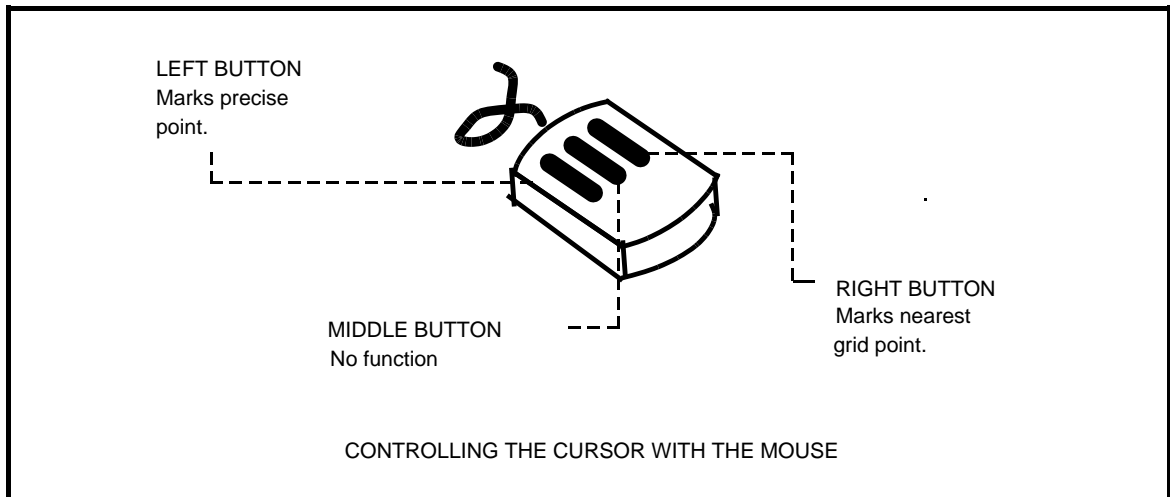
The same command will turn the grid off without affecting the document you're working on.

Grid points mark about one-sixth inch intervals. There are 42 horizontal grid points and 45 vertical points in the picture area. Should you need a finer grid, the grid point spacing may be changed at the EXECUTIVE. (See section X.3, "Changing Default Values").

1.5 BECOMING FAMILIAR WITH THE "MOUSE":

The mouse has several functions in the DRAW program. It controls the path of the cursor on the screen so that you can:

- a. *Choose menu items:* Place cursor over menu item and press any of the three mouse buttons.
- b. *Locate points within the picture area:* The left button will specify the exact point in the picture area where the cursor is pointing. The right button specifies the nearest grid point.



SECTION TWO: LINES AND CURVES

2.1 DRAWING STRAIGHT LINES

Straight lines are drawn, using the mouse, by specifying the beginning and the end point of the line you wish to draw.

- a. Mark the **+** symbol from the menu with either mouse button.

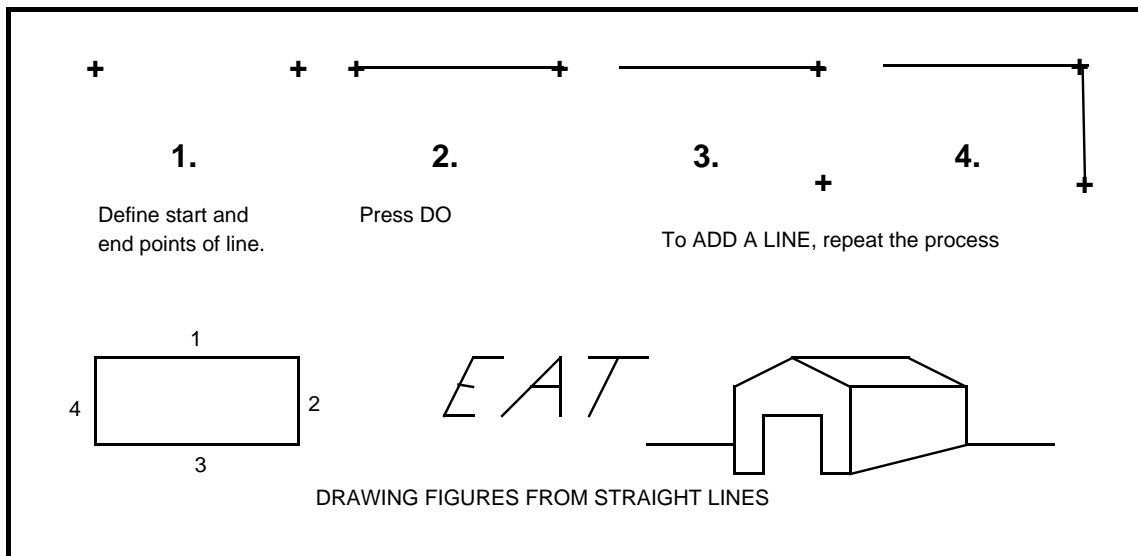
Move the cursor into the picture area and position the intersection where you want the line to begin.

Press the left mouse button (to start the line exactly where the cursor is) or the right mouse button (to start the line at the nearest grid point).

- b. Move the cursor to the point you want the line to end and press either the left or right mouse button again.

- c. Press the **DO** key.

Lines of various lengths can be drawn vertically, horizontally, or at angles. Lines may meet, intersect, or overlap.

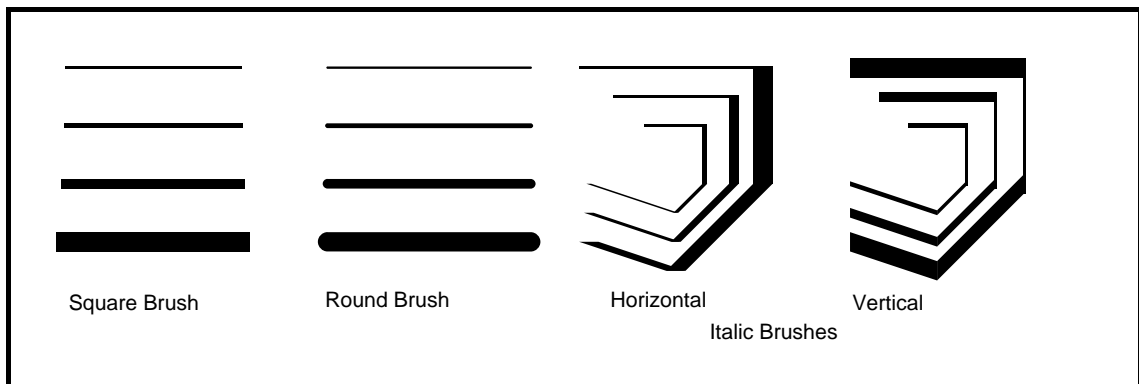


2.2 CHOOSING LINE WIDTH AND BRUSH SHAPE

The two vertical menus in the upper left corner of the screen give you a choice of both line width and brush shape. When you enter the DRAW program, you'll see a black box around the thinnest of the lines at the top and another around the square brush shape (this white on black reversal is called *complementing*). This means that the thin line with a square end is pre-selected.

To choose a heavier line width, place the cursor over the desired width and press any mouse button. The complement will change to indicate the line width that is now selected.

The second column lets you choose among four brush shapes: round, square, vertical italic, and horizontal italic. The procedure is the same for choosing a brush shape. You can select any combination of line width and brush shape. Below are examples of some of the combinations:



2.3 CHANGING LINE WIDTH AND BRUSH SHAPE IN AN EXISTING DRAWING

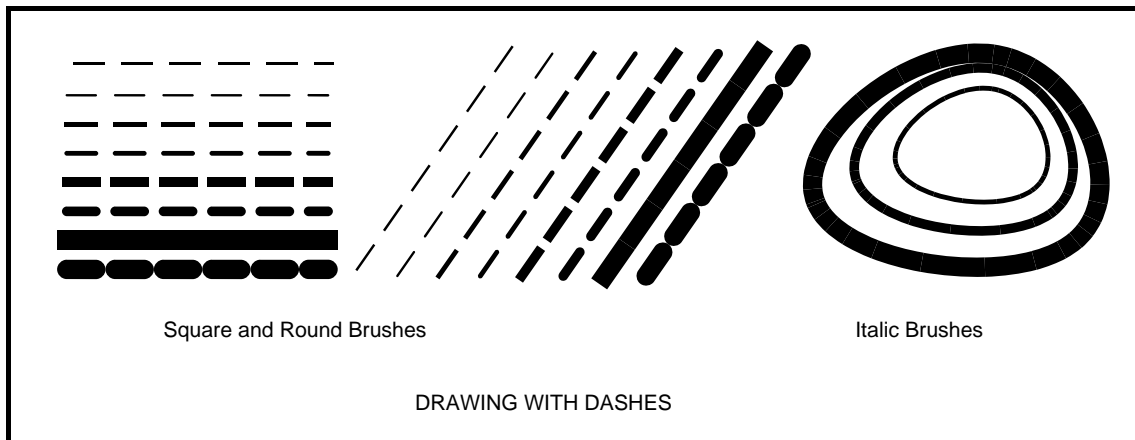
You may wish to create a drawing using the pre-selected (default) lines and brushes, then go back and make changes after you see what the drawing looks like. Simple.

- Make the changes you want in the menu (see preceding section).
- Position the cursor over the little paintbrush in the menu and press either mouse button. The cursor will take on the shape of the paintbrush.
- Move the paintbrush into the picture area and position it over the line you wish to change. Press a mouse button and the line will change.

2.4 DRAWING DASHED, OR BROKEN LINES

Dashed lines may be created from existing solid lines or curves.

- a. With the mouse, mark the small **scissors** in the menu.
- b. Position the cursor (now in the form of the scissors) over the line to be broken and press any mouse button.



To return a broken line to its former solid condition, mark the line with the scissors again.

The size of both the solid lines and open spaces of the dashes may be changed at the Executive Level. (See section X.3 "Changing Default Values")

2.5 DRAWING FREEHAND

It's possible to draw simple figures freehand with the mouse. First, choose the brush width and shape as explained above. Notice the square directly below these two menus. The figure in the middle of the square shows the brush selections. To draw freehand:

- a. Mark the square (it takes a few seconds for the cursor to change shape), and move the cursor into the picture area.
- b. Hold down the left mouse button as you "draw" the figure.

When you release the mouse button, your figure will disappear momentarily as the program plots the *knots* along the curve and redraws the figure, smoothing out the curves and bumps. As you will see with some trial and error, the redrawing will eliminate most fine detail, so the freehand capability is best suited for larger, less detailed drawings.

You'll see too that freehand drawing uses up the available memory rapidly. If you plan to do a lot of drawing, particularly with the heavier lines, you may want to set aside more memory for *splines* at the EXECUTIVE (See section X.3, "Changing Default Values").



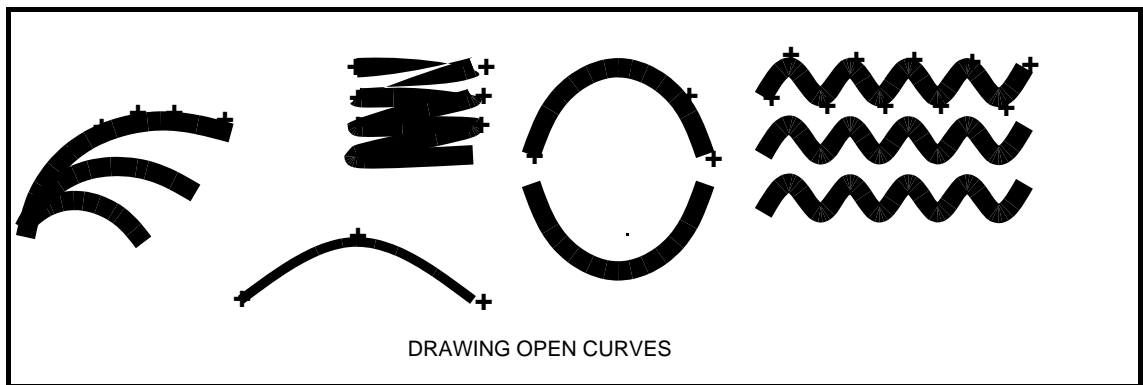
2.6 DRAWING CURVED LINES

2.6.1 Open curves

Curved lines can be drawn by specifying the *knots* (knots are simply markers along the intended curve) at the desired points:

- Mark the **+** and move the cursor into the picture area.
- Specify at least three knots with any mouse button.
- Press **DO**

The closer together the knots, the finer and smaller the resulting curve. The more knots that are defined, the smoother the curve.

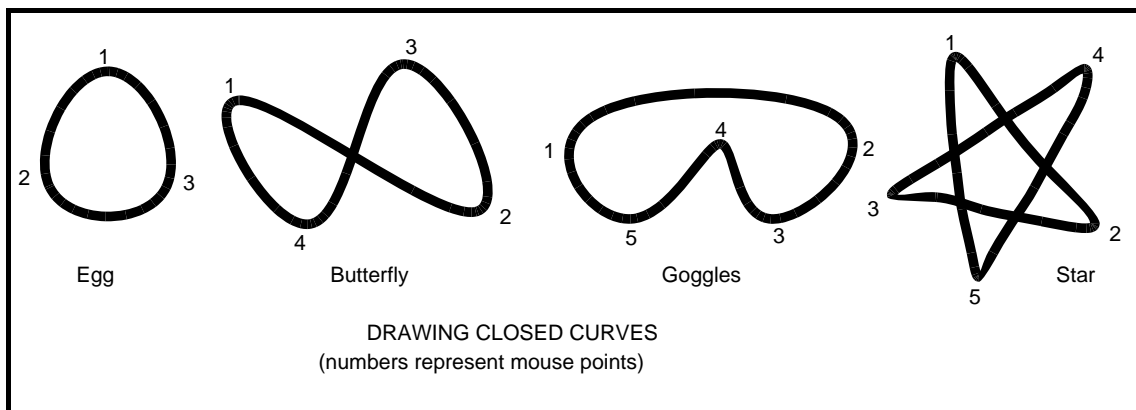


2.6.2 Closed curves

Closed curves can be drawn using the circular menu symbol.

- Mark the **circular symbol** and move the cursor into the picture area:
- Specify at least **three** knots with any mouse button.
- Press the **DO** key.

Below are some samples of closed curves. The numbers indicate the order in which the knots were specified:



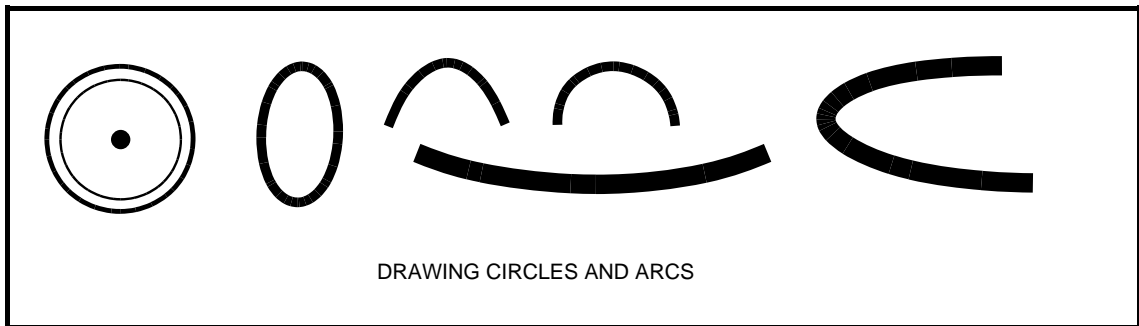
2.7 DRAWING CIRCLES AND ARCS

To draw perfect circles and arcs:

Retrieve the program* called *CIRCLE.DRAW*

*(see section 6.1, "Retrieving Files")

CIRCLE.DRAW is a template comprised of a pre-drawn circle with its center and two arcs of different sizes (half and quarter circles). By selecting, copying or moving, and scaling, you can create arcs and circles of any size and place them anywhere in your document. You should be familiar with section 5, "EDITS AND SPECIAL EFFECTS", in order to produce the kinds of sample circles and arcs shown below:



SECTION THREE: TEXT AND CAPTIONS

3.1 SELECTING FONTS

Three fonts are available for you to pick from. These are represented by the numbers 0, 1, and 2 at the bottom of the menu area. The numerals are displayed in the font each represents:

0 = helvetica12.al
1 = helvetica10.al
2 = helvetica12B.al (Bold)

To change from the default font (Helvetica12), place the cursor over the desired number and press a mouse button. The complement will change to show which has been selected.

3.2 INPUTTING TEXT

Text is added to an illustration by typing on the keyboard. As you type, the text is displayed in the caption area of the screen. Errors can be corrected with the backspace key. Text can be input just one line at a time.

To deposit captions in the picture area:

- a. Mark the appropriate font with the mouse.
- b. Type the line of text.
- c. Press **RETURN** (the line of text in the caption area will become complemented and the cursor will change to a letter midway in the line) or **mark the line** of text with the cursor.
- c. Move the cursor into the picture area and position it.
- d. Press the left or right mouse button (the left button deposits the text exactly where you place it; the right button deposits the text at the nearest grid point).

You can continue depositing copies of the caption in the picture area. If part of the caption lies outside the picture area, the line will appear as a striped rectangle. These outlying captions will print as text.

Note: Sometimes you'll find that the text input is extremely slow. It usually happens only when the freehand symbol is selected. This is a quirk of the program. Go get a cup of coffee while it finishes. Then, select any other menu symbol. The input speed should resume its normal pace.

3.3 POSITIONING TEXT

Normally the cursor picks up the middle of the line of text and captions will be centered. However you may want to line up captions either flush left or flush right. In this case, you'll want the cursor to pick up the left (or right)-most letter of the line.

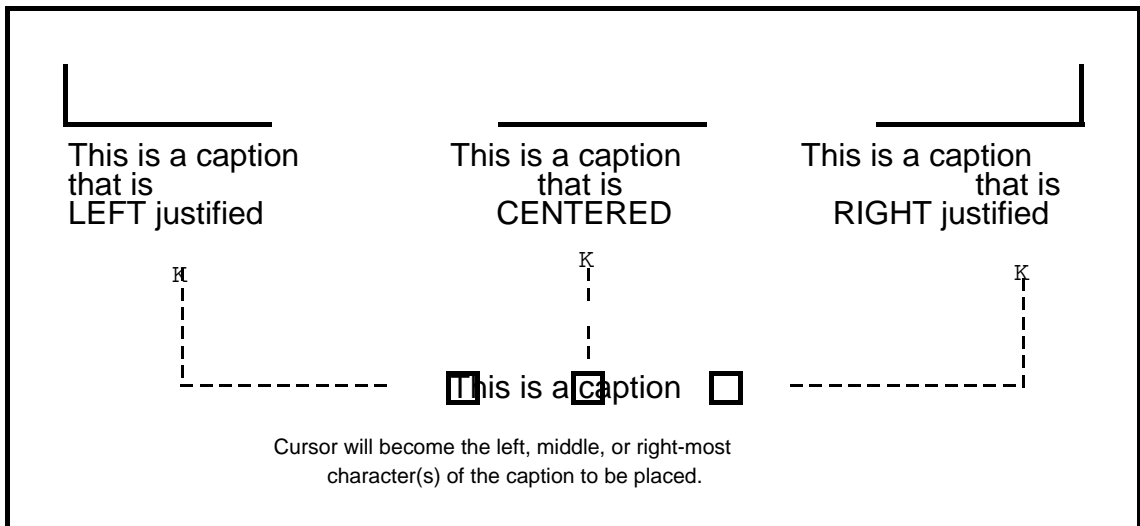
To change the text positioning mode, press:

- a. **LOOK T** (for text)

A message will appear in the message area:

Text positioning mode: (Center, Bottom, Left, Top, Right?)

- b. Type a **C**, **L**, or **R** in response. The cursor will change accordingly.

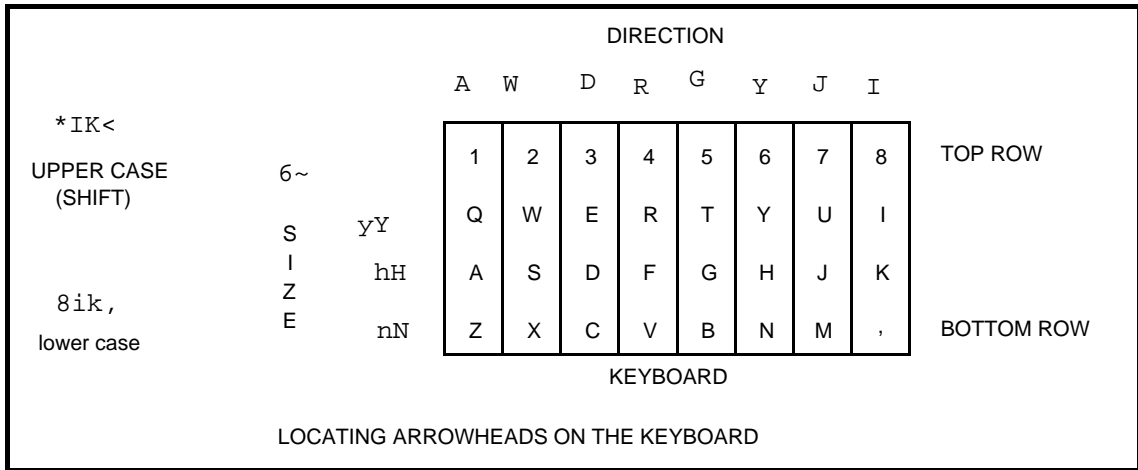


If you type a **T** or **B** (for top or bottom) the line of text can be deposited with its top aligned with a row of grid dots or its bottom aligned. However, with **T** or **B** selected, the text can only be centered, not left or right justified.

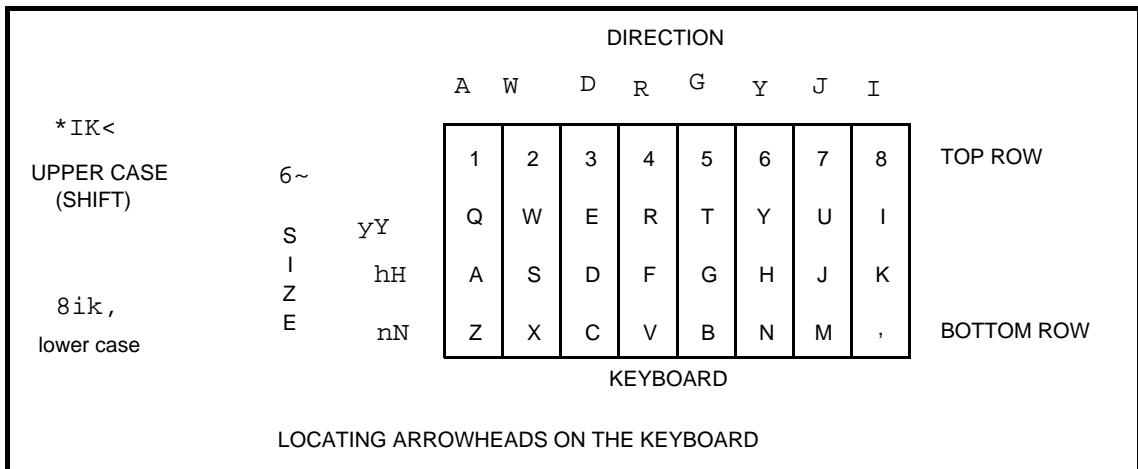
To delete a line of text in the picture area, see section 4.4, "Correcting Errors in the Picture Area")

3.4 USING THE ARROWHEAD FONT

You can produce a number of different effects and patterns using the third in your set of fonts, the arrowhead font. Below are some samples:



Arrowheads come in four sizes, either solid or open, and point in eight different directions. You select them, like captions, by typing on the keyboard, pressing **RETURN**, then positioning the cursor and pushing a mouse button. The illustration below shows which combination of keys to press to call up the various arrowheads:



3.5 SUBSTITUTING FONTS

When you enter DRAW you'll see the three fonts that are loaded into the program listed at the top of your screen. You may change up to three of them to create different effects. The fonts available to you for loading into the DRAW program can be found by typing ? at the EXECUTIVE.

To exchange fonts:

- a. Type **LOOK F** (for font)

This message will appear in the message area:

Load font 0, 1, 3 ?

Note that you cannot replace the system font, number 2. Number 3 is the arrowhead font and can be replaced. Decide which font you want eliminated.

- b. Type the number.

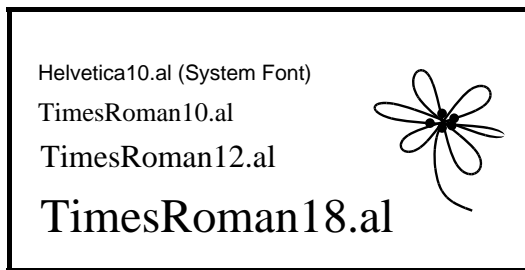
This message will appear in the message area:

Read font file:

- c. Type in the exact name of the file, such as

TimesRoman12.al RETURN

The example below shows three different sizes of the TimesRoman font loaded into DRAW:



Note: If you call up a special font to use in a drawing, then store the document as a working file, the next time you retrieve the document, the font will change back to the default font. So you'd have to reload the special font again. Once you make a press file of the illustration, though, the special font is there to stay. (See Section Six, *FILES AND PRINTING*)

SECTION FOUR: EDITS, ERRORS AND HELP

4.1 GETTING HELP FROM THE ON-LINE MANUAL

At the end of this Reference Manual, you'll find a Quick Reference Manual of just a few pages. These pages are also available to you within the DRAW program itself, so that if you're creating a document and need help, you can display the quick reference pages on your screen. To retrieve the Quick Reference Manual:

- a. Press **LOOK ?**

Any work in progress on the screen will be stored away temporarily; it'll come back unchanged when you're finished with the Manual.

Directions for bringing up successive pages of the Manual appear on its first page along with a table of contents. When you've finished with the Manual, press **LOOK ?** again. The Manual will be stored and your picture will return.

4.2 CORRECTING ERRORS IN THE CAPTION AREA

- a. To delete errors in the caption area, simply backspace (**BS** key). Each backspace deletes a single character.
- b. To delete the entire line, press **RETURN**. When you begin typing again, the deleted line will be replaced by the new line.

4.3 CORRECTING ERRORS IN THE MESSAGE AREA

If you make a typing error in the message area, simply backspace to the error and type in the correct letter(s). The backspace does not delete the letter from the screen however. Deleted characters will appear as the character preceeded by a slash. For example, suppose you type:

Pricechart.e_raw (instead of *d_raw*)

and you backspace four characters to the error. This is what it will look like:

Pricechart.eraw/w/a/r/e

The slashed characters tell you that you've backed up (deleted) to include the **e**. Then just retype the word as it should be. When you've finished, it'll look like this:

Pricechart.eraw/w/a/r/edraw

Press **RETURN** and everything's fine.

To eliminate a command message, such as *Write PRESS file: or Read picture from file: press:*

CANCEL

RETURN

4.4 CORRECTING ERRORS IN THE PICTURE AREA

- a. To delete unwanted lines and captions:

Mark the large **X** in the menu area with the mouse. The cursor will take on the form of the symbol.

Position the **X** over the line you wish to delete in the picture area. Press a mouse button and the line will be deleted. (The keyboard command **LOOK X** will also bring up the delete symbol.)

- b. To undo deletions (to bring back the line), type:

LOOK U (for undo)

A second, third, or fourth **LOOK U** will continue to bring back previous deletions, one at a time.

- c. To delete a misplaced **+** (when locating points on a line or curve with the mouse), type:

LOOK A

A second, third, or fourth **LOOK A** will continue to delete previous mouse points, one at a time.

- d. To delete a line of text just placed in the picture area, :

Type **LOOK A** (deletes only the last line of text placed)

- e. To delete several lines at once:

SELECT the line(s) to be deleted using the empty box from the menu (see section, "*Selecting Portions of Documents for Other Operations*")

type **LOOK D** (for delete)

If you decide deleting those lines was a mistake, type:

LOOK U (for undo)

- f. To change the font of a line of text in the picture area:

Mark the font desired in the menu. The complement will change.

Mark the small paintbrush in the menu.

Apply the paintbrush to the line of text to be changed and press any mouse button.

4.5 REFRESHING THE SCREEN

After deleting an object, the screen may not show the illustration accurately. This happens whenever overlapping objects are deleted and part of the undeleted object is erased on the screen. To return the accurate representation of the illustration to the screen:

press **TAB**.

The picture area will vanish for a moment, then your refreshed picture will return line by line.

4.6 INTERPRETING MESSAGES

The following is an alphabetical listing of the messages you are most likely to see, an explanation of what they mean, and what to do about them.

- a. **[Copy item-1] Sorry, not enough storage: the command has been aborted**

Interpretation: No more memory available. You cannot add any more to this document. Things that use up memory quickly are: lots of heavy lines, curves, or text; heavy use of the *copy* and *transform* commands; or lots of deletions and editing.

Action: Usually you can save your document with the **LOOK W** command. Try that first. A second measure you can take is to delete some of the lines from the drawing to give you a little room in the buffer. If you can't get any response, you must **QUIT** from **DRAW** (the document will be lost, unfortunately). When you re-enter **DRAW** to work on that document, you might want to set aside more memory by changing the default values of text or spline. See the section on "*Changing Default Values.*" Very occasionally, the system won't respond to anything, so restart by pushing the restart button.

- b. **[Compute Regular Spline] Sorry, not enough storage: the command has been aborted**

Interpretation: Same as above, but the system is telling you that it's been logjammed by lines or curves (not text).

Action: Same as above.

- c. **Done!**

Interpretation: This means that the command you gave has been obeyed (such as *Read font file: OR Write picture on file:*)

Action: None

- d. **Illegal Transform Parameters**

Interpretation: This means that you have asked the program to stretch or slant a figure in a way that is not possible.

Action: Press **DELeTe** to remove all mouse points. Start over, making sure that the second three mouse points are put down in the same order as the first three.

e. **Load font 0, 1, 3 ?**

Interpretation: The system thinks you want to replace a font with another from your disk. It's asking you which default font you want to eliminate in order to make room for the new one.

Action: Answer with the number of the font to be replaced (type 0, 1, or 3). To eliminate the message, press **DELeTe** and **RETURN**.

f. **No such file!**

Interpretation: You have asked for a file that can't be found.

Action: Check to make sure you haven't made a typing error. Or QUIT and check your file names in EXECUTIVE to make sure you've got it right.

g. **Overwrite ? [yes no]**

Interpretation: You already have a file by this name. Do you want to eliminate the old one and replace it with this document?

Action: Answer with a *y* or an *n*.

h. **Quit ? [yes no]**

Interpretation: Do you **really** want to quit (and lose any unfiled work that may be on the screen)? This is a safety feature to keep you from accidentally quitting.

Action: Answer with a *y* or an *n*.

i. **Text positioning mode: (Center, Bottom, Left, Top, Right?)**

Interpretation: How do you want the cursor to pick up a line of text? From the center, left, or right? With top or bottom aligned with grid row?

Action: Type in a *c*, *b*, *l*, *t*, or *r*. To eliminate the message, press **DELeTe** and **RETURN**.

j. **Read font file:**

Interpretation: What font should be loaded in place of the one just eliminated?

Action: Type in the exact name of the font to be loaded. Exact names can be found in the listing of files at the EXECUTIVE To eliminate the message, press **DELeTe** and **RETURN**.

k. **Read picture from file:**

Interpretation: What file do you want brought up on the screen?

Action: Type in the exact name of the file and press **RETURN**. After you've created and filed several documents, it's tough to remember the names. We suggest you keep a list of file names handy so you don't need to refer to the EXECUTIVE.

l. **Sorry, no room for more than xx text strings.
To get more space for text, start DRAW with switch/T (e.g. Draw 200/T)**

Interpretation: You're out of memory because you've used a lot of text. See a more detailed explanation in the first entry of this section.

Action: Usually you can save your document with the **LOOK W** command. Try that first. A second measure you can take is to delete some of the lines of text to give you a little room in memory storage. If you can't get any response, you must **QUIT** from **DRAW** (the document will be lost, unfortunately). When you re-enter **DRAW** to work on that document, you might want to set aside more memory by changing the default values for text. See the section on "*Changing Default Values.*" Very occasionally, the system won't respond to anything, so restart.

m. **Sorry, no picture to print!**

Interpretation: You've asked the program to make a Press File from a blank screen. It's telling you it won't write an empty file.

Action: None.

n. **To get larger work space for curves, start DRAW with switch/S (e.g. DRAW xxx)**

Interpretation: You're approaching the memory's capacity to draw curves.

Action: File the document (**LOOK W**), **QUIT**, then restart draw according to the instructions in "*Changing Default Values.*"

o. **Warning: line or curve (caption) #(xx) lies outside the printed page, on the top (bottom, left, right). It should be deleted before printing. Type any character to continue.**

Interpretation: In response to your command to create a Press File, the system is telling you that some of your document lies outside the boundaries of an 8 1/2 x 11 inch printed page. It

tells you whether the offending portion is a line or text and in which direction it lies.

Action: You may choose to heed or ignore the warning. The document will print even if you do not delete the outlying portions. If you want to go back and delete them, the image on the screen remains editable. Make the necessary changes and make a press file again.

p. **Write picture on file:**

Interpretation: In response to your request to write a working file, the system is asking what you want to name it.

Action: Type in a name appended by **.draw**. Press **RETURN**. To eliminate the message, type **DELeTe** and **RETURN**.

q. **Write PRESS file:**

Interpretation: In response to your request to write a Press file, the system is asking what you want to name it. (See section 6.2, "Naming DRAW Files" for definitions.)

Action: Type in a name appended by **.press**. Press **RETURN**. To eliminate the message, type **DELeTe** and **RETURN**.

SECTION FIVE: EDITS AND SPECIAL EFFECTS

5.1 SELECTING PORTIONS OF DOCUMENTS FOR OTHER OPERATIONS

Often you'll need to select portion of a document in order to perform some kind of operation on its elements. You need to select lines or text in order to:

- delete** them
- copy** them into another area of the document
- move** them elsewhere
- transform** them

To **select**:

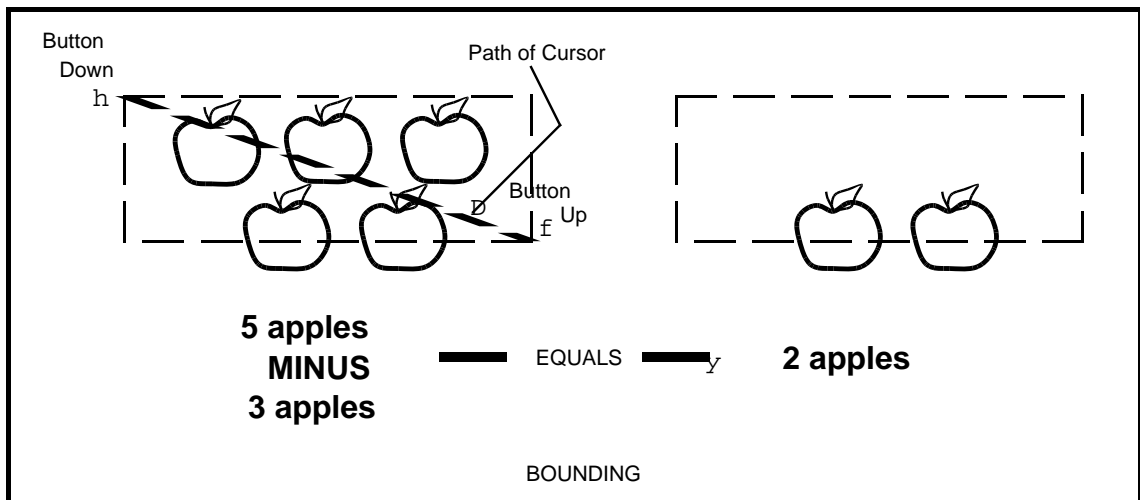
- a. Mark the empty box from the menu, or type **LOOK S** (for select)
- b. Position the square over the line(s), curves, and text to be selected and push any mouse button. Selected lines and curves show a little square symbol. Selected text reverses to a black background (complemented).
- c. To select the entire document, type:
LOOK E (for everything)
- d. To undo selections, type:

LOOK S

5.2 SELECTING AREAS BY BOUNDING

You may select everything within an imaginary rectangular area by bounding. To **bound**:

- Point at one of the corners of the imaginary rectangle and hold down a mouse button.
- Move the cursor diagonally to the opposite corner and release the button.



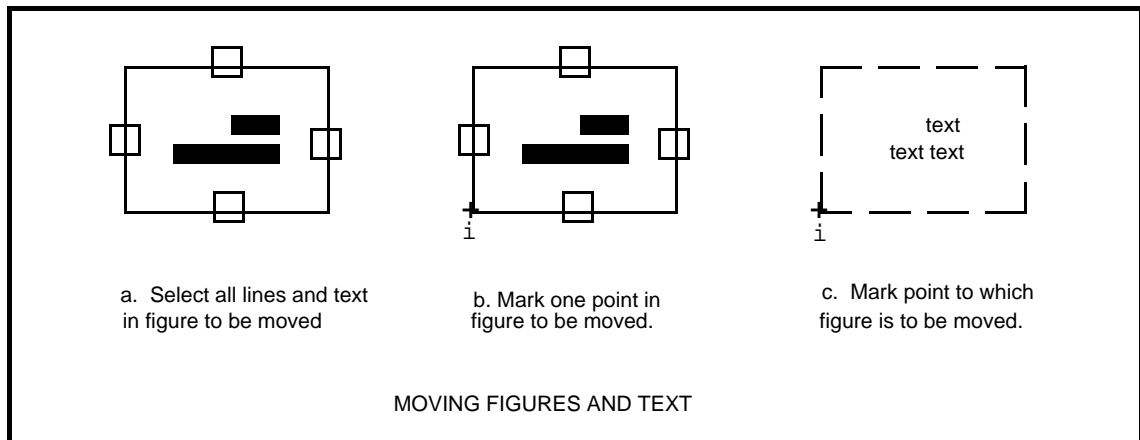
This selects all the objects which are *totally enclosed* within the rectangular area. Notice in the illustration that the bottom row of apples was not affected.

- Now that the enclosed area is selected, it can be moved, copied, transformed, or deleted. In the illustration, we chose to delete.

5.3 MOVING FIGURES AND TEXT:

Often you'll decide that all or part of your original illustration is not placed in the ideal spot and you'll want to move it elsewhere in the picture area.

- SELECT the portion to be moved.
- Mark the **single arrow** in the menu.
- Specify a reference point in the selected portion and press the left or right mouse button **once**. The right button specifies the nearest grid point; the left, the exact position of the cursor point.
- Position the cursor at the point you want the material to appear. Push the left or right mouse button **once**.



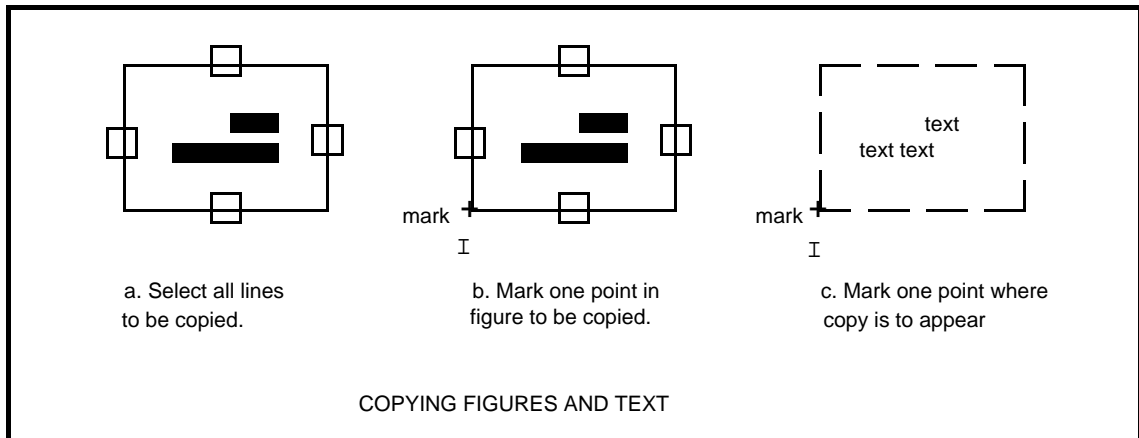
To return the figure to its original position, type:

LOOK U (for undo)

5.4 COPYING FIGURES AND TEXT:

Some illustrations require that lines or boxes or text be repeated several times. Rather than draw them over and over, it's easier to draw them once and copy them one or more times. Examples of this kind of drawing are an organization chart or a form with multiple lines. To copy drawings and text, follow the same procedure as above, but use the **double arrow** next to the single one in the menu:

- a. SELECT the portion to be copied.
- b. Mark the **double arrow** in the menu.
- c. Specify a single reference point in the selected drawing with either mouse button. Again, the right button specifies the nearest grid point; the left, the exact position of the cursor point.
- d. Specify the point where the copy is to appear with either button.



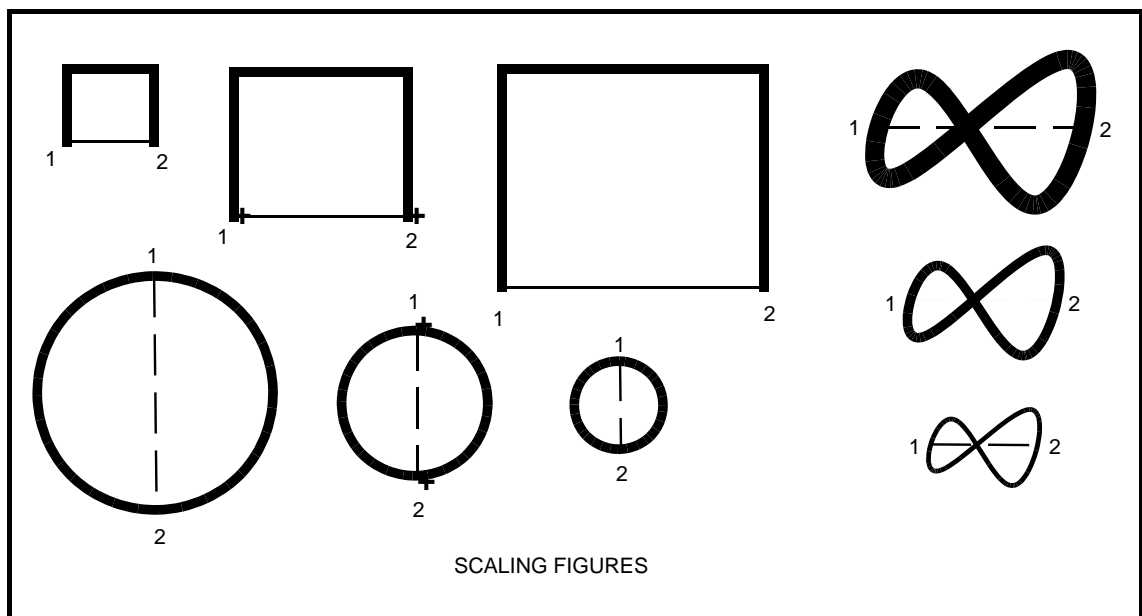
The copy will remain selected until you type **LOOK S** or mark the **SELECT** command again. This lets you copy as many boxes, for example, as you wish without going through the select process again.

5.5 TRANSFORMING FIGURES:

In general, this term means to change the size or shape of a figure. For example, a square may be *transformed* into a larger or smaller square (scaled), a rectangle (stretched), a parallelogram (slanted), or a diamond (rotated). Only line or curve figures may be transformed; text may not be transformed.

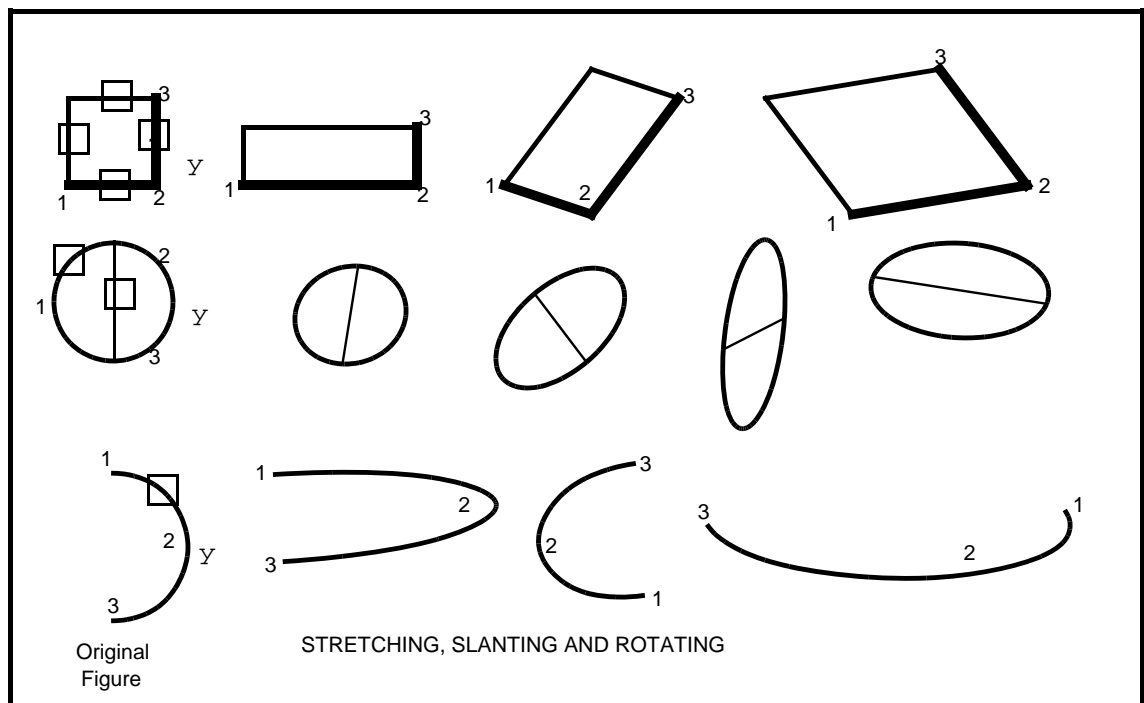
5.5.1 **Scaling:** The **solid single** and **double triangles** below the arrows let you **enlarge or reduce** and **move** a figure (with the single triangle), or **enlarge or reduce** and **copy** (with the double triangle).

- SELECT the figure to be enlarged or reduced
- Mark the **solid triangle** from the menu (single triangle to move; double triangle to copy).
- Specify **two** points in the **selected figure** with the mouse
- Specify **two** points at the **new position** with the mouse. If you wanted to double the size of the figure, these two points should be twice as far apart as the two points in the selected figure. Conversely, to reduce the selected figure, make the second two points closer together.



5.5.2 **Stretching, Slanting, Rotating:** The two symbols below the solid triangles are double and single triangles with three white dots. We'll call them **dotted triangles**.

- SELECT the figure to be changed.
- Mark the **dotted triangle** in the menu (single triangle to move; double triangle to copy).
- Specify **three points** in the **selected figure** with the mouse.
- Specify **three points** at the **new position** with the mouse.



The illustrations above show how the same figure may be stretched, slanted, or rotated, depending on how the three points at the new position are placed.

SECTION SIX: FILES AND PRINTING

6.1 RETRIEVING DRAW FILES:

- a. To retrieve a file, type:

LOOK R (for read)

- b. A message at the top of the screen will say:

Read picture from file:

- c. Type in the name of the file and press **RETURN**, as shown below:

Read picture from file: *CIRCLE.DRAW* **RETURN**

The program will recognize any combination of upper and lower case letters, so you could type *Pricechart.Draw*, *pricechart.draw*, or *PRICECHART.DRAW*.

- d. To eliminate the **LOOK R** command, press **DELeTe** and **RETURN**. The message area will look like this:

Read picture from file: XXX Abort

6.2 NAMING DRAW FILES

As you create documents with the DRAW program, you'll need to give them names so that you can file and retrieve them easily. You'll be storing two different kinds of DRAW files:

documents which can be retrieved and edited.

documents which are in final form for printing and cannot be edited.

Documents which can be retrieved and edited are called **working files**; those which are in final form for printing, **press files**. To keep them straight, add the suffix **.draw** to working files and **.press** to files which are ready to be printed. (See section "Creating Press Files" and "Printing Press Files: EMPRESS") For example:

PRICECHART.DRAW	A working file which can be retrieved, edited, and stored. Working (or DRAW) files cannot be printed.
PRICECHART.PRESS	A press file which can be retrieved, printed and stored. But it cannot be edited.

Often you will want to keep two versions of the same document; one as a working file on which you can make changes, and one as a press file that can be printed.

Note: Never, **but never**, allow any spaces in any file name! The computer is a very literal fellow. When it sees a space, it thinks its reading job is over. Therefore it'll be looking for something entirely different from what you intended and will tell you there's *no such file!* Use dots or hyphens if you need to separate words.

6.3 STORING WORKING FILES

- a. When you wish to store a partially finished illustration, or one you may wish to change later, type:

LOOK W (for write)

- b. A message will appear in the message area:

Write picture on file:

- c. Type in the name of the file (to correct a typing error, see section 4.3, "Correcting Errors In The Message Area"):

Write picture on file: **Pricechart.draw**

- d. Press **RETURN**

When the drawing has been stored, the message

Done!

will appear in the message area. Working files can be deleted from your disk only from the EXECUTIVE or other file management program.

6.4 STORING EDITED VERSIONS OF A DRAW DOCUMENT

You may retrieve a document, edit it, and refile it. If you wish to **keep the original** version, you must rename the edited document.

- a. Type **LOOK W**, as above, then type in the name of the edited document.

One way of naming versions of the same document is to add a numeral to the name. For example:

Original Document Name: Pricechart.draw

Edited Document Name: Pricechart2.draw

- b. If you want to **replace the original** with the edited version, answer the *Write picture on file:* message with the name of the original document (*Pricechart.draw*). The following message will appear:

Overwrite ? [yes no]

- c. A **y** or **RETURN** will replace the original document with the edited version. An **n** will return the *Write picture on file:* message to the screen and allow you to rename the document and save the original.

6.5 CREATING PRESS FILES

- a. When you have completed a document and want to print it, it must be converted first into a **Press File**. To create a Press File, type:

LOOK P (for press)

The screen will go black except for the message area; this message will appear:

Write PRESS file:

- b. Type in the name of the document with the suffix **.press**:

Write PRESS file: Pricechart.press **RETURN**

At this point you could get one of two messages. The first:

Overwrite ? [yes no]

This indicates that there is already a Press File by this name which will be replaced by the new document. Typing a **y** will replace the document; typing an **n** will require you to give the new document a different name.

The second message you might get is:

Warning: line or curve (caption) #(xx) lies outside the printed page, on the top (bottom, left, right). It should be deleted before printing. Type any character to continue.

This means that you have positioned part of your document not only outside the picture area of the screen, but also outside the boundaries of the page it is to be printed on (see section "*Creating Documents Larger Than The Picture Area*"). When you type any character, you will get a message for each line or caption that is outside the boundaries.

To delete these outlying figures, first abort the (**LOOK P**) PRESS command with:

DELe **RETURN**

The document will remain on the screen in an editable form and you can delete or reposition the outlying figures. If you ignore the warning, the offending figures may be omitted or partially printed on the paper copy, depending on how far out they lie.

6.6 PRINTING PRESS FILES (EMPRESS)

EMPRESS is the program that prints the Press Files you've made of your illustrations. To print, make sure your document is in press format, then:

- a. Quit from DRAW
- b. At the EXECUTIVE type:

```
empress pricechart.press x/c RETURN
      ^                ^
```

The arrows denote spaces; the *x/c* means type in the number of copies you want, such as *3/c* or *25/c*. If you omit the *x/c* code, just one copy will print. Either upper or lower case letters will be recognized.

If you have a number of files with similar names that you want printed at the same time, such as:

```
Pricechart1.press
Pricechart2.press
PriceBarGraph.press
```

you can designate all of them at once with a *:

```
empress price*.press x/c RETURN
      ^                ^
```

To print Press Files that contain merged text from the EDITOR and illustrations created in DRAW, see the section, X.4 "Merging Graphics and Text (PRESSEEDIT)."

SECTION X: FOR EXPERTS

X.1 USING KEYBOARD (EXPERT) COMMANDS

Though you've probably already become familiar with many of the expert commands, the following is a summary list of the commands and their effects.

Keyboard commands that make **menu** selections:

<i>To:</i>	<i>Press:</i>	<i>The cursor becomes:</i>
<i>draw</i>	DO	The cross + to mark lines and curves
<i>delete</i>	LOOK X	Large X
<i>select</i>	LOOK S	The box
<i>move</i>	LOOK Z	Single arrow
<i>caption</i>	RETURN	The line of text in the caption area

Keyboard commands that **correct errors**:

<i>To delete, correct or undo:</i>	<i>Press:</i>
<i>the last mouse point(s)</i>	LOOK A
<i>all mouse points</i>	DELeTe
<i>the last command</i>	LOOK U (Undo)
<i>all selected portions</i>	LOOK D
<i>typos in the message or picture area</i>	BS (backspace)

Keyboard commands that act on the **entire picture area**:

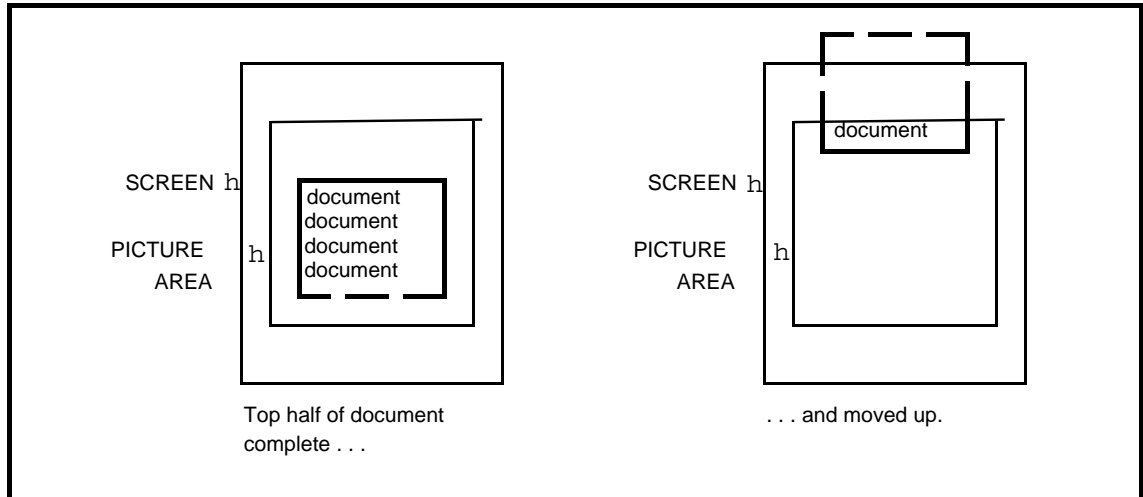
<i>To:</i>	<i>Press:</i>
<i>turn grid on/off</i>	LOOK G
<i>refresh the screen</i>	TAB
<i>select everything in the picture area</i>	LOOK E
<i>delete everything in the picture area</i>	LOOK E + LOOK D

Keyboard commands that **talk back**:

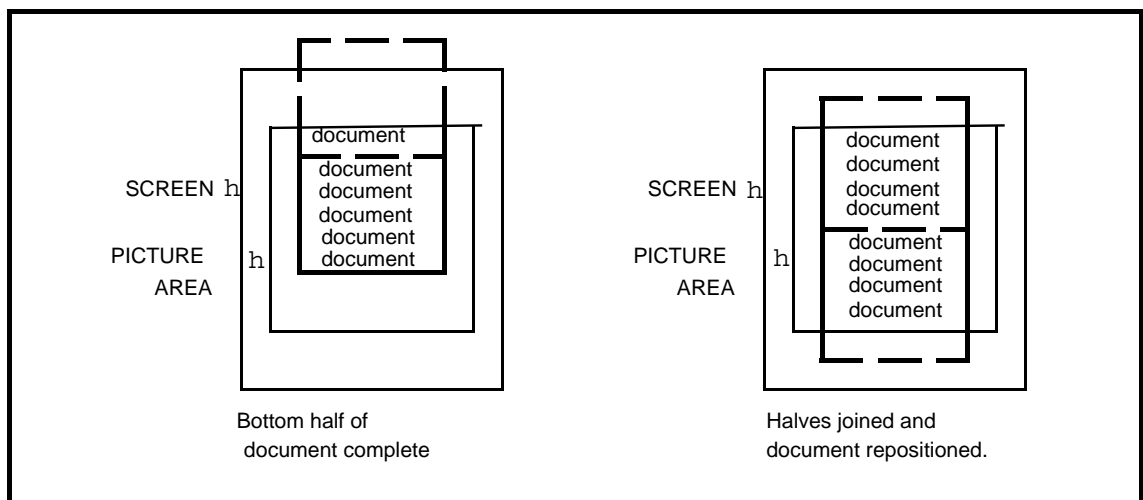
<i>To:</i>	<i>Press:</i>	<i>DRAW response:</i>
<i>change text positioning mode</i>	LOOK T	Text positioning mode: [Center, Bottom, Left, Top, Right ?]
<i>change font</i>	LOOK F	Load font 0, 1, 3 ? and Read font file:
<i>read/retrieve file</i>	LOOK R	Read picture from file:
<i>write working file</i>	LOOK W	Write picture on file:
<i>write Press File</i>	LOOK P	Write PRESS file:
<i>get help</i>	LOOK ?	Stores your picture away, brings up on line manual of summary pages. A second LOOK ? stores manual and brings picture back.
<i>get next page of Help Manual</i>	MOVE	Shows you next page of manual
<i>quit</i>	LOOK Q	Quit ? [yes no]

X.2 CREATING DOCUMENTS LARGER THAN THE PICTURE AREA

Though only the picture area is available to you for creating documents on the screen, you can, by moving parts of the document around, create a final printed document that is a full 8½ x 11 inches. For example, if you wished to create a form that is 10 inches long, create the top half of the document, then move it up, nearly off the screen:

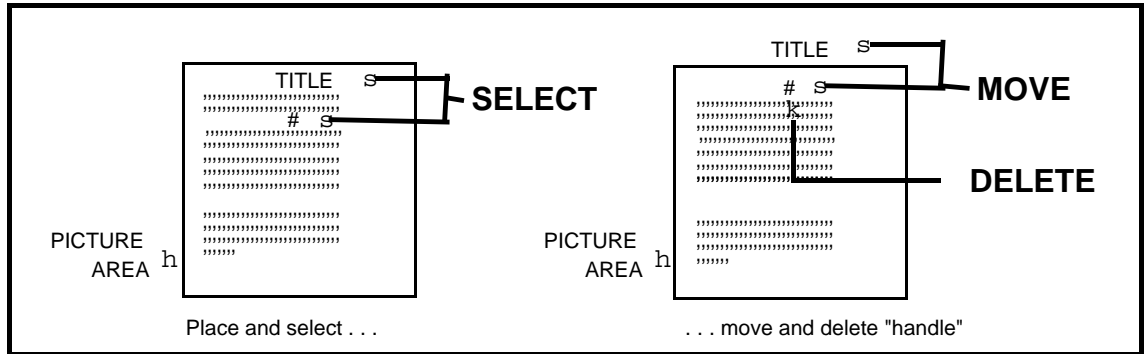


Create the bottom half of the form, append it to the top half. Then select the entire document and move it to the middle of the screen. Though you won't be able to see the top and bottom of the document, it will print.



Similarly, should you want to position a title above the picture area, deposit the title within the picture area. Then, deposit any letter an inch or two below the title. This letter will act as a "handle" to boost the title beyond the picture area.

Select both the title and the letter. With the single arrow, mark the **letter** and move it up. The title will disappear, but the letter will remain in view on the screen. Now delete the letter as shown below:



X.3 CHANGING DEFAULT VALUES

Certain characteristics of the DRAW program can be changed to suit your need to create different kinds of documents. These changes (called *command line switches*) must be made at the EXECUTIVE as you enter DRAW. The following is a summary of the changes you can make, what the default value is, and what effect the change has after you enter DRAW:

Switch	Default Value	Explanation
x/G	16	The default value produces grid points about one-sixth inch apart. Changing the default value to 20 makes the grid points about one-quarter inch apart. Conversely, a value of 8 results in about 10 grid points to the inch.
x/S	200	The maximum number of splines (lines and curves) allowed in an illustration is 200. To create illustrations that require many lines, you can specify additional splines, such as 300/S.
x/T	100	DRAW will allow 100 lines of text captions. For documents with an extraordinary amount of text, enter DRAW with a 150/T switch, for example.
x/K	100	The maximum number of knots a curve may have is 100. To make finer, tighter curved lines, increase this switch to 150 or even 200.
x/D	16	You can alter the length of the dashes in a dashed line by decreasing or increasing this default value. To make the dashes shorter, change the default to 8, or 4, or whatever. To make them longer, increase the default to 20, 32, or more.
x/O	8	The open spaces between the dashes can be altered too. To close them up, enter a smaller number; to widen the spaces increase the default value.

You may change one or more of these switches from the EXECUTIVE by typing:

```
draw 12/g 8/d 200/t          RETURN
      ^   ^   ^
```

The order doesn't matter--nor does upper or lower case letters. The arrows indicate spaces.

X.4 MERGING GRAPHICS AND TEXT (PRESSEDT)

Sometimes you'll want to insert drawings and illustrations that have been created in DRAW into a text document that has been created with the EDITOR. This manual was created in this fashion. Both the text document and the draw files must be prepared in a certain way, then merged at the EXECUTIVE using the program PRESSEDT:

In DRAW:

- a. Create or retrieve the drawing that is to be inserted.
- b. Type these characters into the caption area:

`< = = <<` (no spaces)

This is a code that tells the system where to print the graphic. It will not appear in the final, printed copy.

- c. Position the code at the upper left corner of the drawing.
- d. Create a Press File of the document (**LOOK P**).
- e. Make note of the name you give this file and quit from DRAW.

In the EDITOR:

- a. Create or get the text document.
- b. At the spot you want the graphic to appear, type its exact title within the code characters:

`<= =<Pricechart.press<`

Position this line exactly where you want the upper left corner of the graphic to be placed. The system will overlay the first four code characters in the draw document exactly on top of the first four code characters in the text.

***Important:** Be sure to leave sufficient *white space* in the text to accommodate the drawing. Otherwise the drawing will overprint onto the following text. Check page breaks, too, to make sure the drawing will fit onto the page.

