

Series 100/Graphics



Manual Part No.
45410-90001

Printed in U.S.A.
9/83

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Printing History

New editions of this manual will incorporate all material since the previous edition. Update packages may be used between editions and contain replacement and additional pages to be merged into the manual by the user.

The manual printing date and part number indicate its current edition. The printing date changes when a new edition is printed. (Minor corrections and updates which are incorporated at reprint do not cause the date to change.)

First Edition - September 1983

PREPARING YOUR SYSTEM TO USE SERIES 100'S GRAPHICS



Setting Up Your Plotter For Series 100 Graphics

Before you can use a plotter with Series 100 Graphics, you must set up your system and plotter so that they can talk to each other.

If you have an RS-232 Plotter:

1. Set the System Device `PLT:` to be `Port 2`.
 - a. Run `DEVICE CONFIG` (see P.A.M.)
 - b. Press the `Tab` key until the field labeled `PLT` is highlighted.
 - c. Press `F8` `Next Choice` until the field contains "Port 2".
 - d. Press `F4` `Save Config`.
 - e. Press `F8` `Exit CONFIG`, to return to P.A.M.

2. Configure Port 2 for hardware handshake.
 - a. Run `MSDOS COMMANDS` (see P.A.M.).
 - b. Press `System` key (next to `F5`) twice.
 - c. Press `F8` `config keys`.
 - d. Press `F4` `port 2 config`.
 - e. Press `F4` `system defaults`.
 - f. Press `F4` `DEFAULT VALUES`.
 - g. Position the cursor on the field labeled "Baud Rate".
 - h. Press `F2` `Next Choice` until field contains 9600.
 - i. Press the `Tab` key to move the cursor to the field labeled "CS(CB)Xmit".

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- j. Press **NEXT CHOICE** until the field contains "Yes".
- k. Press **SAVE CONFIG**.
- l. Type "PAM" and , to return to P.A.M.

For HP 7470 or HP 7475 Plotters:

1. Connect cable number 13242G (or its equivalent) between Port 2 and the plotter.
2. Set the plotter switches so that they match the settings made above.


	<u>7470</u>		<u>7475</u>
B1	0	B1	0
B2	1	B2	1
B3	0	B3	0
B4	1	B4	1
		A4/A3	*
A4/US	*	MET/US	*
D/Y	0	D/Y	0
S1	0	S1	0
S2	0	S2	0

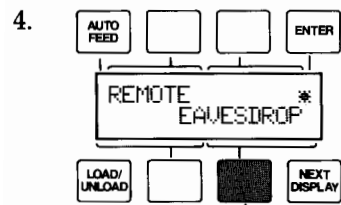
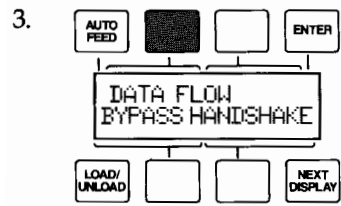
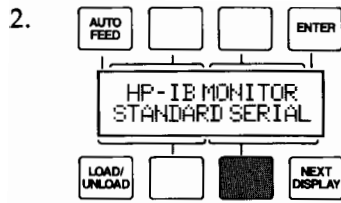
For HP 7550 Plotter:

Connect cable number 17755 A between Port 2 and the plotter connection labeled "Computer/Modem".

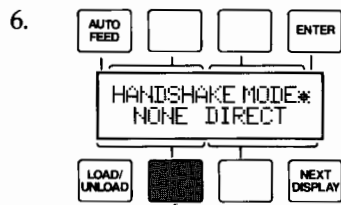
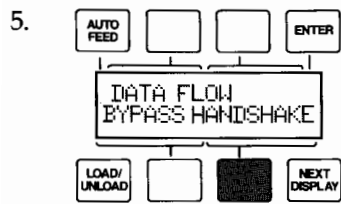
RS-232 settings for 7550:

Press while turning the power on.

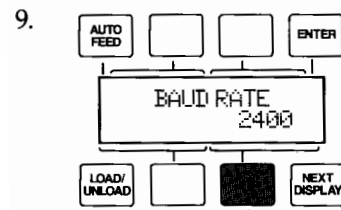
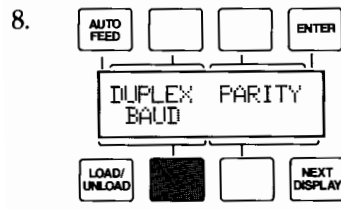
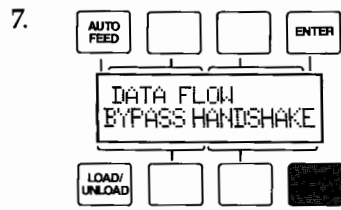
1.  Press ENTER first, and while keeping it depressed, press NEXT DISPLAY. Repeat this step when you see both keys highlighted later on in this section.



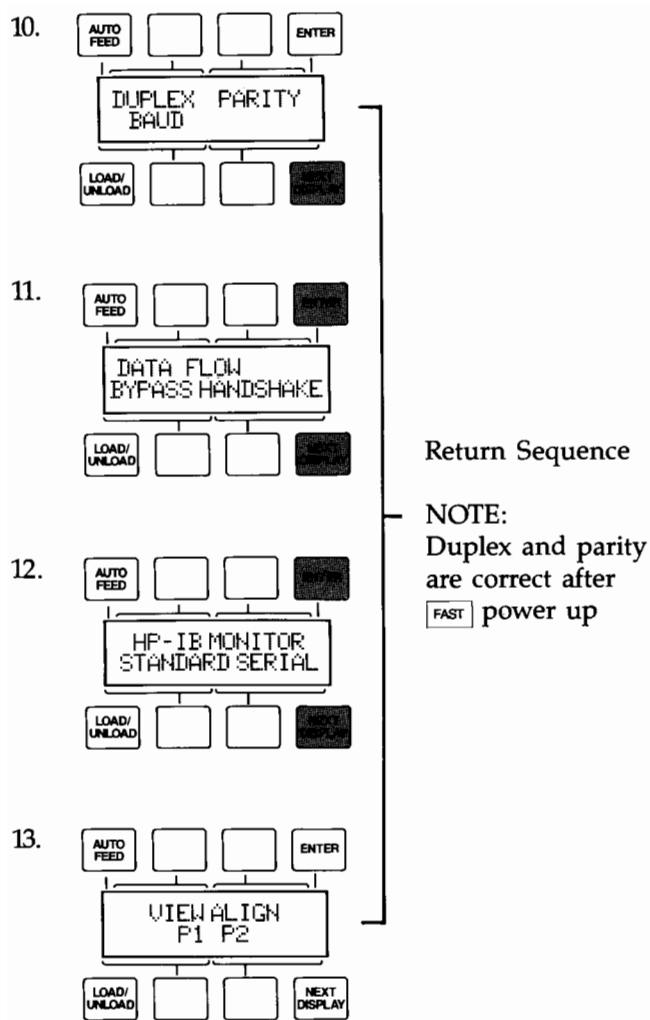
Until display says:
STANDALONE, then
press



Until display says:
HARDWIRE, then
press



↑ Until display says:
9600 then press
ENTER



If you have an HP-IB Plotter:

1. Set System Device "PLT:" to be "HP-IB" address "5".
 - a. Run "DEVICE CONFIG" (see P.A.M.).
 - b. Press the key until the field labeled "PLT:" is highlighted.
 - c. Press **Next Choice** until the field contains "HP-IB".
 - d. Press **Save Config.**
 - e. Press **Exit CONFIG** to return to P.A.M.

2. Connect an HP-IB cable between your HP 150 and the plotter.
3. Set the plotter switches so that they match the settings made above.

	7470		7475
B1	1	1	1
2	0	2	0
4	1	4	1
16	0	16	0
A4/US	*	A4/A3	*
		MET/US	*

HP-IB switch setting for the 7550.

Hold down the FAST key while turning the power on. This will set the default values.

- * See the *Operator's Manual* for your plotter to find out how you want these switches set (Series 100 Graphics will work with any setting you chose).

Also, before you press the **Start Plotting** key in Series 100 Graphics, be sure the plotter is turned on and the paper is loaded (with the lever down).

NOTE

The application *must* be in the drive while running the software until you exit back to P.A.M. If you get the message:

**Disc error: Insert the application disc and press
Return to continue**

and you are unable to continue after pressing Return, you must load the Operating System (see Chapter 3 of the *Owner's Guide*).

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INTRODUCING SERIES 100 GRAPHICS



With Series 100/Graphics you can quickly and easily make presentation graphics using your HP 150. Series 100/Graphics, commonly referred to as Graphics, takes care of your graphing needs for bar charts, line charts, pie charts, scattergrams, and text charts. By supplying the data and deciding on some chart characteristics, you can create presentation-quality graphs within minutes of your first session with Graphics.

Installation instructions for Graphics are located in the Owner's Manual with the plotter configurations you may need. Graphics is easy to install whether you are using a floppy disc or a fixed disc system.

Please note that the examples and fonts disc is a data disc, not an application disc. It must be copied, not installed. Refer to the HP 150 Owner's Guide for these instructions.

Using Your Graphics Manual

This manual is designed to help you use Graphics effectively. Your working knowledge of the HP 150 is assumed. If you are unfamiliar with the HP 150, you may wish to spend some time reading the *HP 150 Computer Owner's Guide*. The remainder of the manual is organized as follows:

Getting Started

- Lesson 1 "Introducing Getting Started" gives an overview of the lessons and is a guide to the features on the screens.
- Lesson 2 "Making Your First Chart" guides you step-by-step through creating your first Graphics chart. You don't even need to supply data. If you have never made a computer generated chart, don't worry, this chapter will soon remedy that.
- Lesson 3 "Drawing Pie Charts" details the procedures for drawing Pie Charts.
- Lesson 4 "Drawing Bar Charts" covers the procedures for Bar Chart generation.
- Lesson 5 "Drawing Line Charts" lists the procedures for producing Line Charts and Scattergrams.
- Lesson 6 "Drawing Text Charts" gives the procedures for drawing Text Charts.

Using Graphics

- Chapter 1 "Using Graphics" completes the set of procedures that Graphics has to offer. It supplements the Getting Started section by describing the more complex and less used features.

For Your Reference

- Chapter 2 "Introducing For Your Reference" tells you what you will find in this section and how to find it.
- Chapter 3 "Chart Characteristics" lists the number of lines, bars, and segments, and data value ranges.

Chapter 4 "Selection Fields" explains every field that you use to create your charts. Each field has definite choices for you to select or lets you fill in the blank. This chapter lists the choices and other information for each field.

Chapter 5 "Function Keys" lists all of the function keys, where you'll find them in Graphics and what they are used for.

Appendices

Appendix A "Messages" lists the messages that Graphics gives you if you make a mistake. This appendix also lists the reasons for the messages and what you should do about them.

The Index covers all of the topics presented in Using Graphics, For Your Reference, and the Appendices.

The next portion of this introduction explains Graphics' organization. Following that is a section which shows you the different components of each chart using the terms you will use with Graphics. The last portion before the Getting Started gives you some general rules-of-thumb for using Graphics effectively.

Graphics' Organization

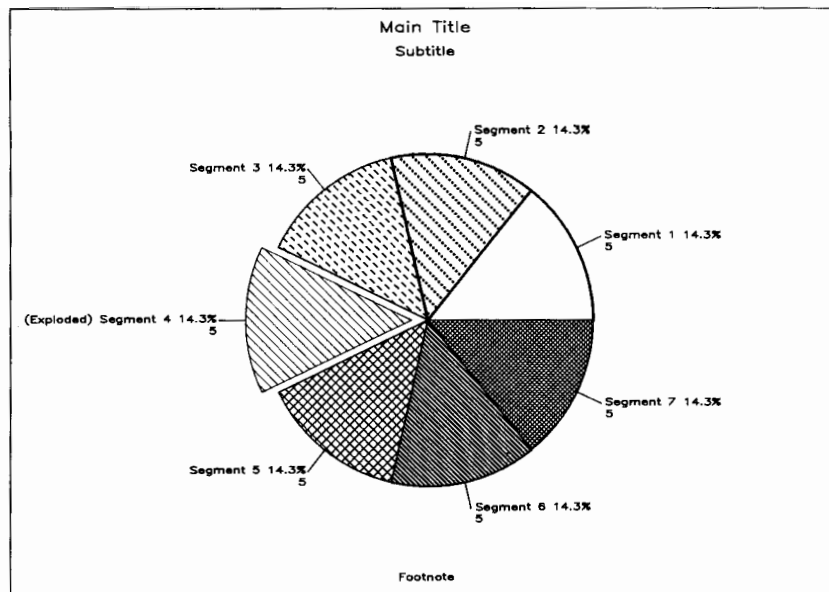
There is a total of six screens that you use to make a chart. There is no mandatory order to the way you should go through the screens; just start and end with the Main screen.

Graphics Chart Types

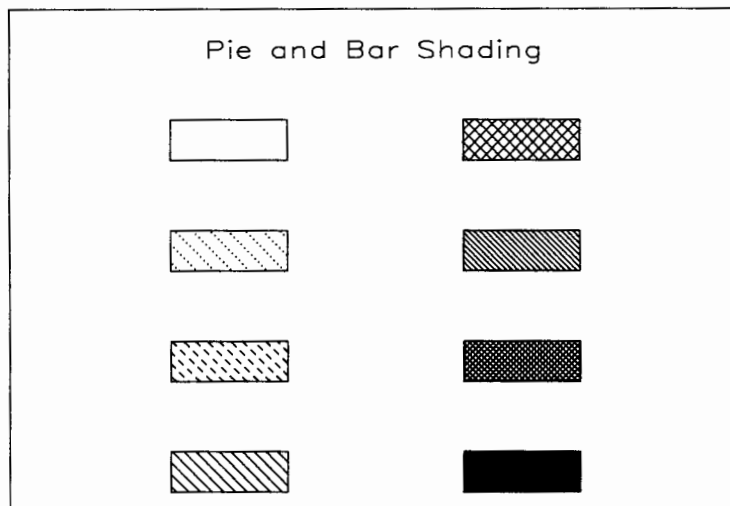
Before going into which charts you should use and how to draw them with Graphics, let's see what Graphics charts look like and introduce you to some of the terms you'll use with Graphics.

Space is provided on the Bar, Line, and Pie Charts for a main title, a subtitle, and a footnote. The main title should be a concise statement describing your chart's purpose. The subtitle and footnote may provide information about specifics on the chart such as who drew it, when it was drawn, or limitations of the data.

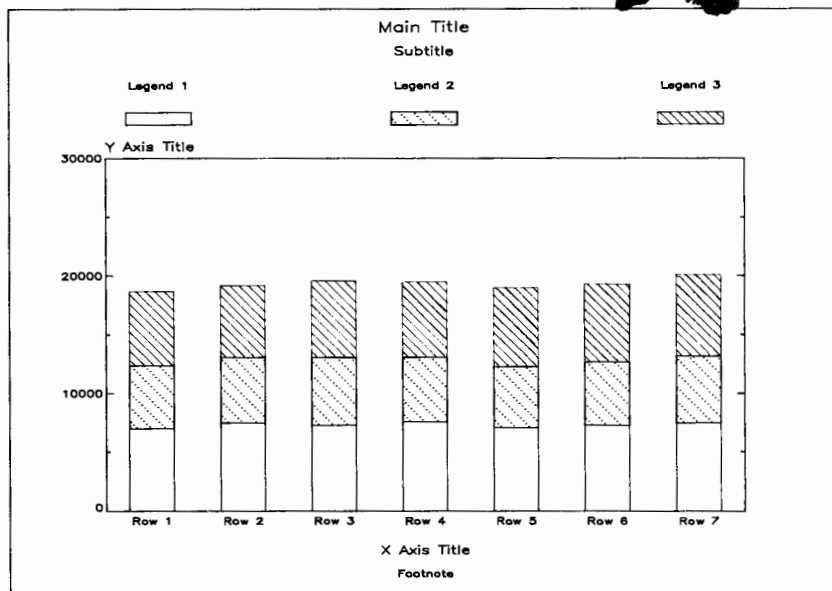
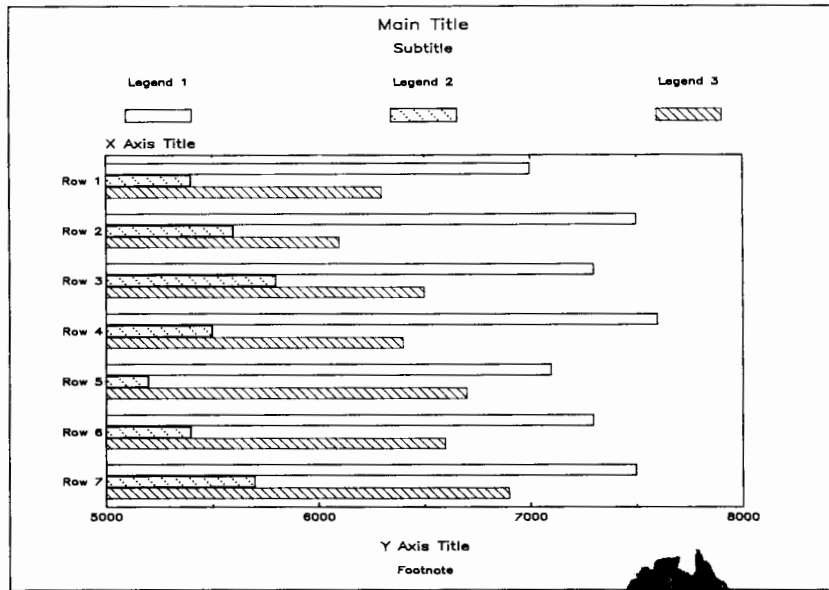
Next, take a closer look at the features on each chart. First, examine the pie chart.



Find the main title and subtitle at the top of the chart and the footnote at the bottom. Next, locate the "segment labels" around the pie. Notice the percentage value and the data value written with each segment label. One segment is labeled "(Exploded) Segment;" its associated pie segment is slightly removed or exploded from the rest of the segments for emphasis. Optional sorting arranges the segments smallest to largest around the pie. Segment shading and pen color are also your choice. The shading is the same for pie charts and bar charts as shown in the following figure.



Next, look at the features of the bar charts; the Horizontal Clustered Bar Chart and the Vertical Stacked Bar Chart. You can chart four types of Bar Charts: Vertical Clustered, Vertical Stacked, Horizontal Clustered, and Horizontal Stacked.



First, find the main titles, subtitle, and footnotes on both charts.

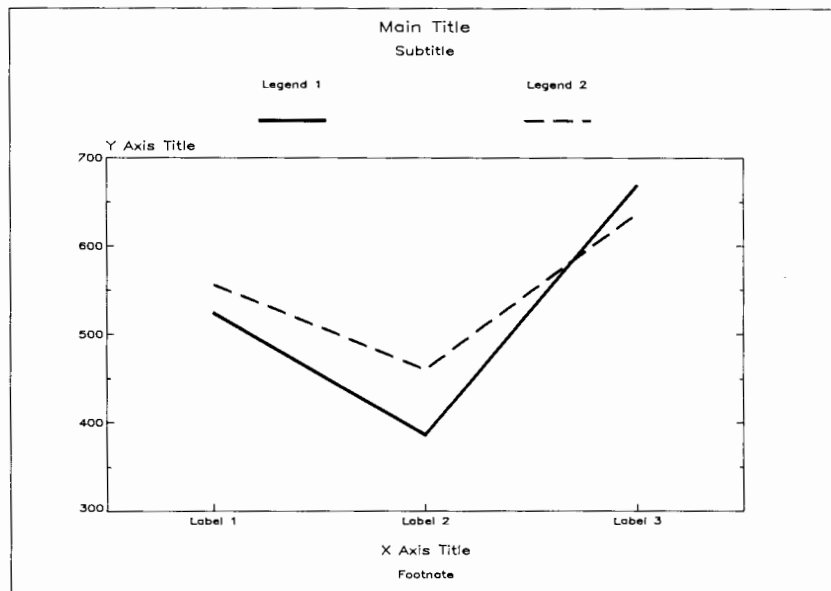
Two other kinds of titles are used for bar charts. They are the Y-axis and the X-axis titles.

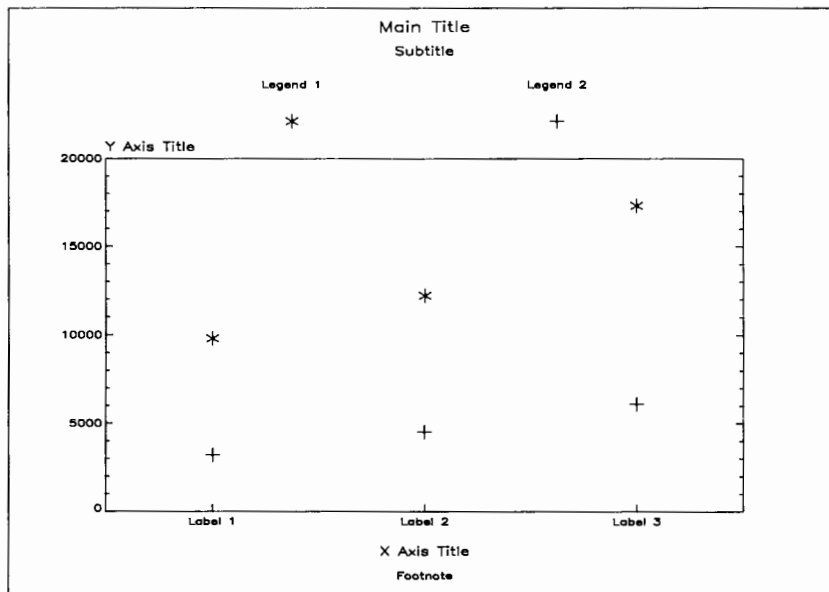
The X-axis title identifies the time series or other label-type that your data is plotted against. The Y-axis title identifies the quantities or values by which the bars are measured.

Legends identify the items that the shading patterns represent. The legends appear at the top of the page beneath the main title and subtitle.

Axis labels identify the major tick marks on the X-axis and the Y-axis. You can change the axis labels on the Preview screen, if you don't like the ones that Graphics set for you.

Now for the Line Charts and Scattergrams












Locate the main titles, subtitle, and footnotes on the two charts. For line charts and scattergrams, there are 2 other titles; the y-axis and the x-axis title. The titles describe the scale on the axis (i.e. Time in months, number of people x 100).

The Legends indicate the lines and point markers associated with data you entered. The legend is located at the top of the chart, just below the titles.

The axis labels indicate the major tick marks on the x- and y-axes. Line charts also have 2 types of titles. The x-axis title describes the x-axis data and labels and the y-axis title describes the y-axis data and labels.

For Line Charts, you can choose from several line styles and whether you want data markers. With Scattergrams, you get to select from several marker styles. The following figure shows you the different line and marker styles that you can choose from.



Line Styles	Marker Styles
	*
	+
	x
	★
	△
	□
	◇
None	○

In Text Charts you have the option of several different fonts, letter sizes, and line drawing

Series 100 Graphics <i>FONTS</i> sampler
Hardware Font
Proportional Font
Bold Font
Roman Font
Triplex Font
<i>Italic Font</i>
<i>Script Font</i>
<i>Complex Font</i>
Gothic Font

Series 100 Graphics <i>SIZES</i> sampler
Size 1
Size 2
Size 3
Size 4
Size 5
Size 6
Size 7
Size 8

Now that you know what Graphics draws, let's see how you can apply these charts effectively to your needs. Each of these charts presents certain types of information best. The next section covers "Using Graphics to Your Advantage".

Using Graphics to Your Advantage

The keys to using Graphics effectively are knowing:

- which types of charts best present your information
- what the organization and central statement is for each chart
- who your audience is and what you want to tell them with your charts.

This section contains some rules of thumb for using Graphics effectively. Use these guidelines to answer questions about which charts you should use. The statements are guidelines, not hard and fast laws; use your judgement with the guidelines when special cases arise.

General Rules-Of-Thumb

Use your Graphics charts to present quantitative and statistical information. Structural, functional, and procedural information may also be presented effectively with graphics.

Stay away from graphically presenting:

- abstract material (such as, theories),
- simple, obvious, or familiar information, or
- "just another graphic."

Know the information you are trying to present. What does your audience need to know? Construct a theme sentence for your chart describing the relationship you want to project. Such a theme indicates the type of chart you should use to present your material.

Use line and bar charts to show changes over time (time series). A theme sentence for a time series chart might be "Sales of Product X Increased During Fiscal '83." Line charts portray single, continuous changes or trends while bar charts compare groups at specific points in time.

Pie charts and stacked bar charts portray percentages well. Any theme sentence mentioning the relation of a part to the whole indicates a pie chart or a stacked bar chart. An example theme sentence: "The production department's expenses account for 23% of this year's budget." Take care not to crowd too many values on either of these chart types.

For comparisons, line charts and bar charts can show several values side-by-side over the same period of time or other continuous variables. Comparisons are possible, but more difficult, with pie charts. One suggestion for using pie charts as a comparative tool: make several pie charts; one for each time period or variable point. Keep the segment arrangement constant; do not sort the segments. You may then use the charts in side-by-side comparisons.

Present only 1 main idea with each chart. Keep your charts as simple as possible. Avoid unnecessary subtitles and footnotes. Select a light pen color for gridlines or leave them off of presentation graphics, unless absolutely necessary. Remember, you may be presenting the data in a new light to your audience.

Lesson 1

Introduction to Getting Started



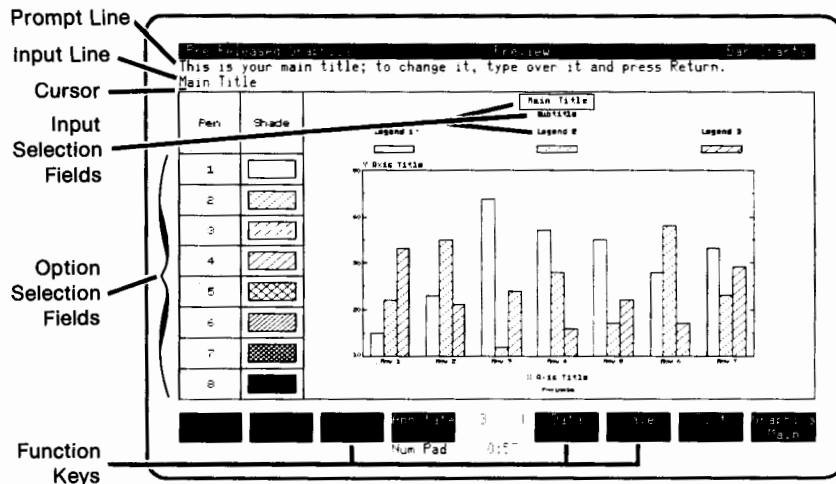
This section of the manual is designed to help you learn Graphics quickly and painlessly.

Using any new product the first time can seem scary, but, by going through the Getting Started lessons, you are approaching Graphics the easy way. Nothing that you accidentally press on the keyboard or touch on the screen will break or ruin your copy of Graphics or your system. (If it does, we need to know about it immediately, because it's not your fault.)

By now, you've noticed that there are five Graphics diskettes. Four of the diskettes hold one Graphics unit (Pie Charts, Bar Charts, Line Charts, or Text Charts). If you installed Graphics on a fixed disc, all of the units will be on one disc. The fifth disc contains the example files and additional text chart fonts. If you have a flexible disc system this is where you'll store the charts that you create in these lessons. If you have a fixed disc, you should copy this disc to your fixed disc.

In the following lessons, you will learn how to use each of the units. When you complete the lessons, you will know the basics of making charts with Graphics.

The following screen explains several of the screen features that are common to each Graphics screen. The terms listed in the drawing are the same ones that are used throughout this book.



Some of the function keys and features will not be explained in these lessons, because they let you do extra tricks that go beyond the basics of making plain charts. These extra tricks and features are described in the Using Graphics section which follows Getting Started.

The first lesson lets you choose the graphics unit that you want to learn first. There are four lessons after that, each covering one Graphics unit. You should go through the lessons in the order that they are presented. If you must learn a particular chart out of order, go ahead. (Some items will seem out of context, but when you go back and learn the rest of the charts everything will fall in place.)

For the lessons, I'm using a flexible drive system that has two drives, A: and B:. My chart unit disc is in A: and my Data disc is in B:. You may need to adjust the Save and Get a Chart instructions according to your system.

Before you start the lessons, you should have done the following things:

1. Set up your HP 150 system and have it running. That includes the plotter. (See the *HP150 Personal Computer Owner's Guides*.)
2. Put paper and pens in the plotter. (See the plotter owner's or operating manual.)
3. Go through the HP 150 Computer Tutor, the instruction disc.
4. Made a work disc of each Graphics unit: Pie, Bar, Line and Text. (See the *HP 150 Personal Computer Owner's Guides*.) Copy the examples and fonts data disc. (Note: Install the application discs and copy the data disc.)
5. Have the Personal Application Manager (P.A.M.) on the screen. It must list at least one of the Graphics units. (See the *HP150 Owner's Guides*.)

When all of these items are in place, you are ready to start the lessons.

Ready when you are!!!

Lesson 2

Making Your First Chart

In this first lesson, you will learn the quickest way to make a chart, any chart: pie, bar, line, text. Using the Example chart that is already on your data disc, you will learn how to get a chart from the file manager, and how to plot that chart. At several places in this lesson you will see OOPS!!! notes. These notes are designed to help you in case you get stuck. These solutions can also be used in the other lessons, even though they are not included in the rest of the lessons.

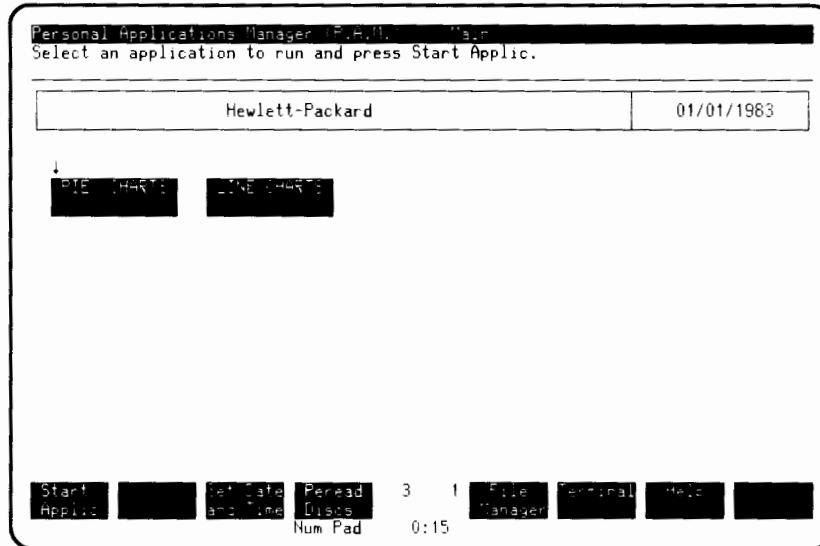
In the following lessons, you will learn how to use the basic features on each Graphics screen for each chart type. Now, on with the first lesson.

Each instruction in the lesson is numbered. The discussion around each step gives you important information about that instruction.

Getting Into Graphics from P.A.M.

1. Choose the Graphics unit (Pie, Bar, Line, or Text Chart) that you would like to work with. For a flexible disc system, place it in the A disc drive and the Data Disc in B drive. Touch the **Reread Discs** key on the bottom of the Personal Application Manager (P.A.M.) screen. Fixed disc systems automatically display all installed applications.

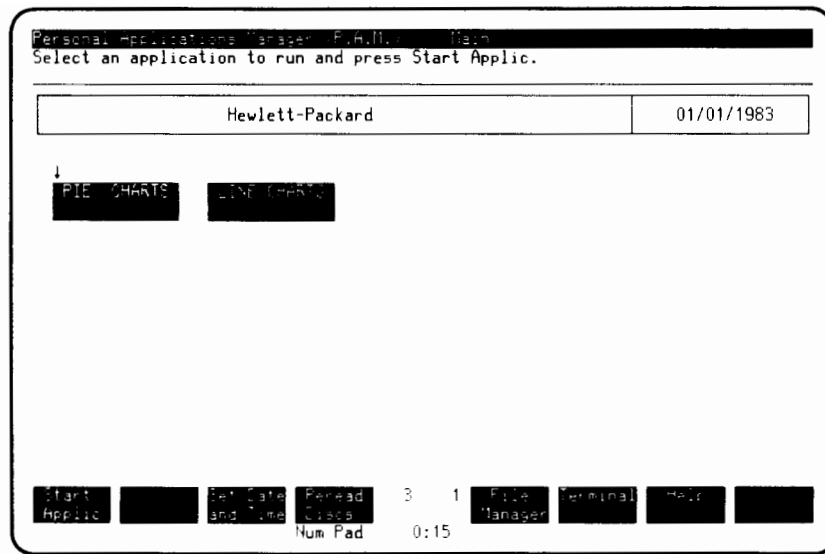
Your P.A.M. screen should look something like this:



Notice the item on the screen labeled **Pie Charts**, **Bar Charts**, **Line Charts**, or **Text Charts**. You must have one of these listed to continue with this lesson. If you do not have any of the charts listed on the P.A.M. screen, check the disc in your drive. If it does not have a Graphics unit on the label, you need to find a disc that does and place it in the drive.

2. Touch the Graphics label (**Pie Charts**, **Bar Charts**, **Line Charts**, or **Text Charts**) on the P.A.M. screen twice; a box should appear around the label. Then touch the **Start Applic** key.

For the examples in this lesson, I'm using **Pie Charts**.



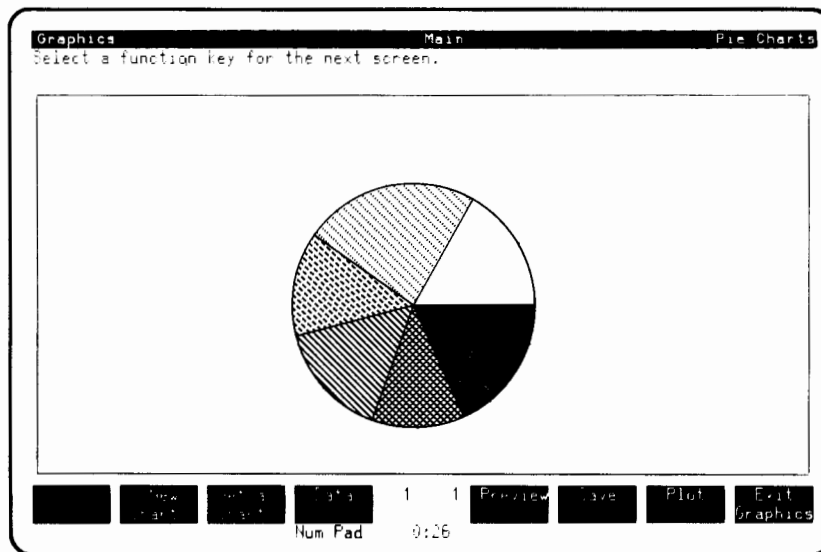
Lesson 2

OOPS!!!

"I touched the screen and nothing happened!"

Your touchscreen may be off. To turn it back on, type **CTRL** **Shift** **Menu**

The screen should change to the Pie Chart Main screen.

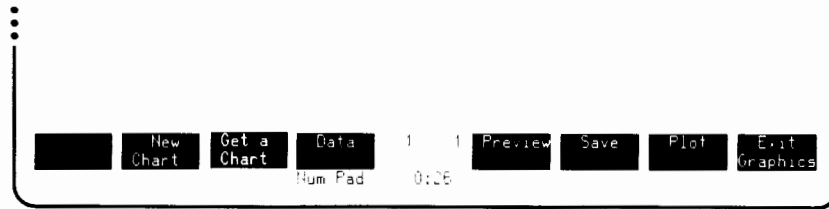


Lesson 2-3

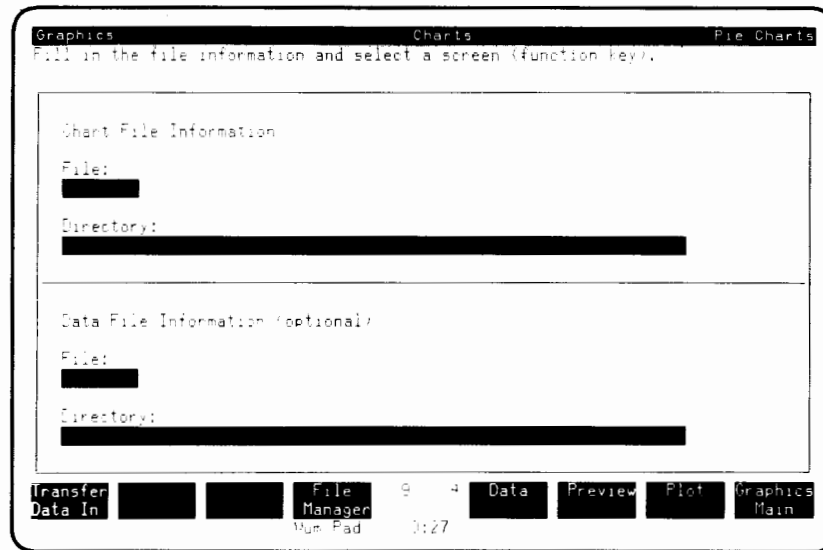
At this Main screen, you decide whether you'll make a brand new chart or get a chart so that you can work on an existing chart. For this lesson we'll work on an existing chart.

Retrieving a Graphics Example Chart

1. Touch the **Get a Chart** function key on Graphics's Main screen.



The Chart screen should appear next.



OOPS!!!!

"I touched the wrong function key!!"

When the next screen appears, (assuming that you did not go all the way back to P.A.M.) just touch the **Graphics Main** function key to return to the Main screen. Once you are back at the Main screen, you can try touching **Get a Chart** again.

If you did go back to P.A.M., touch the chart label again. This also gets you back to the Main screen, so you can try touching **Get a Chart** again.

Now that you're at the Chart screen, you can select the chart that you want to work with.

Since you know that you want to work with chart file, Expie, Exbar, Exline, or Exttext, all you have to do is type the chart file name.

2. Type the appropriate filename in the Chart File Information/ File: field.

Graphics Charts Pie Charts

Fill in the file information and select a screen (function key).

Chart File Information

File: expie

Directory:

Data File Information (optional)

File:

Directory:

Computer Museum

Transfer Data In File Manager Data Preview Plot Graphics Main

OOPS!!!!

"I typed the wrong name!!"

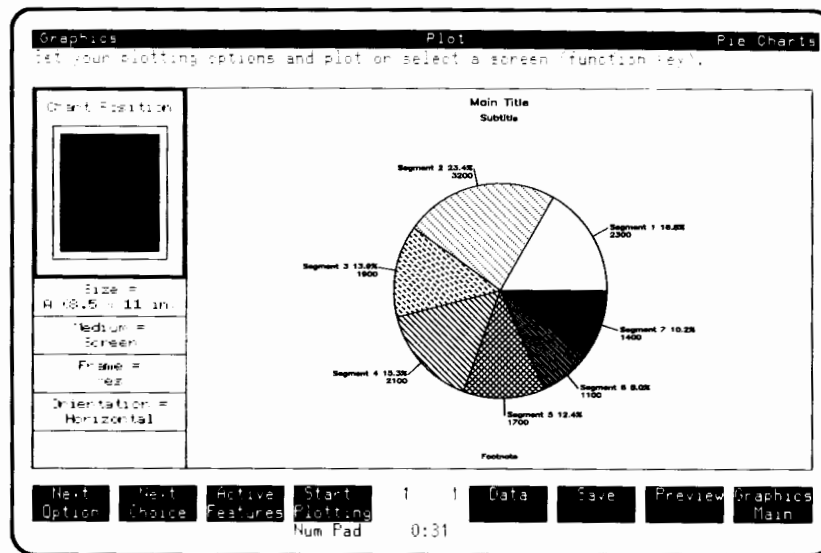
Simply backspace over the incorrect name and type over it with the correct one. You don't need to retype the whole thing if you just want to correct one or two letters. Just type the correct letter(s) over the incorrect one(s).

3. Press **RETURN** on the keyboard. This moves the cursor down to the Directory field.
4. Type `b:\.` (This directs the program to read the disc on the B Drive.)

Plotting the Chart

1. Touch the function key labeled **Plot**

The Plot screen should appear.



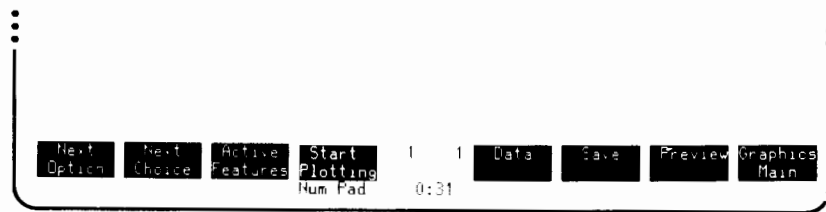
OOPS!!!

“That’s not the Plot screen! I must have touched the wrong function key!”

A different screen appears. Check to be sure that it isn’t the Plot screen. (The screen title is at the top of the screen). If it is not the Plot screen, touch the **Plot** function key. If **Plot** is not on the screen that you accidentally went to, touch **Main** and then **Plot** after the Main screen appears.

Be sure the plotter is turned on and an error light is not showing.

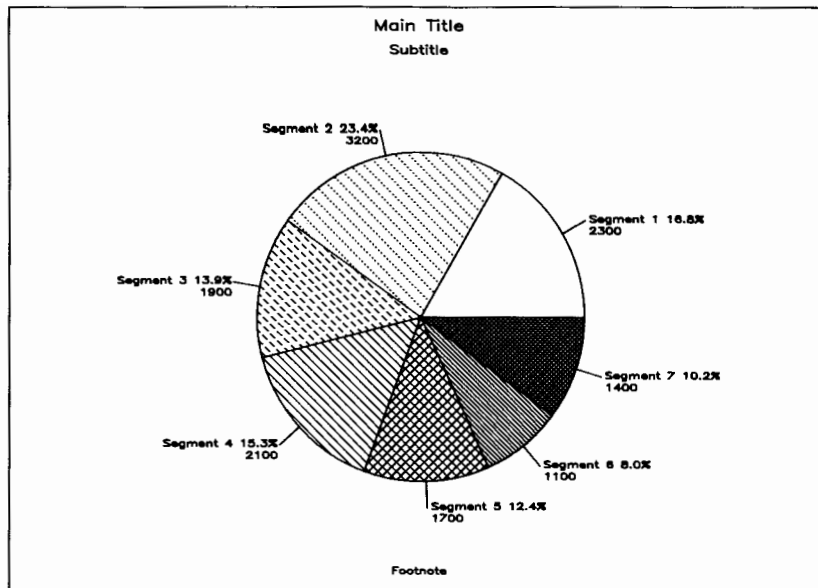
2. Touch the **Start Plotting** function key on the Plot screen.

**OOPS!!!**

“There’s no paper in the plotter!”

Touch the **Stop Plotting** function key. Put paper in the plotter. Touch the **Start Plotting** function key.

After a few moments the plotter will start plotting the example chart for you.



If you get a message from Graphics on the Plot screen, look up the message in the appendix in the back of this manual. It will tell you what happened and what you need to do about the problem.

If the plotter does not start up within two minutes, you need to check all of the connections (including the power cord) and any configurations that pertain to the plotter. See the Owner's Manual for this information.

Once the example chart has finished plotting you can go back to the Main screen by touching **Graphics Main**.



Now that you are back at the Main screen, you can decide what you want to do next.

What Next

If you need to take a break, touch the **Exit Graphics** function key so that someone else can use the system or so you can turn the system off until you return.

If you want to continue with the lessons, turn to the lesson covering the chart type that you want to learn next. You benefit the most from going through the lessons in order; there are small concepts and techniques presented throughout each lesson that may not be repeated else where. If you must learn one chart type in a hurry, e.g. Text Charts for your presentation this afternoon, go ahead and start that lesson next; beware, you'll miss a great story line. (You can always go back and pick up anything you miss when you learn the rest of the charts.)

Lesson 3

Making Pie Charts

Making Mr. Scooper's Pie Chart

Your boss, Mr. Scooper has decided that, since he now has seven ice cream stores throughout the area, he'd better start holding some sort of quarterly meetings to track each store's progress.

He has also decided that the first of these meetings should be next week. He had his store managers send him the sales, marketing, and profit information, but he can't figure out the big picture in time for the meeting unless he has some graphics.

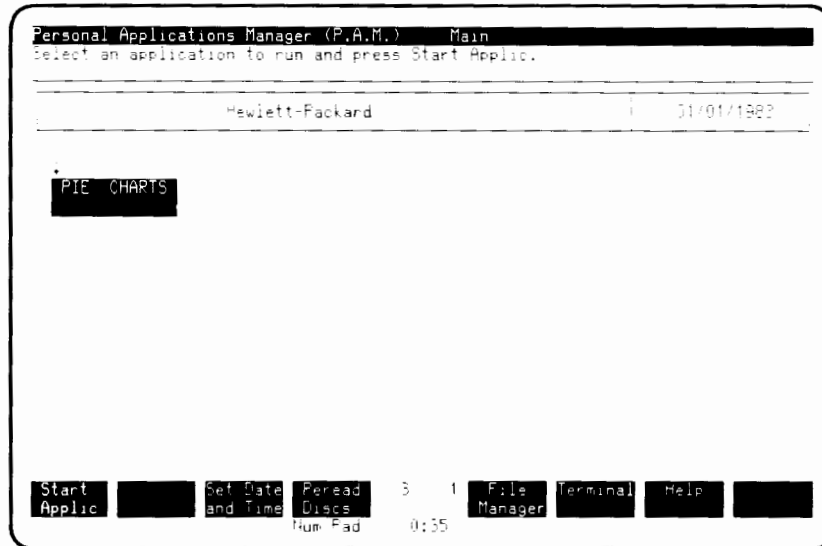
Since you're the resident expert on graphics (you've made one chart, haven't you?), he has asked you to make the pie chart indicating each store's percentage of the company's total sales.

Don't panic — it's really no big deal. Just modify the Example chart!

From P.A.M. to Pie Charts

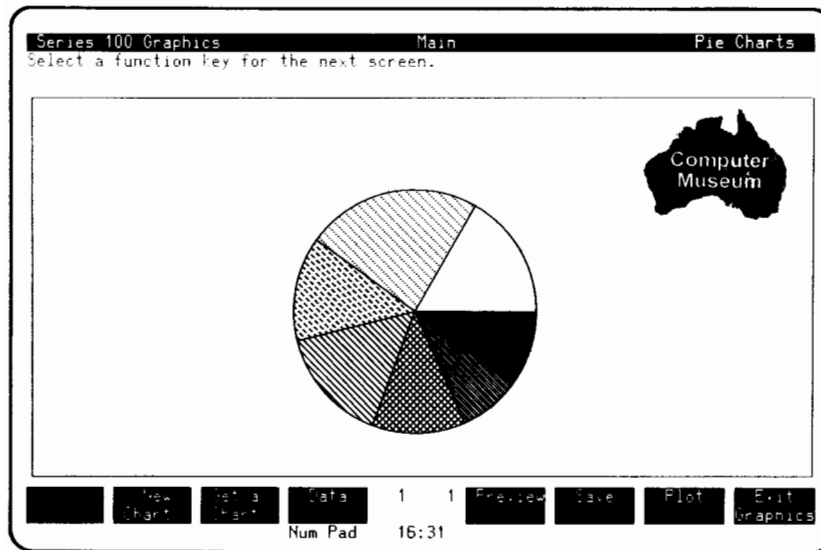
Once again, I'm assuming that the Pie Charts disc, and the Data Disc is in your system and is listed on your Personal Application Manager (P.A.M.) screen.

1. Touch Pie Charts on the P.A.M. screen until it is highlighted. Then, touch the **Start Applic** function key on your screen.



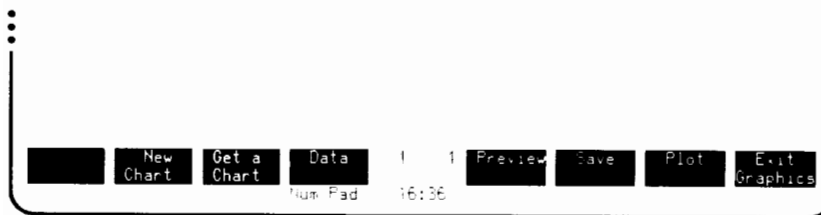
(If you're already in Pie Charts, go back to the Main screen by touching **Main** on your screen.)

Now your screen should look like this:



Getting the Example Chart

1. Touch the **Get a Chart** function key to go to the Charts screen. Remember, you're going to modify the Example chart. The Charts screen is where you always go to get stored charts or data from another application.



The Charts screen should appear in a moment.

Series 100 Graphics Charts Pie Charts
Fill in the file information and select a screen (function key).

Chart File Information
File: [REDACTED]
Directory: [REDACTED]

Data File Information (optional)
File: [REDACTED]
Directory: [REDACTED]

9 4 Data Preview Plot Graphics Main
Num Pad 16:36

Notice the screen name on the top row of the screen? The screen name corresponds to the function key that brings you to that screen, e.g. the **Get a Chart** function key takes you to the Charts screen.

2. Type Expie in the Chart File Information/File: field.
3. Press **Return**, then type b:\ in the Chart File Information/Directory: field.

Series 100 Graphics Charts Pie Charts
Fill in the file information and select a screen (function key).

Chart File Information
File: Expie
Directory: [REDACTED]

Data File Information (optional)
File: [REDACTED]
Directory: [REDACTED]

9 9 Data Preview Plot Graphics Main
Num Pad 16:37

Lesson 3-4

Modifying the Example Chart's Data

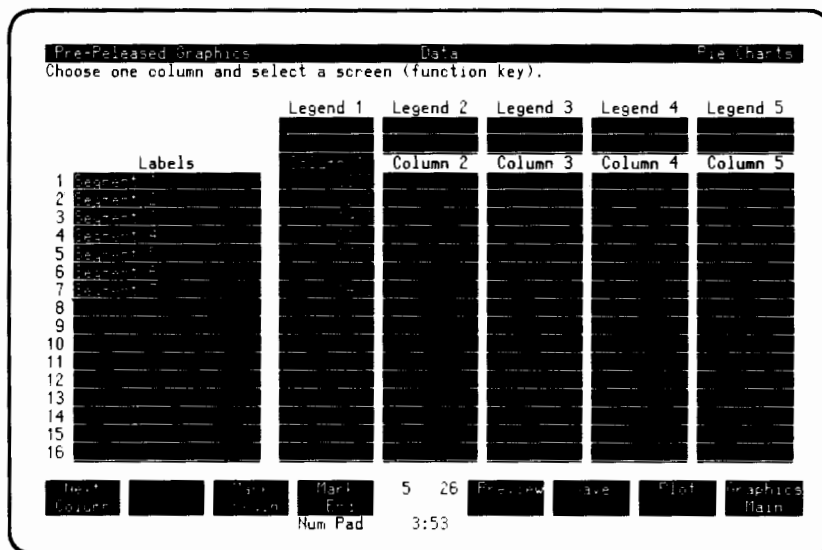
1. Now, touch the **Data** function key on the screen.



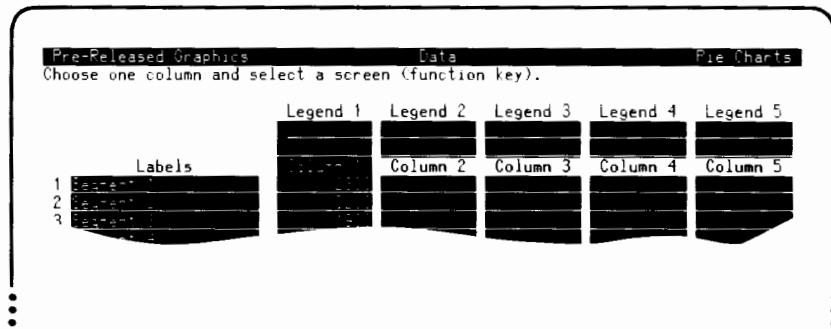
This takes you to the Data screen, where you'll replace the example data and information with Mr. Scooper's.

Lucky you — the data screen just happens to have seven entries. All you need to do is type over the labels and the data in one column.

Lesson 3



2. First, be sure that Column 1 is highlighted. This indicates that Column 1 will be plotted on your pie chart. (Pie charts only use one column of data.) If the box isn't around Column 1, just touch `Next Column` until the box moves to Column 1.



(If you want to practice moving the box, touch `Next Column` or another Column label. Be sure that you select Column 1 again, so you can continue the lesson.)

3. Touch the first row label. The cursor should move there or near by. Adjust it so that it is in the Label field in the first row.

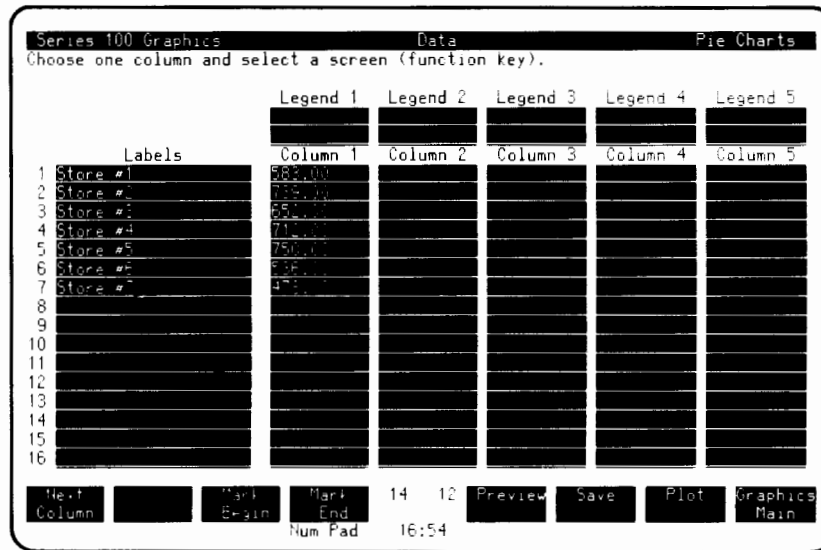
You can move the cursor to any label, legend, or data field by touching that item, pressing the `Tab`, `Return`, or cursor control keys.

With the cursor at the first label, you are ready to type in Mr. Scooper's sales numbers.

```
Store #1 583.00
Store #2 739.00
Store #3 652.00
Store #4 712.00
Store #5 750.00
Store #6 536.00
Store #7 478.00
```

4. Type in Mr. Scooper's sales figures.

Your screen should look like this:



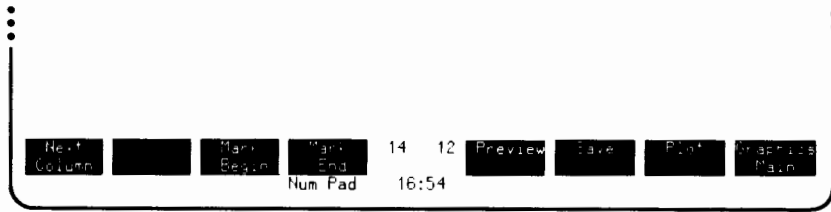
Lesson 3

If you made any typing mistakes, just move the cursor back to them by touching the error, or using the **Tab** (forward), **Shift Tab** (backwards), **Return** (down), **Shift Return** (up) or cursor control keys on the keyboard, and then type over the mistake with the correction.

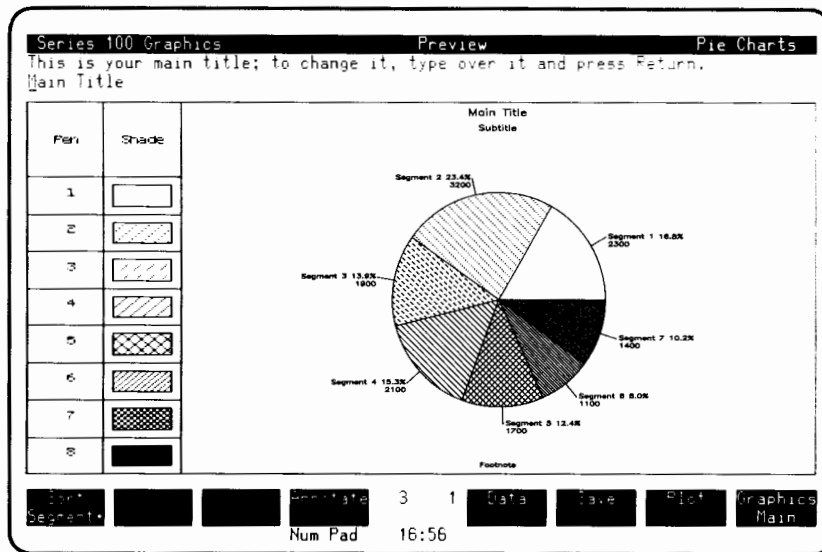
Don't worry about the legend. Legends are used for Bar and Line Charts.

Take a Sneak Preview

- Now, touch **Preview**. (You could go to any other screen or plot your chart right now, but you wouldn't be able to get a preview of your chart.)

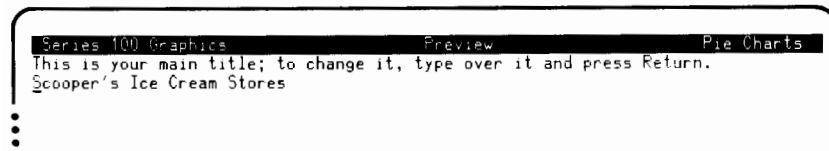


This takes you to the Preview screen where you'll decide what color each segment will be, what titles you'll have, and what shading patterns will be used for each segment.



- Change the chart's main title to Scooper's Ice Cream Stores, by typing on the input line in response to the prompt This is your main title; you may change it. Press Return

Your input line should look like this:

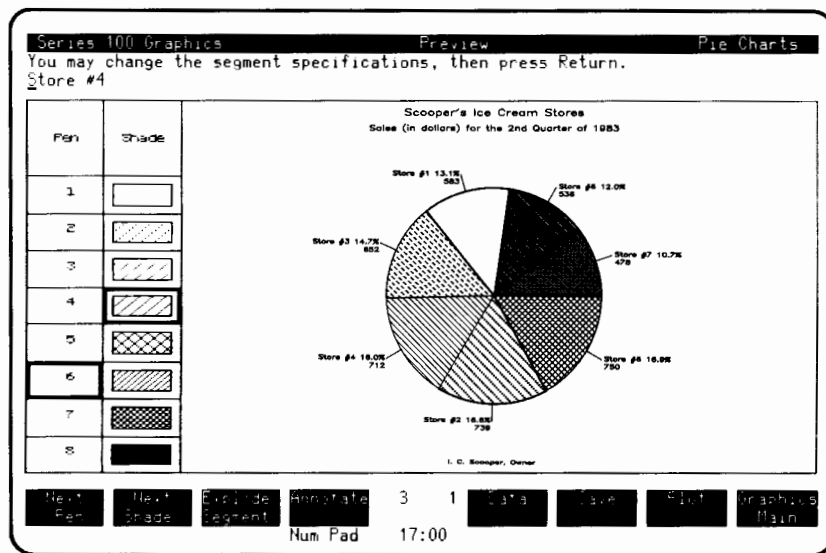


3. Move to the subtitle by touching it or pressing **[Tab]** on the keyboard. Once again, the box indicates the item that you are working with.
4. Change the subtitle to **Sales (in dollars) for the 2nd Quarter 1983**. Press **[Return]**.
5. Move to the footnote. Change it to **I. C. Scooper, Owner**. Touch the center of the pie.

Notice that pressing **[Return]** and touching the center of the pie both redraws the pie and completes the changes. For the rest of this lesson, I'll just ask you to redraw the screen; you choose the way you want to do it.

6. Next, move to a segment label (the same way that you moved to the titles).

Notice that new function keys appear on the screen and boxes are drawn around the pen number and shading pattern designated for this segment.



7. Change the segment's shading pattern by touching a different shade.

The box moves to the shade field that you just selected.

8. Change the pen color by touching a different pen number. (Yes, a box should form around the new number.)

If your plotter has only two pens (for example) and you select pen 8, don't worry, Graphics pauses for you to change pens. (Press **Return** when you finish the change.)

The pen number corresponds to the pen numbers on the plotter (not the top of the pen).

Even though you have changed the pen number and shading, nothing has changed on the chart. Don't worry, it will. Graphics lets you change everything about a segment at one time rather than redrawing every little change.

You can reword the segment labels, too. Just type over the label that appears on the input line.

9. When you finish changing that pie segment, touch the center of the pie.

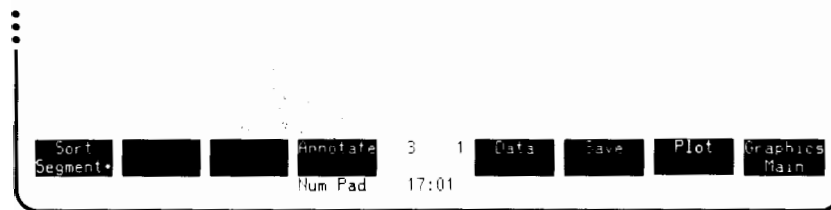
The entire chart gets redrawn with all of the changes on the new chart.

10. Move to the next segment label and make any changes you wish. Be sure that you touch the middle of the chart or press **Return** after changing each segment, so that Graphics knows about the changes you made.

Plotting Mr. Scooper's Pie Chart

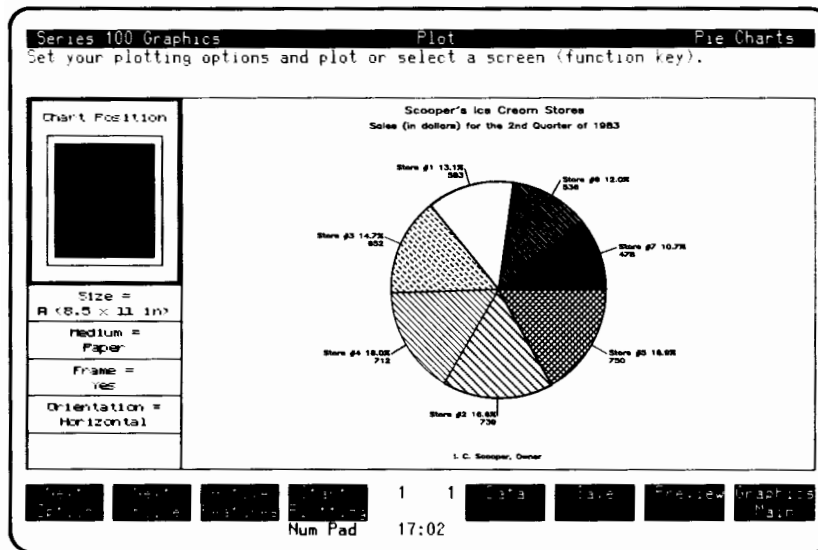
Now that you're satisfied with the way your chart looks, go to the Plot screen.

1. Touch **Plot**



Lesson 3-10

When the Plot screen appears, it should look something like this:

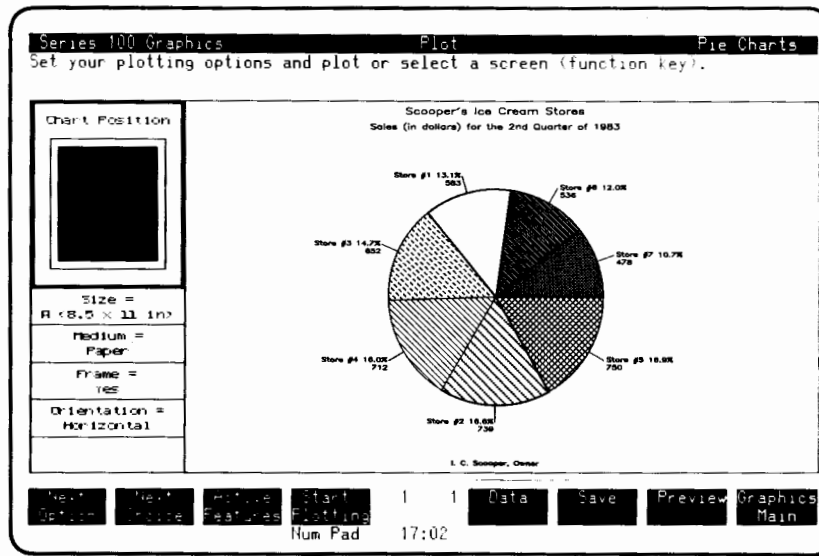


On the Plot screen, you indicate where on the paper your chart will be plotted, what size paper you are using, whether you are plotting on paper, transparency, or to the screen, whether or not you want a frame around your chart, and whether the chart plots vertically or horizontally on the paper.

For now, I'll tell you how to move between the selection fields (options) and how to select different choices. Then, I suggest that you go through each choice on each option to see what is available. (All of the options and choices are listed in For Your Reference in the Selection Field chapter.) Finally, I'll give you the screen that matches what Mr. Scooper wants to see on his chart.

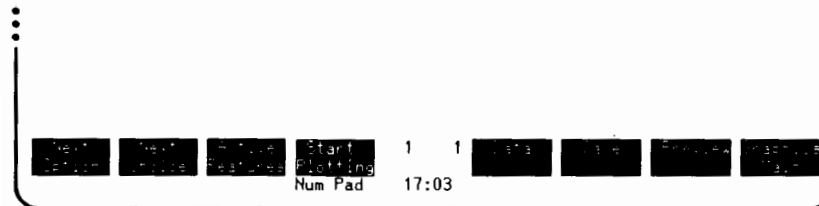
2. Touch the option field that you are interested in or need to change. A thick box should appear around that field. Only one field can be changed at a time, so the field with the thick box is ready to change.
3. Touch the selected box repeatedly to see all of the choices for that option field. The choice displayed is the one that Graphics will use to plot your chart.

- Play with the options and choices then make the screen look like this:



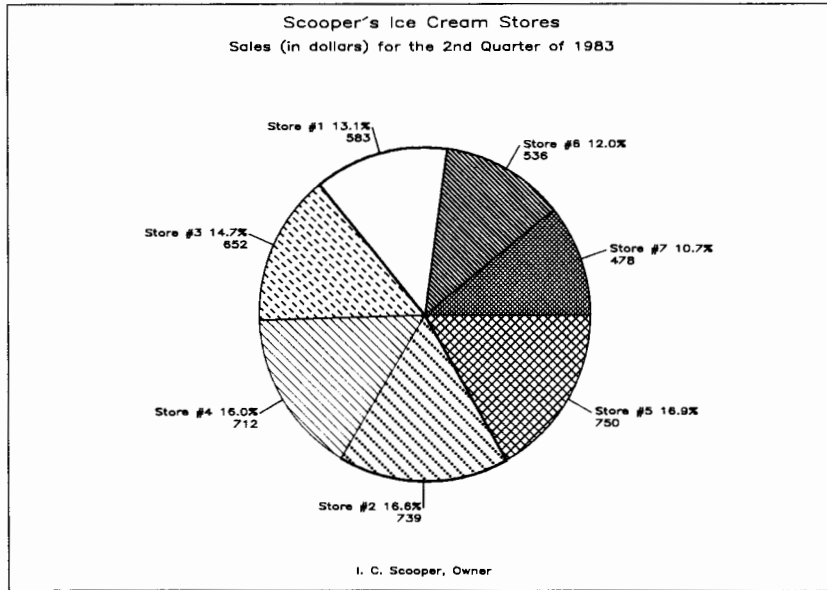
Now, Mr. Scooper's chart is ready to plot.

- Be sure there are paper and pens in the plotter, the plotter is turned on and an error light is not showing.
- Touch **Start Plotting**.



Mr. Scooper's Pie Chart

Soon, you'll see a chart similar to this one, drawn on your plotter.



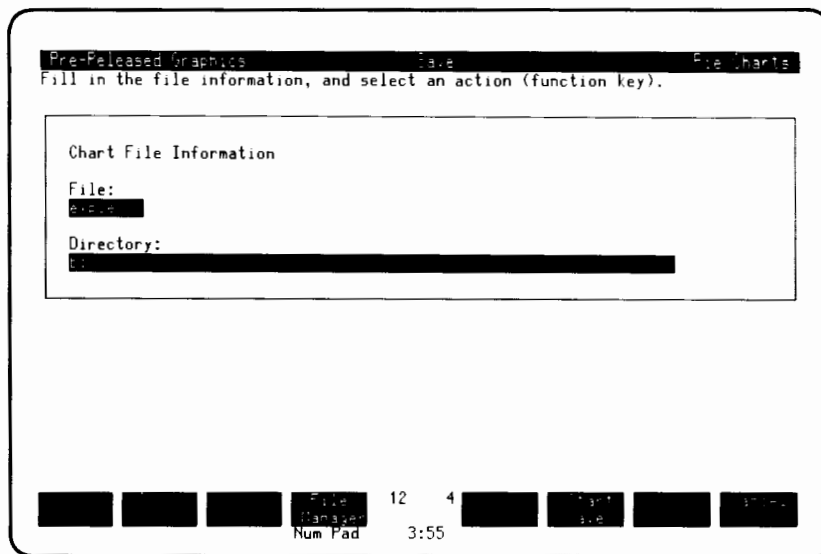
Lesson 3

Saving Your Hard Work (i.e., the Scooper Chart)

Since you put so much effort into learning under Mr. Scooper's pressure, you should save this chart for future use.

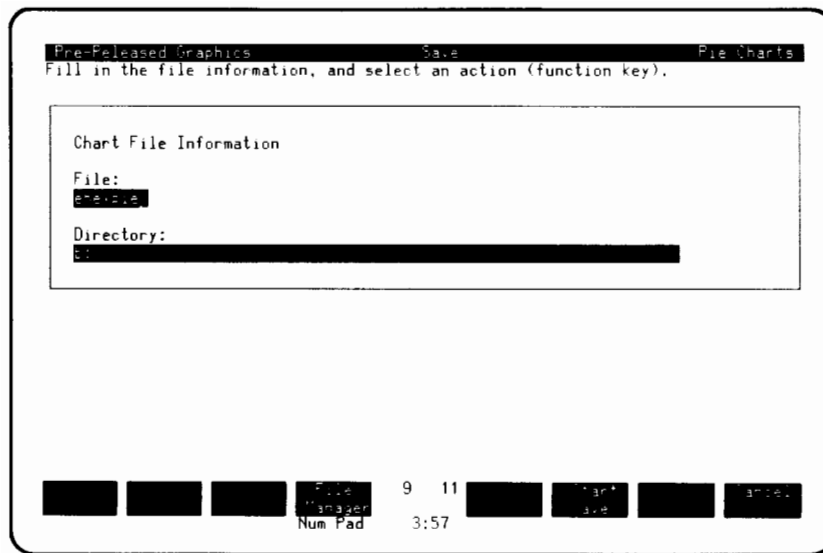
1. After the chart has been plotted, touch **Save**.

You'll go to the Save screen where you can store your chart.



You need to give the chart a filename, so that if you ever want to use it again you'll be able to retrieve it from the File Manager through the Chart screen.

2. In the **File:** field type two of your initials and **expie**, all as one word. (By using two of your initials, you'll have a better chance of finding the file in File Manager, later). Example: the filename I'm using is EHEXPIE.



3. Touch **Start Save**.

Congratulations!!! You now know how to make a Pie Chart. When you go show Mr. Scooper the fruits of your labor, I'll bet he'll say "Well done; why don't you see what other pie charts you could make." You could get way ahead of him and make some more pie charts on your own. Don't be afraid, you know how to do it.

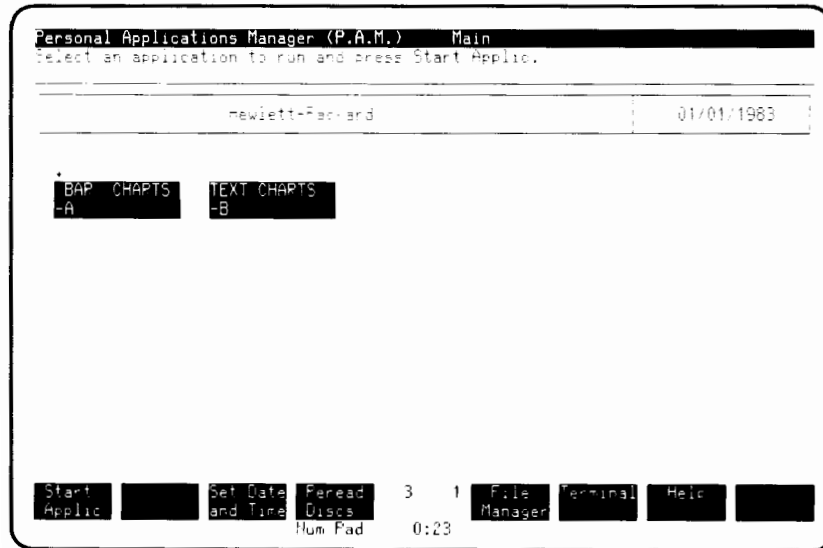
Lesson 4

Making Bar Charts

Mr. Scooper Wants a Bar Chart

Since you did such a good job with Pie Charts, Mr. Scooper would like you to make a bar chart for him.

He has the figures from each store for the number of people served and the total sales for each month of the first quarter. He wants to see how the two compare.

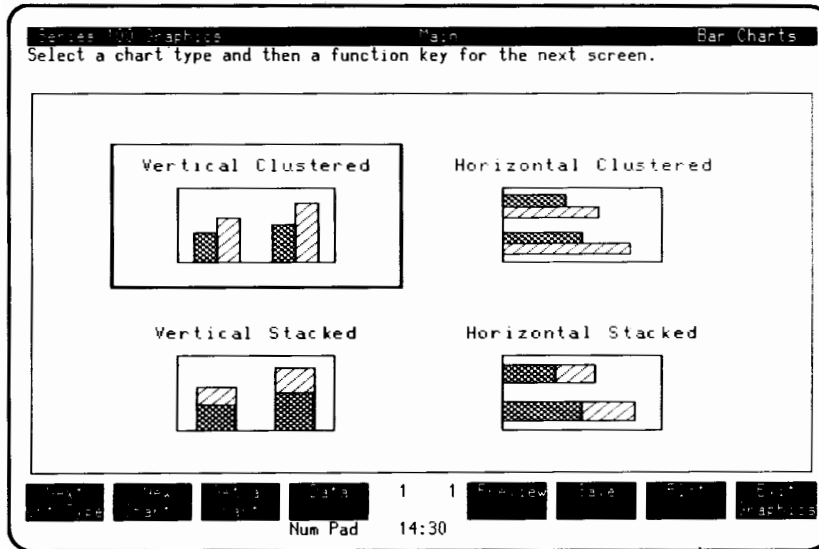


Lesson 4

1. Select Bar Charts from the Personal Applications Manager (P.A.M.) screen. If Bar Charts is not listed on the P.A.M. screen, be sure that it is in the A Drive, then try touching **Reread Discs**.
2. Touch **Start Applic.**

Selecting a Bar Chart Type From the Main Screen

After you touch Bar Charts, the screen changes to the Bar Chart Main screen.



On this screen you select the type of Bar Chart you need. Since Mr. Scooper wants to compare two items at each month of the quarter, you should make a Vertical Clustered Bar Chart.

1. Touch the Vertical Clustered Bar Chart.

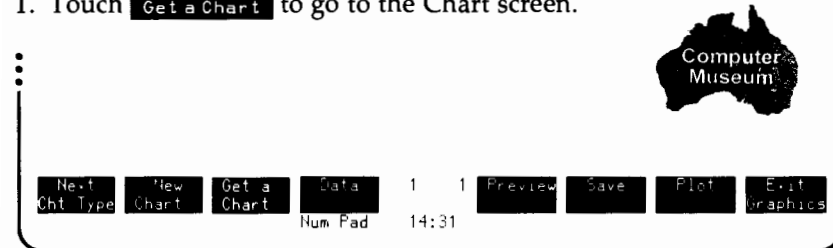
Notice the thick box around the Vertical Clustered chart. The Box indicates which chart type will be plotted.

2. Touch any of the other chart types, one chart at a time, and watch the box move. Be sure you move it back to Vertical Clustered.

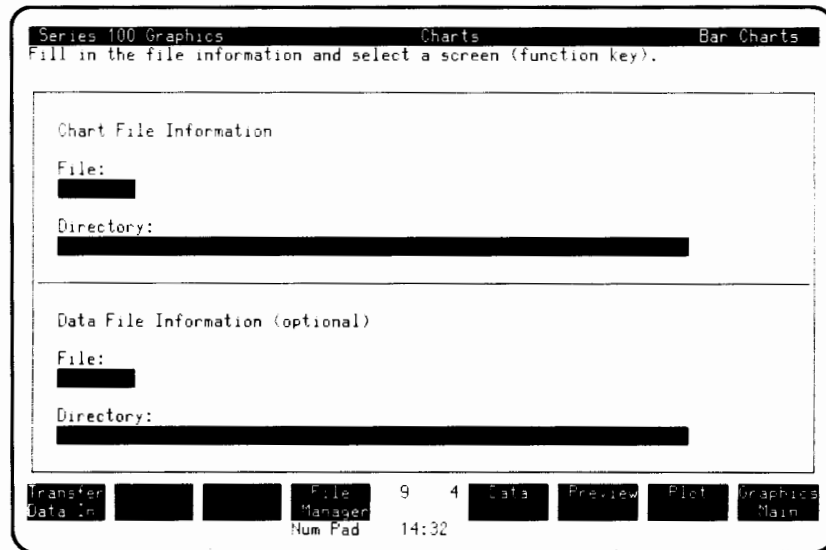
Once again, altering the example chart will be the easiest.

Getting the Example Chart

1. Touch **Get a Chart** to go to the Chart screen.

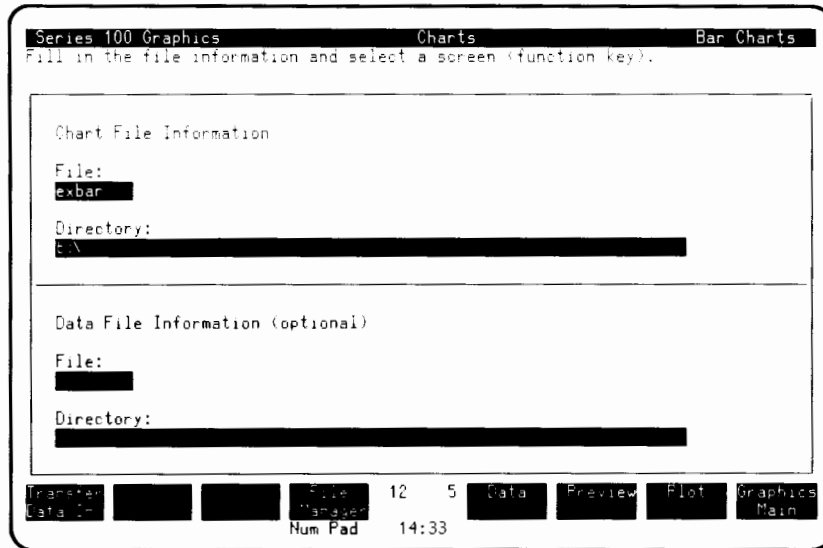


The Chart screen is where you retrieve any stored charts.



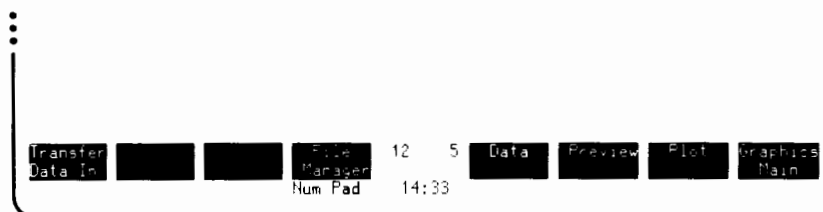
Lesson 4-3

2. Type the filename `Exbar` in the `File:` field.
3. Press `[Return]` to move the cursor to the `Directory:` field.
4. Type the directory name, `b:\`.

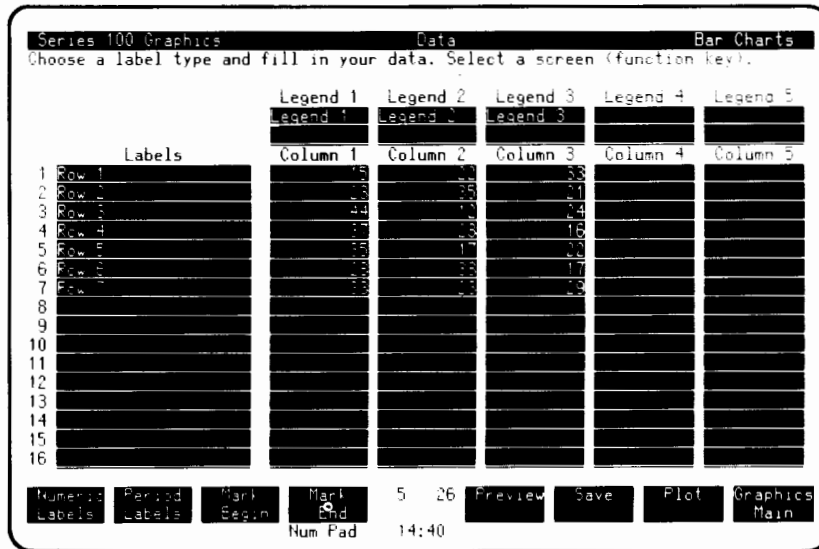


Modifying the Example Bar Chart's Data

1. Now, touch `Data` to move to the Data screen.

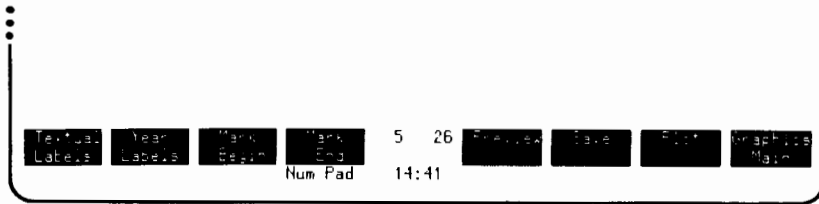


On the Data screen, you'll alter the existing chart's data to fit Mr. Scooper's.

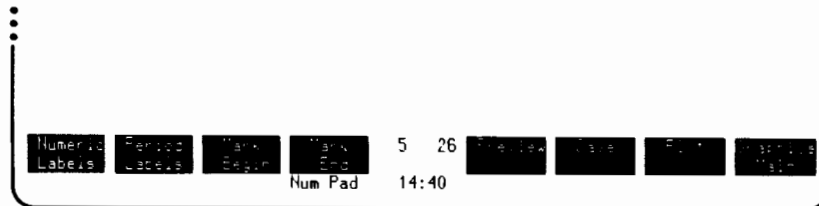


Softkey or function key 1 allows you to choose numeric or textual labels. The prompt on the screen asks you to choose a label type. For Mr. Scooper's chart, you need textual labels for the month names.

- If the **Numeric Labels** function key is on the screen, you are already in textual labels.

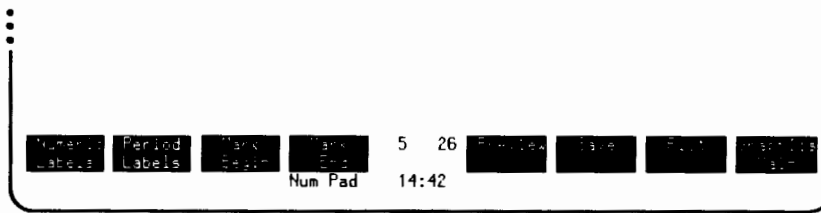


- If the **Textual Labels** function key is on the screen, touch it to bring up the textual labels function keys.



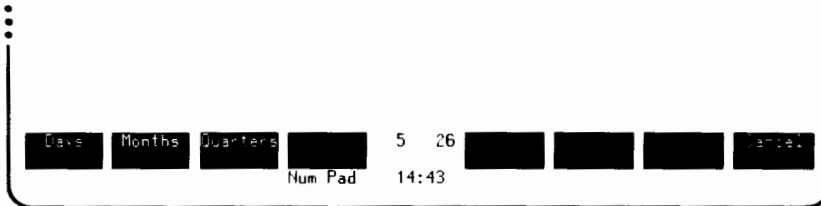
4. Once the textual function keys are on the screen, touch

Period Labels.



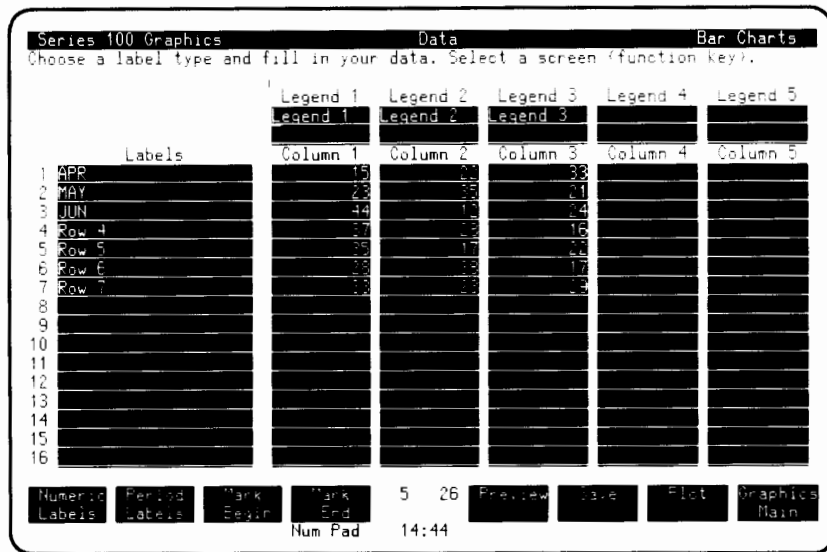
This brings the period label function keys to the screen.

5. Since you are interested in months, touch the **Months** function key.

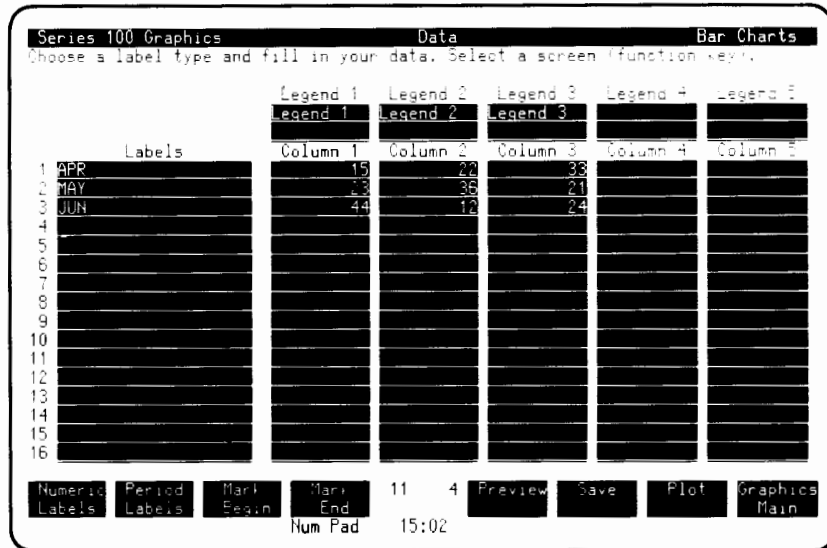


6. You are asked to type the first month's number. April is the first month that you need, so type a 4 over the 1 on the input line. (1 is the default - preset choice - for the starting month. Sometimes the defaults can save you steps; use them whenever possible.)
7. Press **Return** on the keyboard.
8. The prompt now asks you for the total number of months you want. You want April, May, and June, so type 3 and a space over the 12 on the input line. (You're so smart; you knew that the 12 is the default in this case.)

9. Press **Return** and watch your months get in the **Labels** field.



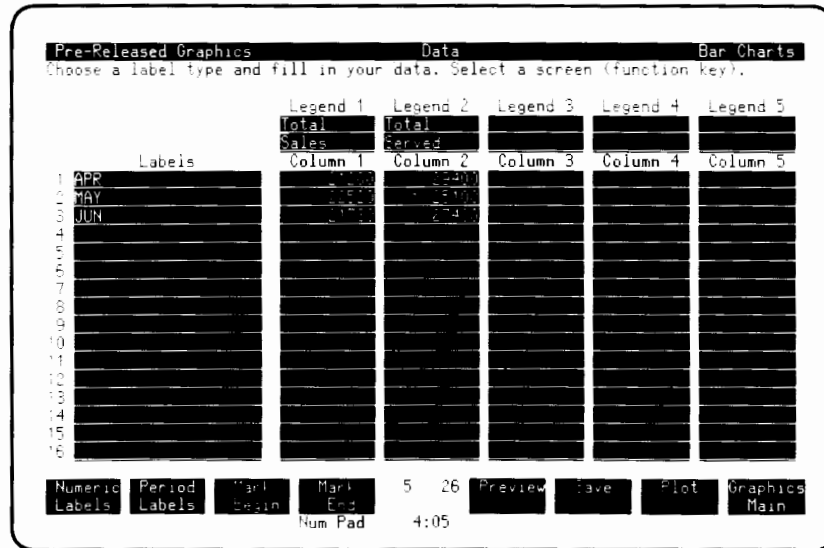
10. Delete the rest of the lines that you don't need by moving the cursor to **Label 4** (fourth line) and pressing **Clear Display** on the keyboard. All of the data and labels to the right and below the cursor should disappear.



Lesson 4

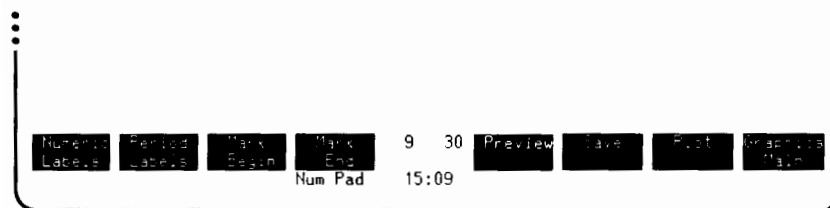
- Now, type over the legends and data in columns 1 and 2 with Mr. Scooper's legends and data. (Pressing **Return** and **Shift Return** moves the cursor down and up within the columns, including the Legends. Pressing **Tab** and **Shift Tab** moves the cursor right and left across the screen and to the next line.)
- Remove any extra legends and data by moving the cursor to the extra fields and pressing **Clear Line** (not **Delete Line**) for each field.

Your screen should look like this:

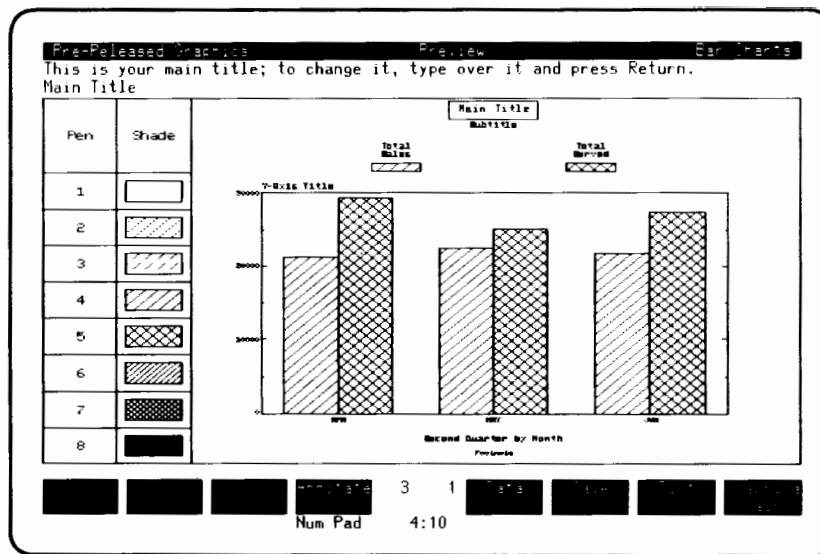


A Preview of Mr. Scooper's Bar Chart

- Now that you've finished altering the Data screen, touch **Preview** to move to the Preview screen.



On the Preview screen, you can see what your chart will look like with Mr. Scooper's data, change the shading patterns, pen colors, and legend and title wording.



2. Change Main Title to Second Quarter Sales and the Number of People We Served by typing over whatever's there now. Press **Return**. Move the cursor to the next field by touching that field or pressing **Tab**.
3. Mr. Scooper doesn't want a subtitle on this chart, so press **Clear Line** and then **Return** at the Subtitle field.
4. After you clear the subtitle, move the indicator box to the Y-Axis Title field.
5. Type Number of people and dollars.
6. Press **Return**.
7. Move the box to the X-Axis Title.
8. Type 2nd Quarter by Month. Press **Return**.
9. Now, move to the Footnote field.
10. Type I.C. Scooper, Owner. Press **Return**.

11. After you've added the footnote, move the indicator box to the first legend and the function keys change. You can change three things at each legend:
 - the legend's wording,
 - shading pattern, and
 - pen color (number).
12. Change Legend 1 to 2nd Qtr/Sales by typing over Total and adding a slash (/) at the end of Qtr. Press **[Return]**. The slash tells Graphics where to end the first line of the legend.
13. Change Legend 1's shading pattern by touching another pattern in the Shade field to the left of chart. Press **[Return]**.
14. Change the pen color by selecting another number in the Pen field to the left of the Shade field. Press **[Return]**.

Notice the thick box that indicates which pen and shade you've picked for that legend and bar.
15. Press **[Return]** to complete the changes and touch or **[Tab]** to the next legend.

By pressing **[Return]** you are letting Graphics know of the changes you have made. Graphics then redraws your chart, reflecting the changes. You can change any field at any time; the tabbing order is there for your convenience.

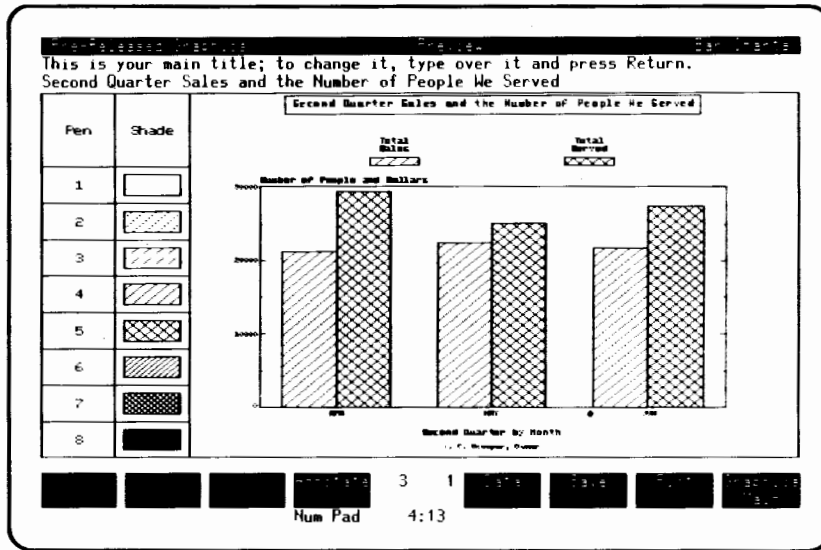
Touch the field that you want to change. The indicator box moves there and the prompt line tells you what you can do at that field. Be sure that you press **[Return]** after your changes.

If you change your mind about altering that field, just move to another one by touching that field or **[Tab]**bing to it. Graphics will ignore those changes as long as you don't redraw the screen.

16. Change the other legend, if you wish.

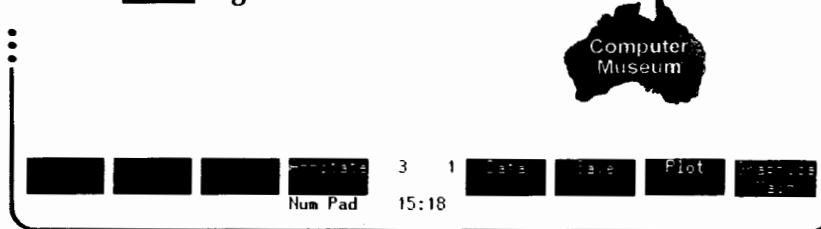
After the second legend, the indicator box moves to the Y-axis scale. You can change this, and the X-axis scale (see Rescaling the X- and Y-axes in Using Graphics), but Mr. Scooper is satisfied with these axes.

You've finished modifying the Preview screen. It should look something like this:

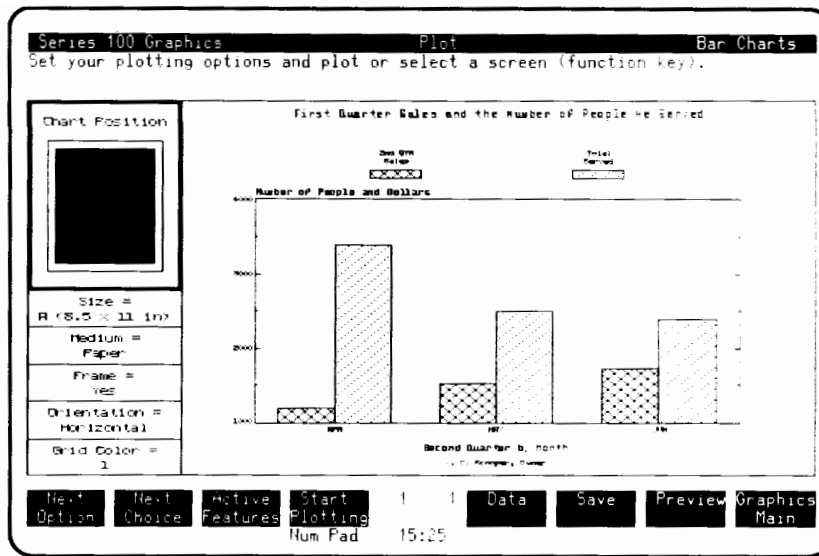


Ready to Plot the Bar Chart

1. Touch **Plot** to go to the Plot screen.



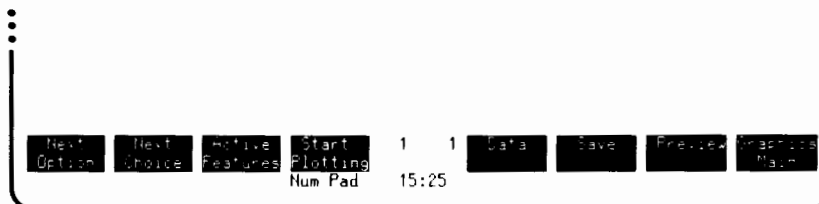
At the Plot screen, you'll tell Graphics how you want your chart to appear on paper, transparency, or on the screen.



From Pie Charts, you know that Mr. Scooper likes the defaults (preset choices) on the Plot screen:

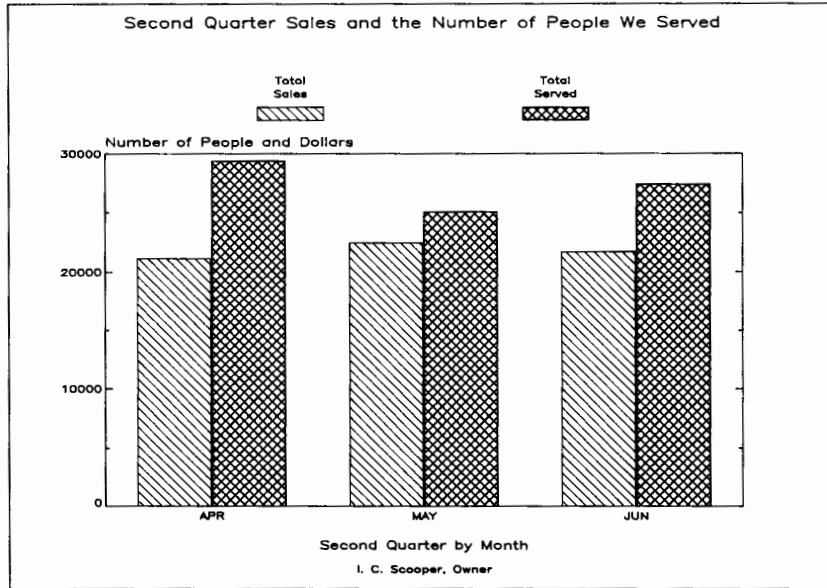
- whole page plot,
- A (8-1/2" x 11") page size,
- Paper,
- Frame,
- Horizontal, and
- no grid.

2. Since you aren't altering anything here, be sure pens and paper are in the plotter, the plotter is turned on and an error light is not showing, then, touch **Start Plotting**.



Mr. Scooper's Bar Chart

Your chart probably looks something like this:



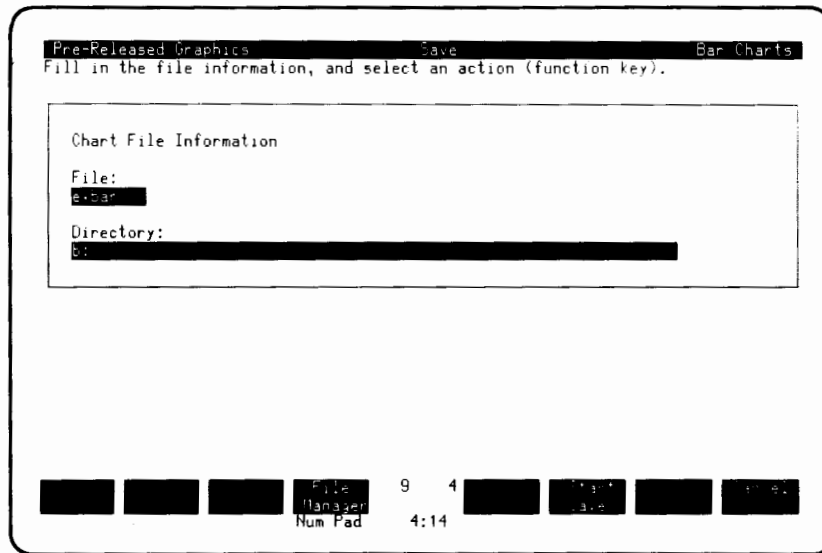
You guessed it! You're going to save the chart, so you can use it in the future (when Mr. Scooper makes one of his famous last minute changes).

Saving the Chart for Future Use

1. After the chart is finished plotting, touch **Save**.



In the Save screen, you'll give your chart a filename, then store it in File Manager.



2. For the filename, type your first two initials then `exbar`. For example, my filename is `EHEXBAR`.
3. Press `[Return]`.
4. The directory name is already there for you, so touch `[Start Save]`.

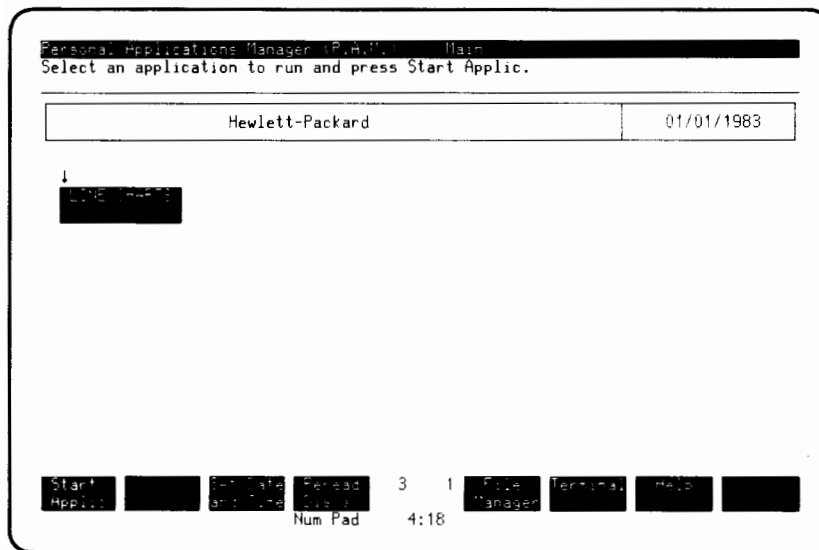
That's it; you've successfully finished making a Bar Chart. (You're doing so well, Mr. Scooper might even give you a raise! — Especially, if you make other Bar Charts for him.)

Lesson 5

Making Line Charts

Are you ready for Line Charts? Mr. Scooper wants to see if his advertising campaign is helping his sales. A line chart is perfect for showing trends over time.

1. Touch Line Charts on the Personal Application Manager (P.A.M.) then, touch **Start Applic**.

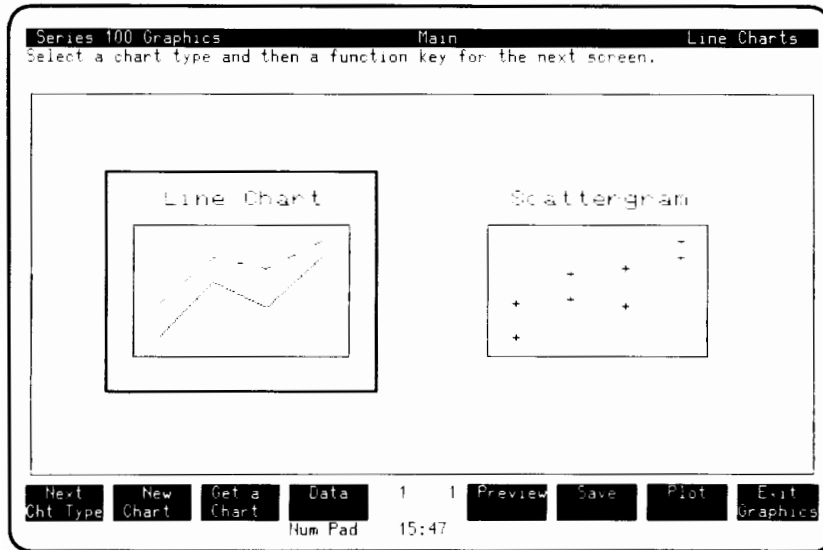


Lesson 5

2. If Line Charts is not listed on the P.A.M. screen, put the Line Charts disc in the disc drive and, then, touch **Reread Discs**. When Line Charts is listed, touch it and, then **Start Applic**.

A Line Chart or a Scattergram

The screen changes to the Line Chart Main screen.



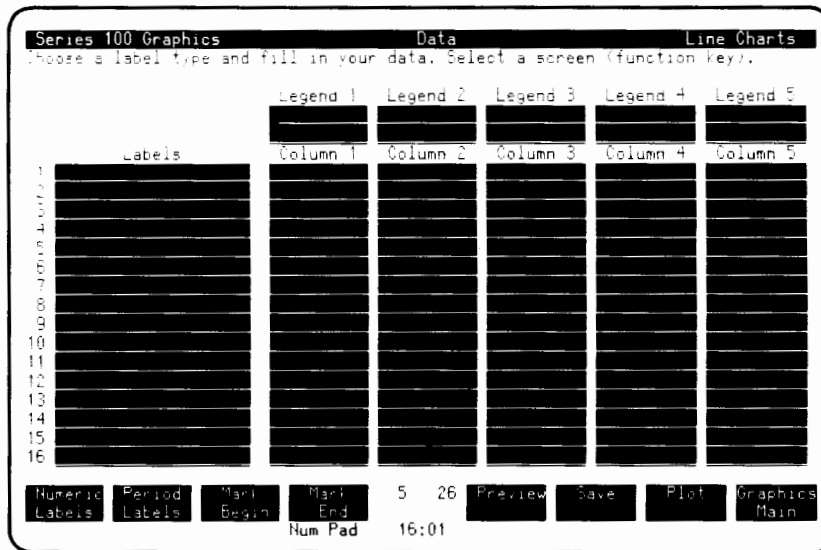
1. Notice, in line charts, you can also make scattergrams (data points without connecting lines). Since you want to make a Line Chart, leave the indicator box around the Line Chart.

Making a New Chart

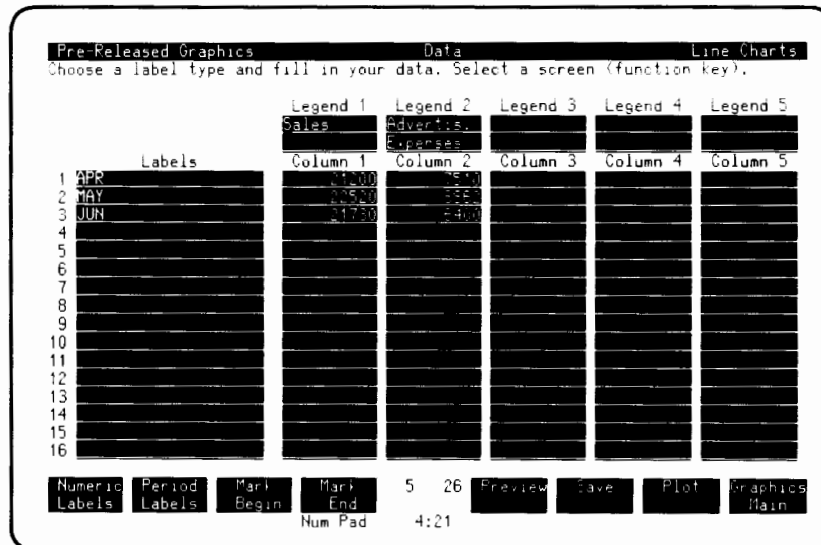
1. This time you'll make a new chart (just for variety's sake). Touch **New Chart**.



A blank Data screen should appear.



2. Type in Mr. Scooper's sales and advertising figures as shown on the following screen:

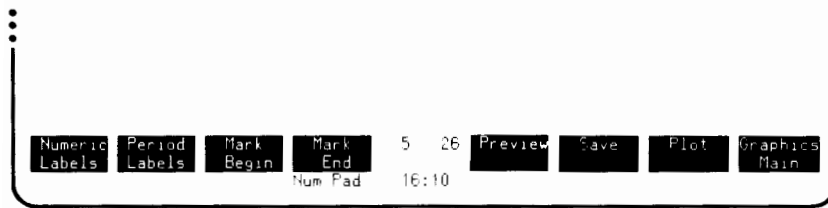


Lesson 5

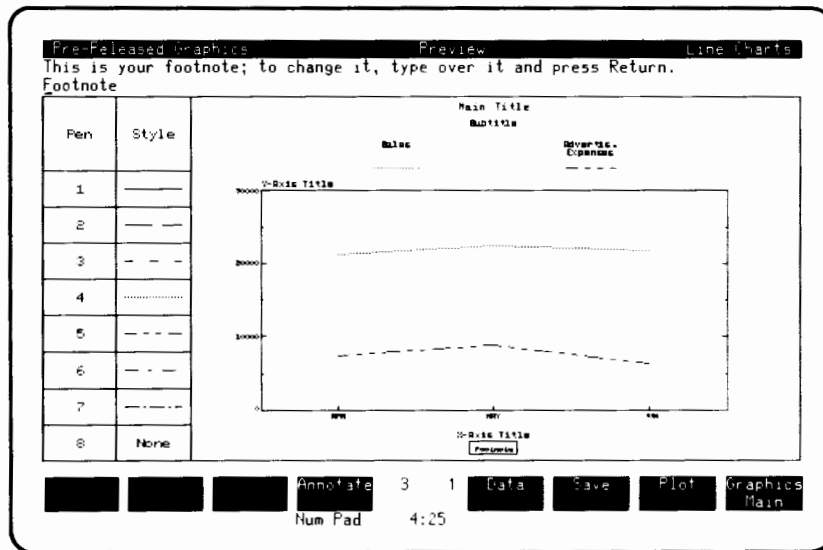
Remember, the **Return** and **Shift Return** keys move the cursor within the columns and the **Tab** and **Shift Tab** keys move the cursor across the screen and between rows.

Previewing Mr. Scooper's New Chart

1. When you've finished with the Data screen, touch **Preview** to move to the Preview screen.



In the Preview screen, you'll adjust the preview of your chart to the way you want to see it plotted.

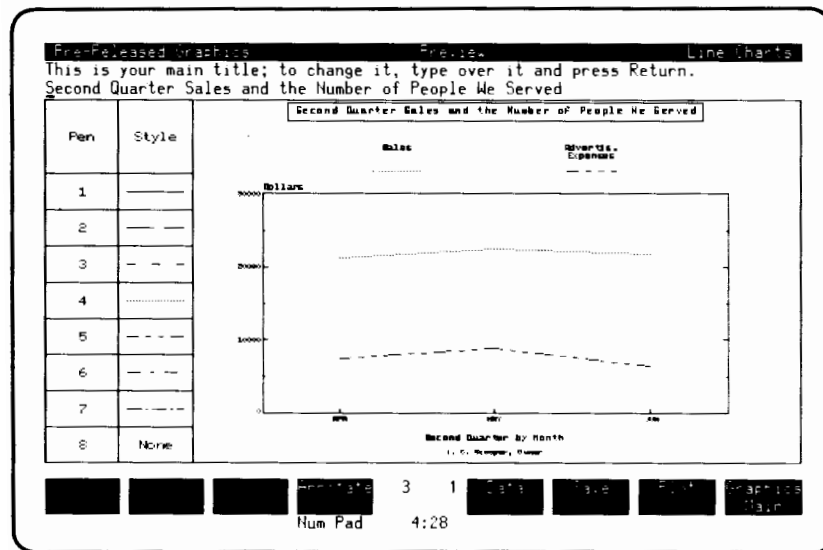


2. For the main title, type **Second Quarter Sales and Advertising Dollars** over the default, **Main Title**. Touch the middle of the chart or press **Return** to tell Graphics of the change and redraw the screen.
For the rest of this lesson, I'll just ask you to redraw the screen and you can choose which method you prefer.
3. Remove the subtitle by pressing **Clear Line** and, then, redrawing the screen.
4. For the Y-Axis title, type **Dollars** over **Y-Axis Title**. Redraw the screen.

Lesson 5-4

5. Type **Second Quarter** by Month over the X-Axis Title. Redraw the chart on the screen.
6. Change the Footnote to **I.C. Scooper, Owner**. Redraw the chart on the screen.
The legends are next. I'll tell you how to change them, then you get to change them to whatever you want.
7. Change the wording by typing over whatever is on the input line. Put a slash (/) where you want the second line to start.
8. Change the Pen Number and Line Style by touching the number or style you want. The indicator box will move to your choice.
9. After you finish changing each legend, press **Return** and the chart will be redrawn on the screen.

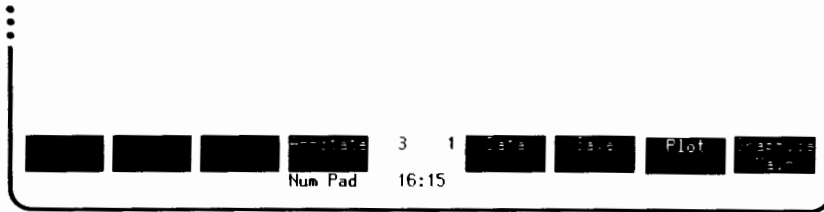
Your Preview screen should look something like this:



You can adjust the x- and y-axes scaling, but Mr. Scooper really likes the scales that Graphics drew by default. Textual x-axis are not redrawn when changed. (See Rescaling X- and Y-Axes in Using Graphics for information about rescaling the axes.

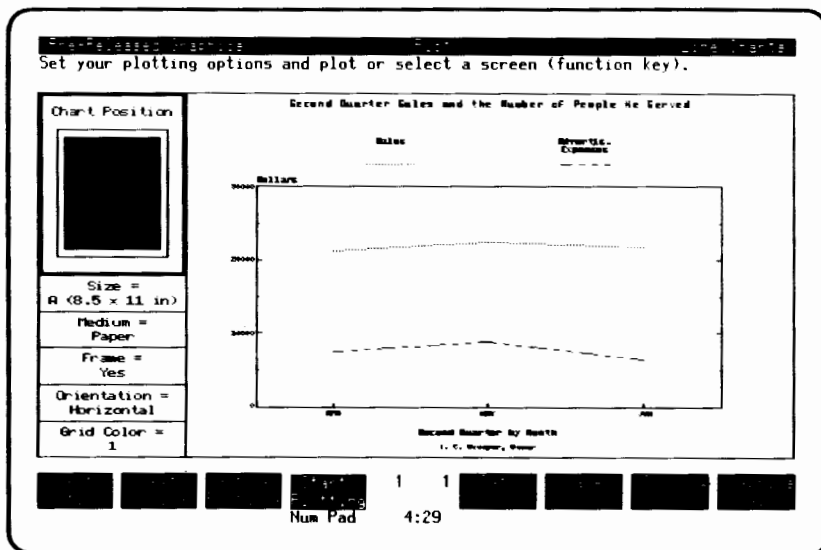
Plotting the Line Chart

1. Now, you're ready to plot the chart. Touch **Plot**.

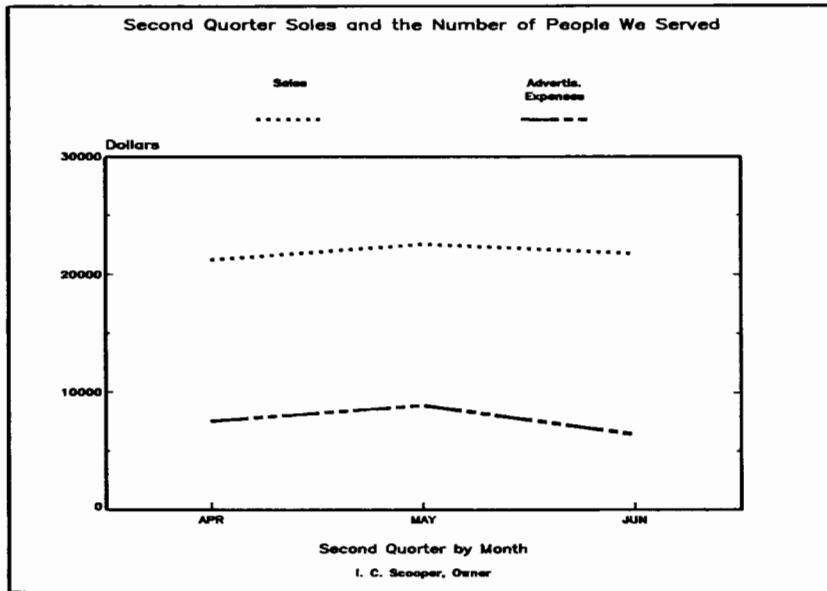


On the Plot screen you can either change the way your chart is plotted on the page or you can just plot it. In Pie Charts you learned about all of the options and choices. You've used the defaults for the other charts, so do the same here.

2. Be sure you have paper and pens in your plotter, then the plotter is turned on and an error light is not showing, touch **Start Plotting**.



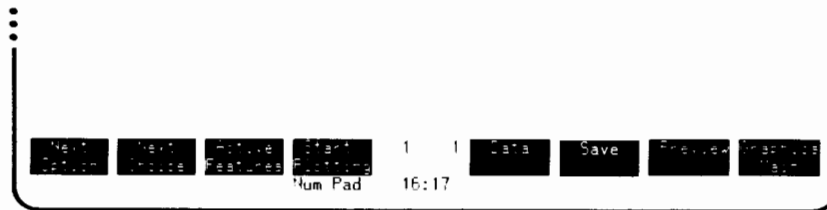
Your chart should look something like this:



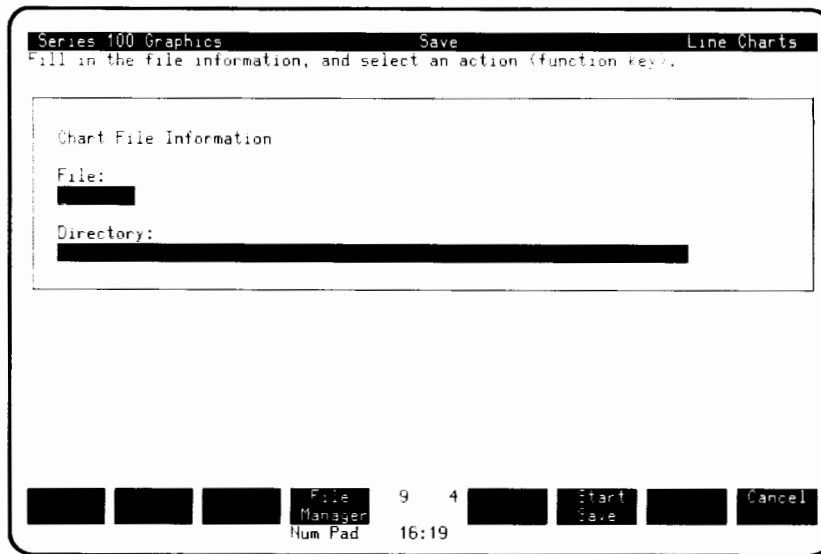
Boy, you're really getting to be an expert! Mr. Scooper must be very proud of you. Why don't you save this chart and make him a few more Line Charts.

Saving a New Chart

1. Touch **Save** after the chart is plotted.

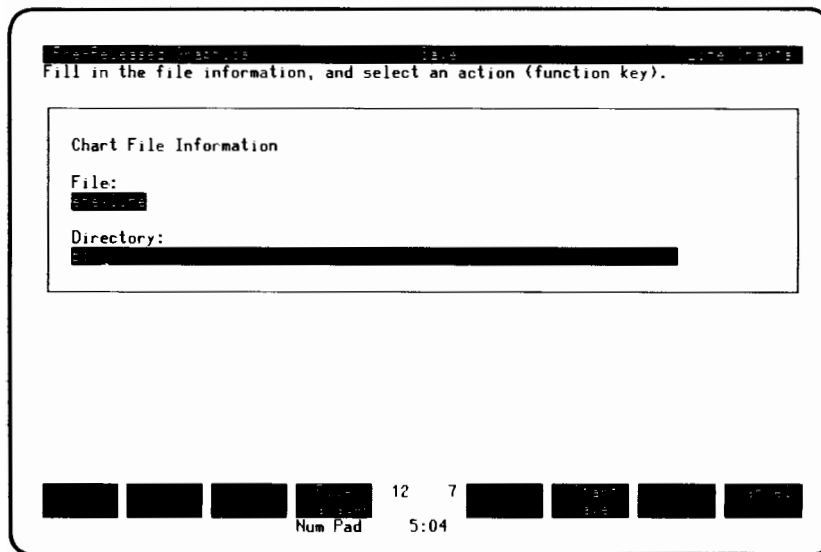


Save lets you give your chart a filename and writes it on the disc for future use.



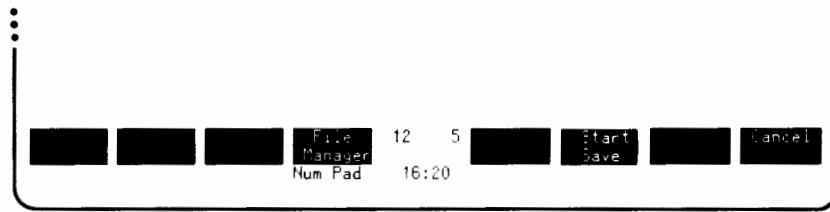
Since you made a new chart, there are no default file and directory names for Graphics to use. That's OK; I'll bet you already know what you're going to name the chart file. That's right — two of your initials and `exline`. (Mine is `EHEXLINE`.)

2. Type your filename on the input line. Press `Return`.
3. Type `b:\` for the directory name.



Lesson 5-8

4. Touch **Start Save**.



You've done it! Terrific! One more chart unit and you'll know them all.

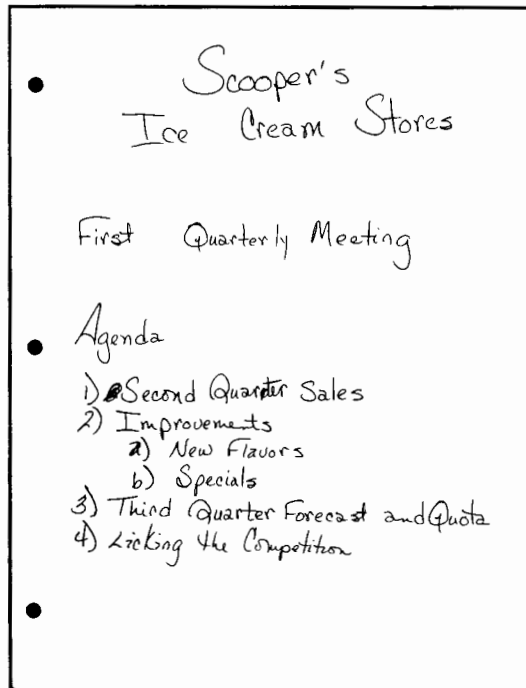
Lesson 6

Making Text Charts

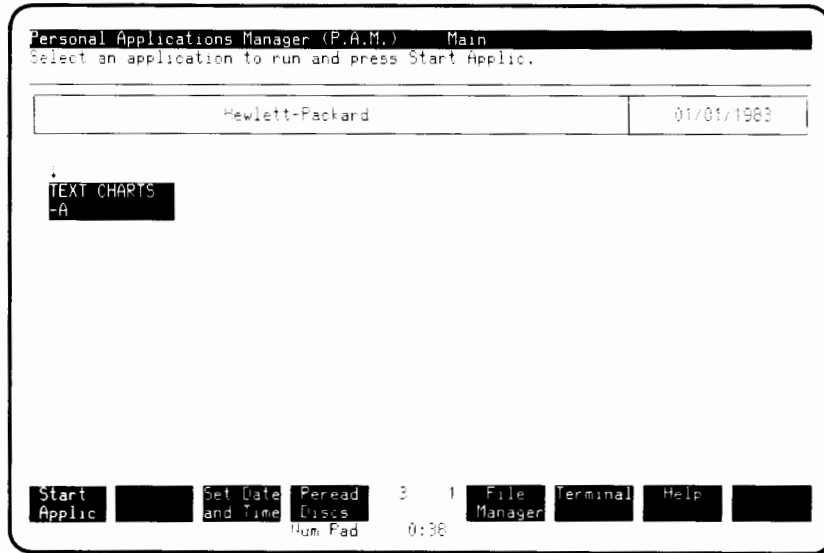
Mr. Scooper Discover's Text Charts

Great! Someone showed Mr. Scooper what a Text Chart is. Now, he wants his meeting agenda plotted as an overhead transparency and handout.

At least, he scribbled out sort of what he wants . . . "Just clean it up a little," he says.

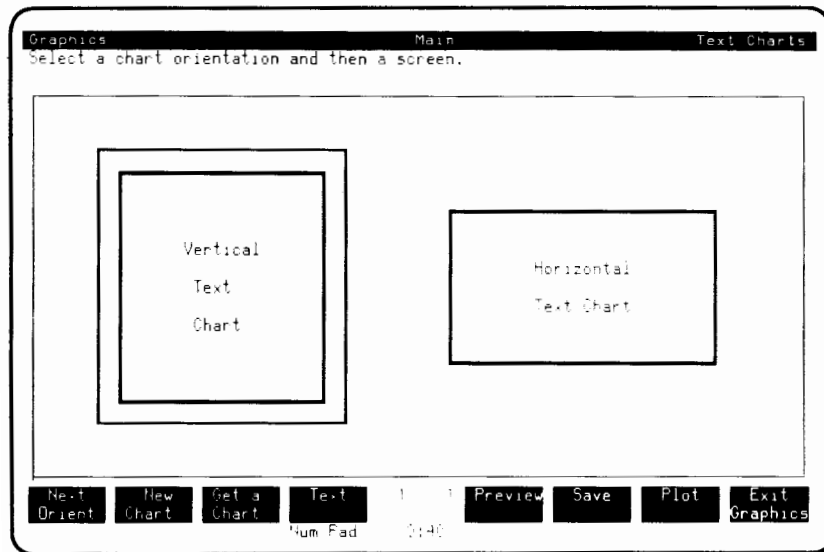


1. Well, here goes! Touch Text Charts on the Personal Application Manager (P.A.M.) screen. Then, touch **Start Applic**



Choosing a Text Chart Type

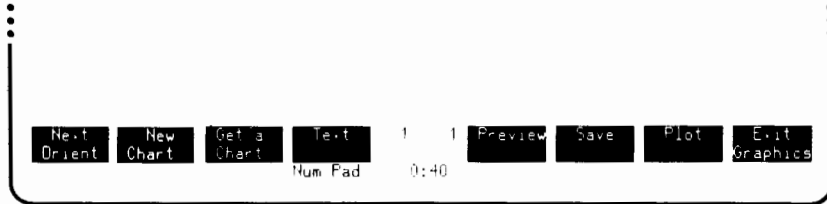
The screen changes to the Text Charts Main screen.



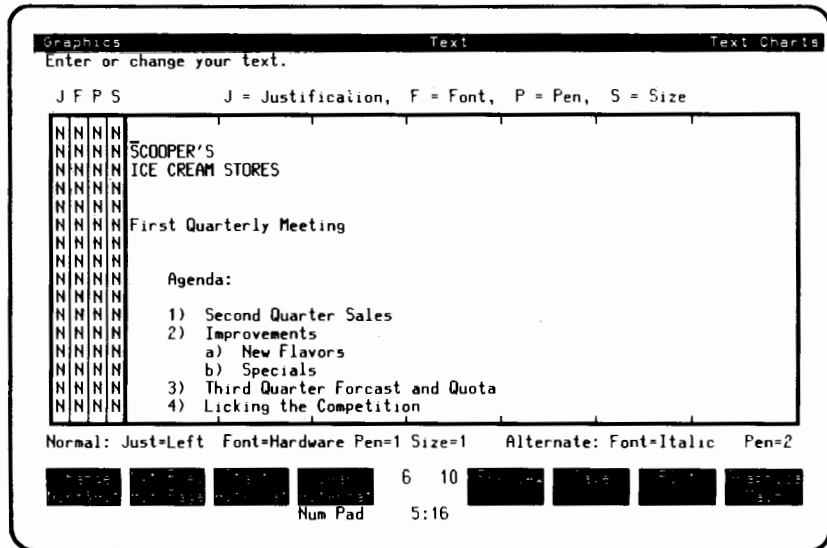
1. Notice the box around the Vertical Text Chart. Mr. Scooper needs a horizontal chart, so go ahead and change the chart type to Horizontal.
2. Touch the Horizontal Text Chart. The box moves to the Horizontal Chart.

Typing the Text

1. Since it's easier to make a new text chart than revise an old one, touch **New Chart**.



2. Type the text as Mr. Scooper wrote it. (Don't worry about centering the upper lines; later on, you'll tell Graphics to do that for you.) Skip lines where you need space; you can always go back and add or delete lines.



Lesson 6

Notice the four columns on the left of the screen, the J F P S columns. These columns indicate, row by row, what Justification (where on the line the text is positioned), Font (the "typeface" or letter style), Pen number (color of the pen in that number pen stall in the plotter), and Size (the actual size of the letters on that line) you want plotted.

Right now, all of the columns are set to N. N means normal text. You will probably find that you use one set of line characteristics more often than others. The normal settings indicate the characteristics that you normally use.

The Normal Settings are listed across the screen just above the function keys. The Alternate Settings are listed on the same row. Alternate Settings are used when you need to enhance certain words within a line of text. (For more information about how to use the Alternate Settings, see Text Charts in the Using Graphics section.)

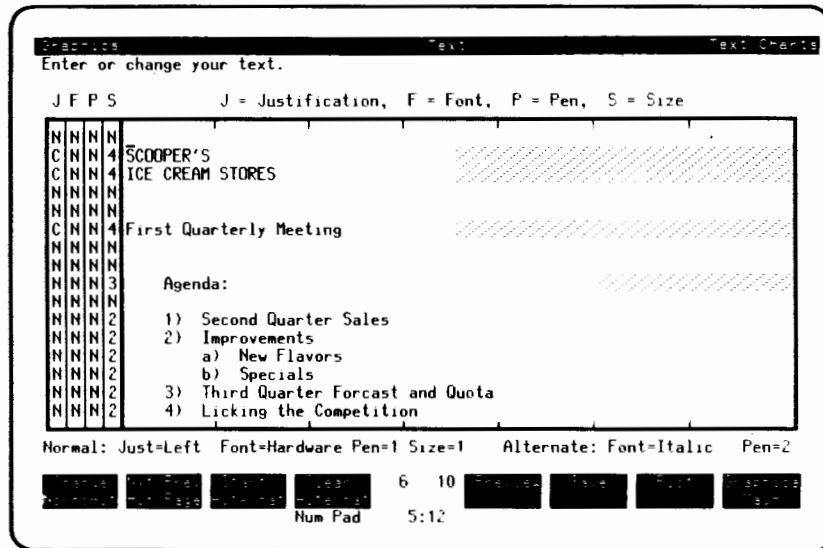
Use N in the columns when you just need your normal setting. Change the N (at the row and column necessary) to another representative letter when that line of text needs to be different. (The letters representing the different choices are listed in the Selection Field chapter of For Your Reference.)

NOTE

For blocks of text that will be separated by vertical rows of spaces, use the Hardware font for proper alignment of the spacing. For an explanation, see "Using Graphics" Text Charts/Changing the Normal and Alternate Settings in Text Charts.

3. Alter the letters in the column by moving the cursor to the letter you need to change either by touching the letter, tabbing to it, or using the **[Return]** key. Type the letter representing the new selection.

I believe the following screen indicates the choices that Mr. Scooper would like:

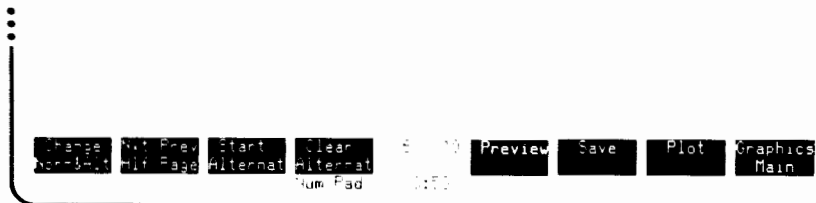


Notice the shaded area to the right of the upper text. This area indicates the limits of your plotting area (page). When you set a large letter size, that shaded area grows; meaning you have less room for your text.

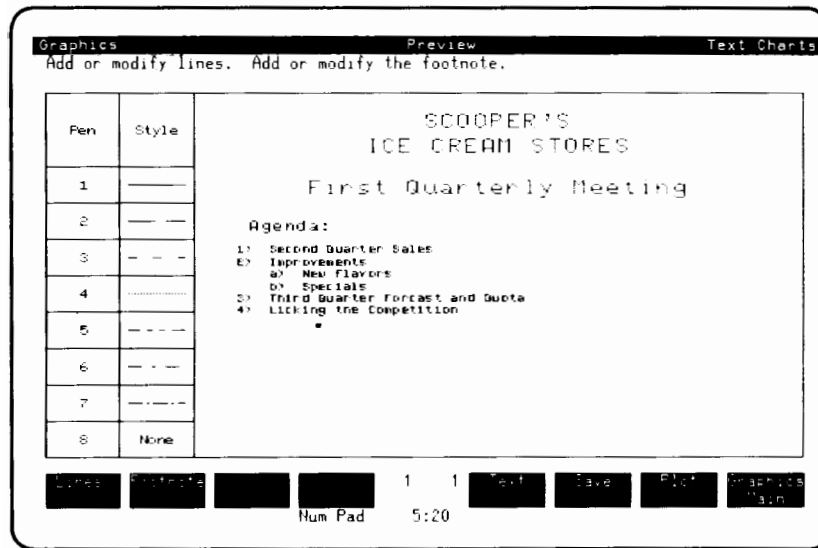
If you needed to type into the shaded area, each letter on that line gets squeezed until it fits on the page. This squeezing will show up on the Preview screen.

Previewing Scooper's Text

1. Touch **Preview**.



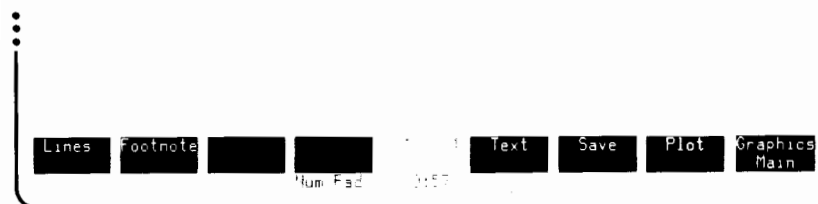
On the Text Chart Preview screen, you can draw straight lines (see Using Graphics) and add a footnote (small text that appears at the bottom of the chart). You also see how your final chart will look. If you need to change any of the text (including a too long line that's really squeezed), go back to the Text screen. (Touch **Text**.)



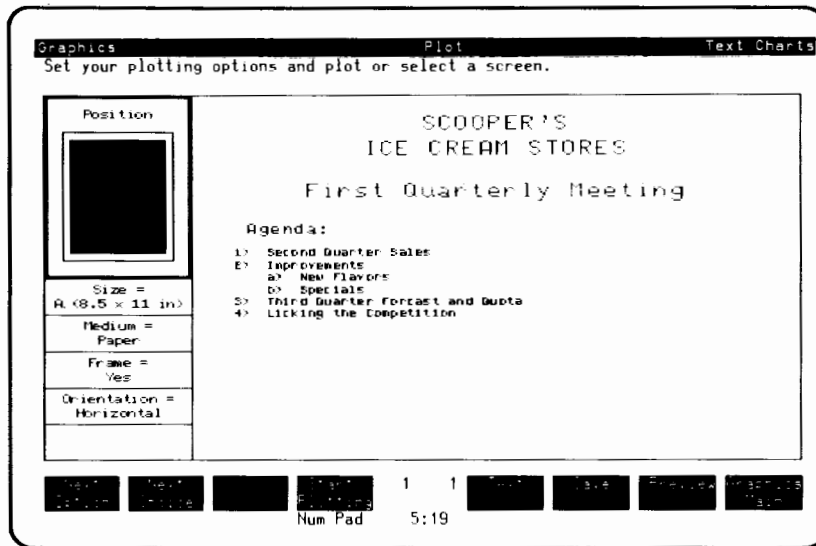
Since Mr. Scooper doesn't want any lines drawn or a footnote on his text chart, go ahead and plot it by touching **Plot**, then **Start Plotting**.

Plotting the Text Chart

1. Touch **Plot**.



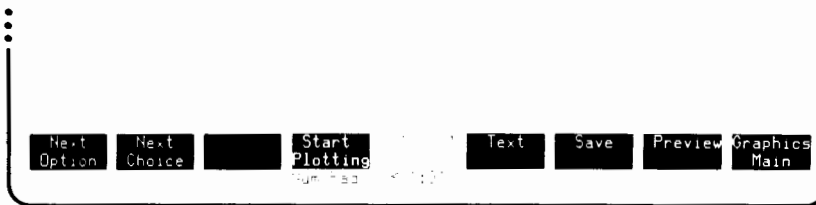
Looks a lot like the other Plot screens, right?



All of the defaults (preset choices) are just fine for this chart.

2. Be sure paper and pens are in the plotter, then touch

Start Plotting.



Your text chart should look something like this:

SCOOPER'S
ICE CREAM STORES

First Quarterly Meeting

Agenda:

- 1) Second Quarter Sales
- 2) Improvements
 - a) New Flavors
 - b) Specials
- 3) Third Quarter Forecast and Quota
- 4) Licking the Competition

Save your Text Chart; you know how often Mr. Scooper changes his mind about wording.

Saving Your Text Chart

1. After the chart has been plotted, touch **Save**.

File Released Save Text Charts

Fill in the file information, and select an action.

Chart File Information

File 9 4 Save Cancel

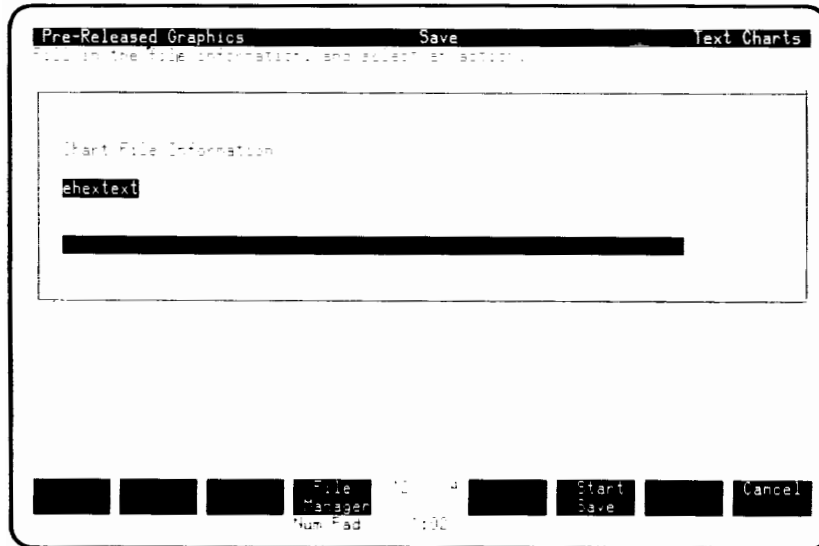
Num Pad 5:23

Lesson 6-8

You'll go to the Save screen where you can store your chart.

You need to give the chart a filename, so that if you ever want to use it again you'll be able to retrieve it from the disk by using **Get a Chart**.

2. In the **File:** field, type two of your initials and **extext**, all as one word. Example: the filename I'm using is **EHEXTEXT**.



3. Now, type **b:**.



4. Touch **Start Save**.

Congratulations!!! You did it again; what a terrific text chart! When you go show Mr. Scooper how well you did, he'll probably want more. Practice with a few more text charts of your own after you finish all of the lessons. Go on to **Using Graphics** and **For Your Reference** as questions arise.

Chapter 1

USING GRAPHICS



In this section, you'll find all of the procedures for adding those extra touches to your charts.

The procedures described first can be used for more than one of the chart types. At the end of this section, you'll find the features that apply only to one particular chart type.

By now, you have completed the Getting Started or you know Graphics well enough to get from screen to screen and work with each screen. You probably, also, know that the Getting Started did not explain what to do with all of the function keys; this chapter explains the rest. Between this section and the Getting Started section, all of the Graphics procedures and features are explained. If you want more information about the charts, selection fields, or function keys, look in the chapters in For Your Reference.

The topics to be covered in this chapter begin with general information that concern all charts. Specific information about Pie and Text charts are then covered.

All Charts

Alternatives to Touchscreen

Making Extra Notes and Drawing Figures and Lines on Your Chart

Preventing Some Chart Features From Being Plotted

Going Back to Your Last Chart

Plotting Part of the Data

Using Data from One File and Chart Specifications from Another

Using Data from Another Application

Rescaling the X- and Y-Axes

Drawing a Grid on Your Chart

Pie Charts

Sorting Segments

Exploding Segments

Text Charts

Changing the Normal and Alternate Settings in Text Charts

Using Alternate Settings in a Line for Your Text Charts

Drawing Lines and Figures on Your Text Charts

Selecting a User Font

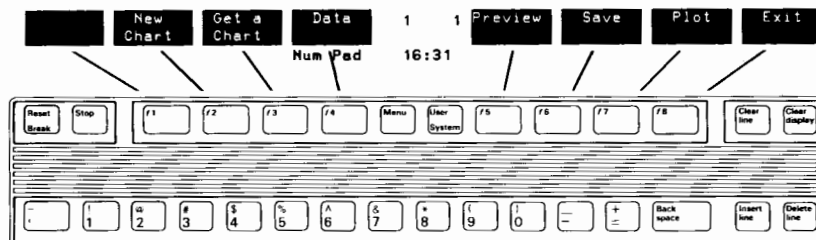
All Charts

Alternatives to Touchscreen

Purpose: Let you use the keyboard, if you want or if touchscreen is off. (Turn touchscreen back on by pressing **CTRL** **Shift** **Menu**.)

Where Used: All Charts — All screens

What & How: All of the function keys correspond to the keyboard keys labelled f1-f8. Press these keys instead of touching the ones on the screen.



On the Main screen, Bar, Line, and Text Charts have more than one chart type. Select another type by moving the indicator box with **Next Cht Type**.

On the Preview screen, there are several ways that the keyboard and function keys can be used as an alternative to touch in all of the charts.

When you need to select a different pen number, line style, bar and segment shading, or point marker, use the **Next Pen**, **Next Style**, **Next Shade**, or **Next Marker** function keys.

Move between the title, legend, scale, and segment fields on the Preview screen by pressing **Tab** and **Shift Tab**. **Tab** moves the cursor to the next field and **Shift Tab** moves it to the previous field.

On the Plot screen, move the indicator box to the next field with the **Next Option** function key.

Choose the next setting in the field with the indicator box by selecting **Next Choice**.

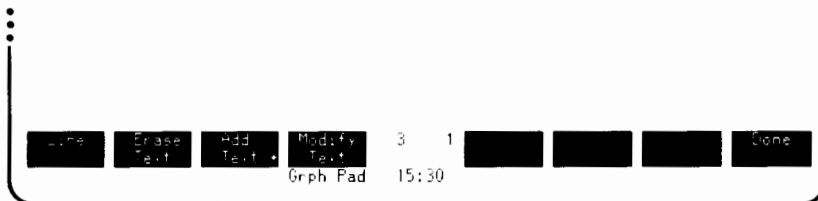
Making Extra Notes and Drawing Figures and Lines on Your Charts

Purpose: Lets you make extra notes on your charts and draw lines to point out feature of interest.

Where Used: Pie, Bar, Text, and Line Charts — Preview Screen

What & How: For Pie, Bar, and Line Charts select **Annotate** and the function key labels change.

For text charts, select **Lines**:



You may have up to 10 text labels with 60 characters per label and up to 30 lines.

In text annotations, you can add text, modify existing text, or erase text. You may do these only one at a time. The * jumps between the three function keys. The key containing the * is the active one.

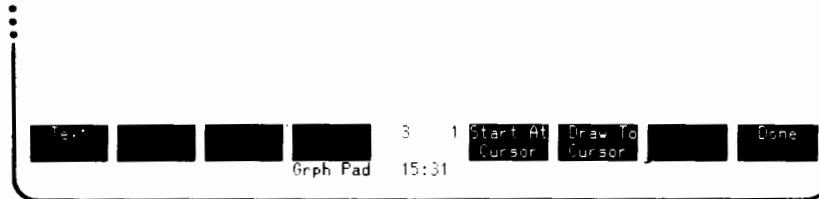
Move the * to another of the three keys by selecting the key that you need.

To modify or erase text, use the **Tab** key to position the cursor on the text to be changed.

Once you've selected the function key, follow the instructions at the top of the screen.

When you've finished making textual annotations, either select **Done** to bring the previous function keys back or **Line** to draw line annotations on your chart.

If you select **Line**, the following set of function keys will appear:



Position the crosshair graphics cursor (+) where you want to start the line with the graphics cursor control keys (**1**, **2**, **3**, **5** on the numeric pad).

Select **Start at Cursor**. Notice the line trailing the cursor disappears when you select this key.

Move the cursor to where you want the line to end. Select **Draw to Cursor**. The line gets drawn.

Move the cursor, again, and select **Draw to Cursor**. You've just drawn two connected lines.

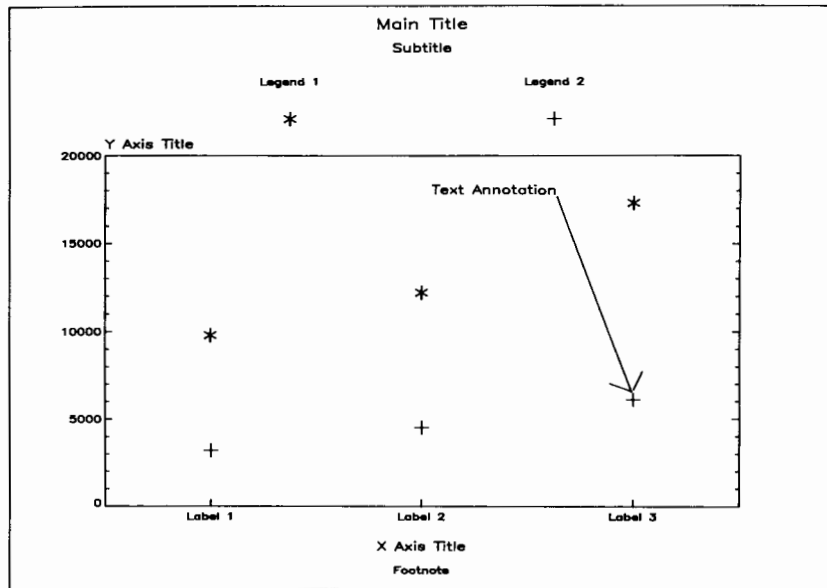
When you finish with line annotations, select **Done** or **Text** for other function keys.

For Version A. 03.00

To draw a box in Text Charts, touch **Line Box** to activate Box mode. (An asterisk should appear by the word Box.)

Position the cursor at one corner of the box and touch **Start at Cursor**. Position the cursor at the point of the opposite corner of the box and touch **Draw to Cursor**. Touch **Done** when you are finished.

Example Chart:



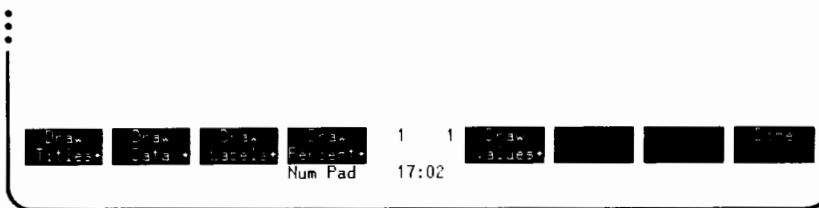
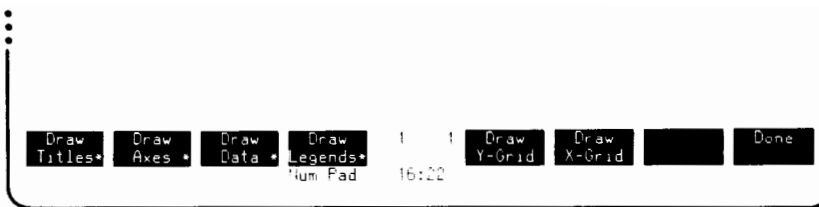
Preventing Some Chart Features From Being Plotted

Purpose: Give you the option of suppressing the titles, data, legends, axes, grid, percents, labels, and values. These keys come in handy when you are plotting one chart on top of another, i.e., a line chart on a bar chart. (Just be sure your legends are worded the same on both charts.)

Where Used: Pie, Bar, and Line Charts — Plot Screen

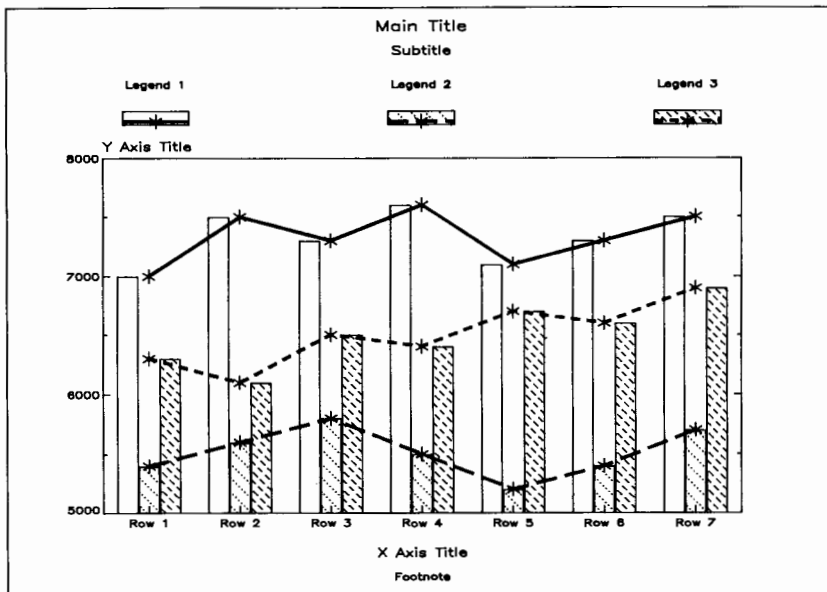
What & How: After you select **Active Features**, a different set of function keys appears:





An * in the function key means that feature gets plotted. No * means that feature doesn't get drawn. Selecting the key repeatedly turns the * on and off.

Example Chart:



Going Back to Your Last Chart

Purpose: Let you get directly back to the last chart that you worked with in that chart unit without having to go to the Chart screen and retrieve it from File Manager. If you need to interrupt your chart making, you can exit Graphics and come right back to your chart, later.

Where Used: All Charts — Main Screen

What & How: When you get the Main screen, select the function key corresponding to the screen that you want next (Data, Preview, Save, or Plot). DO NOT press **New Chart**. That will clear the previous chart from memory.

Plotting Part of the Data

Purpose: Let you plot a subset of the data on the Data screen without typing another Data screen.

Where Used: Pie, Bar, and Line Charts — Data Screen

What & How: Position the cursor on the first line of data that you want plotted. Select **Mark Begin**. (Shading (inverse video) appears above the marked line.) Position the cursor in the last line of data that you want plotted. Select **Mark End**. (The inverse video shading appears below the marked line). If you want to change any title information touch **Preview**, then touch **Plot** and **Start Plotting**. Be sure that the plotter is turned on, the error light is off and there are paper and pens loaded.

Using Data From One File and Chart Specifications From Another

Purpose: Let you put new data with standard chart specifications (created with an earlier chart) for such things as monthly reports and putting the same data on two different charts.

Where Used: Pie, Bar, and Line Charts — Charts Screen

What & How: Fill in the **Chart File Information** with the file and directory name of the file from which you want chart specs.

Fill in the **Data File Information** with the file and directory name of the file from which you want the data. (This includes any DIF format file or ASCII files.)

If you need to transfer in the data, fill in the **Data File Information**. Assuming that you have a data file from another application that Graphics can use (any DIF file), select **Transfer Data In** (be sure the * is in the label).

(Remember, if you use a VisiCalc file, you need to save the file by column in DIF format if you want it to look the same in Graphics.)

Using Data From Another Application

Purpose: Transfer data from another application such as VisiCalc without retyping the data.

Where Used: Chart Screen

What & How: The file you are transferring should be one of the following:

- Data in DIF format (VisiCalc files)
- Data in Non-Document Mode from WordStar
- Data from dBase II or Condor (graphics format)

In the Chart screen, move the cursor to the **Data File Information (Optional)** portion of the screen.

Select **Transfer Data In** so the * appears.

Select **File Manager**.

Select **Graphics Chart**.

Touch or to the file that you want to transfer in.

Select **Return Chart**, then **Back to Graphics**.

The full name of the file should appear in the **Directory** field. You are now ready to proceed with making your chart.

Rescaling Numeric Values in the X- and Y-Axes

Purpose: Lets you adjust numeric values in the x- and y-axes to fit your charting needs.

Where Used: Bar and Line Charts — Preview Screen

What & How: Move the indicator box to the X- or Y-scale. Follow the instructions at the top of the screen. If you change your mind about altering the scale before you finish the changes, select **Cancel**. The defaults will stay in place and nothing will change.

If you changed some data or the scale and want the default back, select **Default Scale**.

If you don't want to change a value, press **Return** to get to the next step without changing that value.

When you finish changing the scale, you will automatically go back to the previous function keys, and the chart will redraw with the new scale.

NOTE

If you return to the Data screen after changing the numeric values of the X- and/or Y-axes, the default values will be used when the screen is redrawn if the new data values fall outside the scaling that was set.

Drawing a Grid on Your Chart

Purpose: Let you put a grid on your bar chart, line chart, and scattergram. The grid will not draw through the bars.

Where Used: Bar and Line Charts — Plot Screen

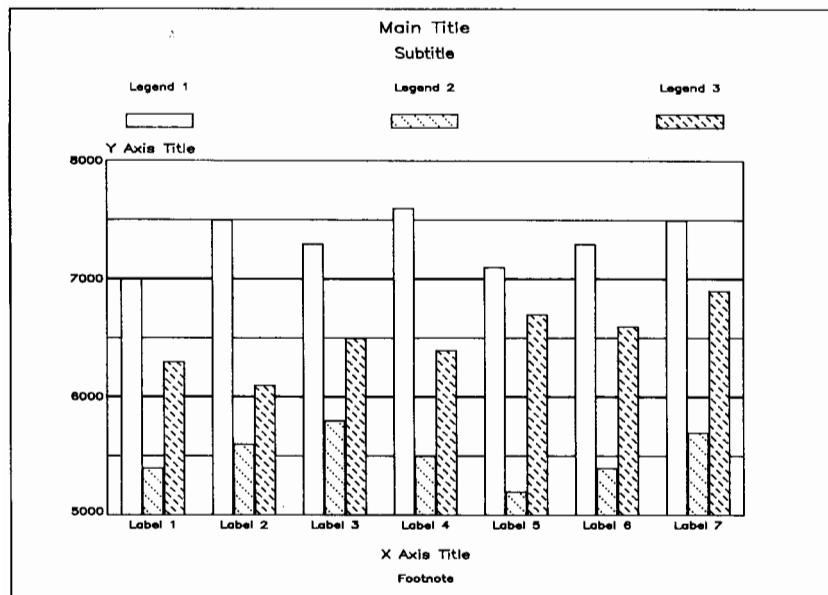
What & How: Select **Active Features**. When the function keys change, put an * in the **Draw Y-Grid** and/or **Draw X-Grid** function keys. (Bar Charts have only a Y-Grid.)

Select **Done** to return to the previous function keys.

Move the indicator box to Grid Color and choose the pen number you want.



Example:



PIE CHARTS

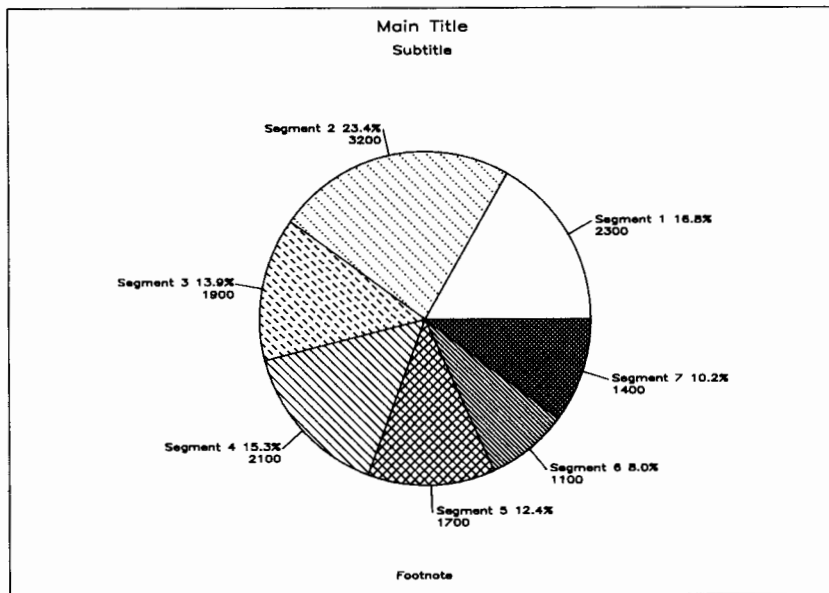
Sorting Segments

Purpose: Let you arrange the segments either in the order that they are listed on the Data screen (unsorted) or in value order (sorted).

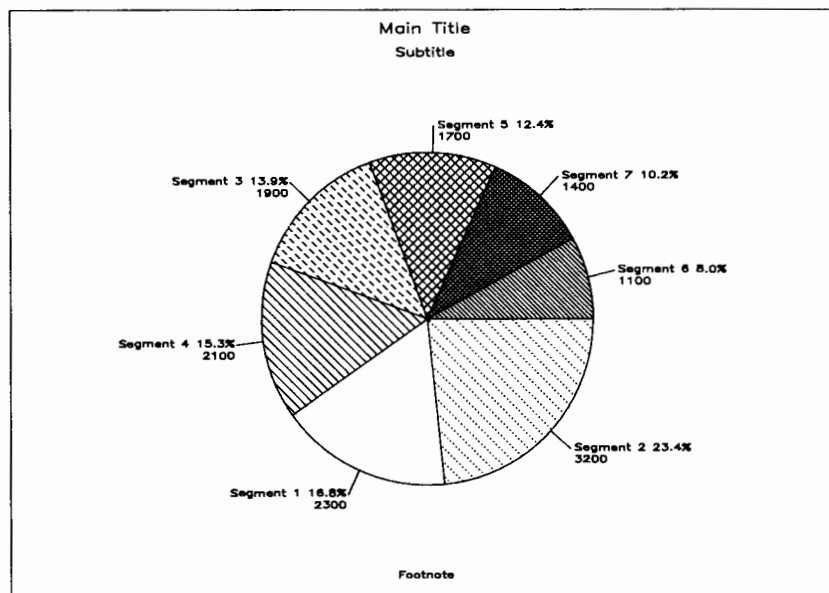
Where Used: Preview Screen

What & How: Select **Sort** until an * is in the key to sort, remove the * to unsort. Graphics automatically redraws the chart when you make this selection

Example:



Unsorted



Sorted

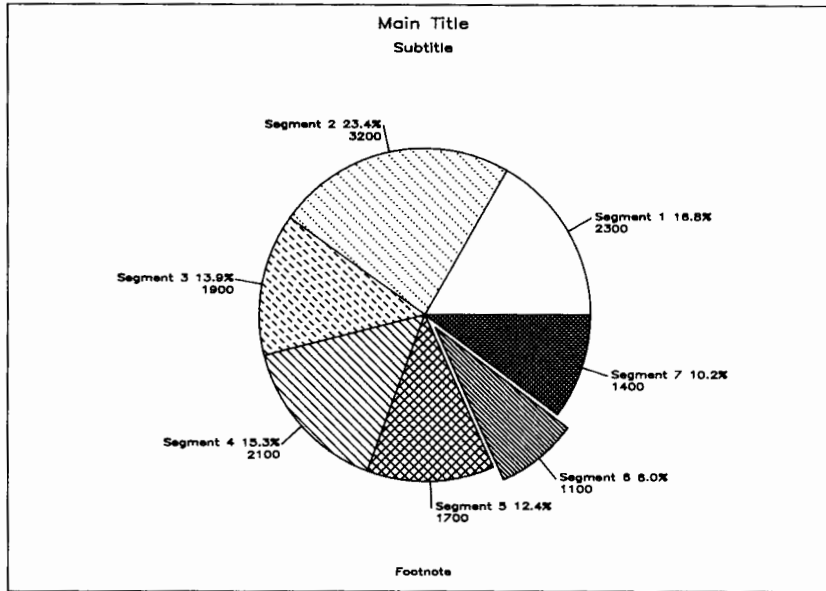
Exploding Segments

Purpose: Emphasize a segment by removing it slightly from the rest of the pie.

Where Used: Preview Screen

What & How: When the indicator box is on one of the segment labels, put an * in **Explode Segment** by selecting it. Remove the * by selecting the key again. Redraw the screen by touching the center of the pie or pressing **Return** to complete the change.

Example:



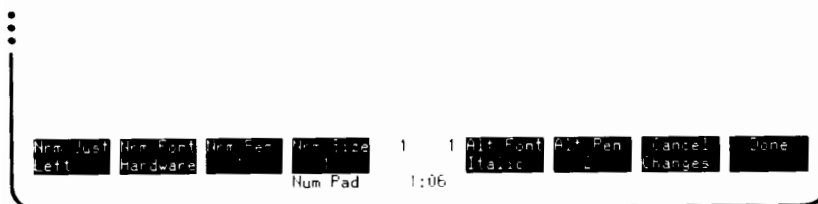
TEXT CHARTS

Changing the Normal and Alternate Settings in Text Charts

Purpose: Let you establish the settings that you use the most for your regular (normal) text and your emphasized (alternate) text.

Where Used: Text Screen

The second way takes a bit longer, but lets you keep the old settings on the screen until you have decided on what the changes should be. Select **Norm&Alt Settings**. The function keys change to this:



Repeatedly select the function keys, one at a time, until the choices that you want appear on the function keys.

When you are satisfied with the new settings, select **Done** to return to the previous function keys and change the normal and alternate settings listed above the function keys.

If you change your mind about altering the settings, select **Cancel Changes** which also takes you back to the previous function keys, but without making any changes.

NOTE

All text fonts, except Hardware, are proportionally spaced. Letters in a proportionally spaced font occupy spaces of varying widths. A non-proportional font, like Hardware, allocates the same space width for all letters. In the Hardware font an 'T' would be printed in the same space width as would a 'W'.

When choosing a font for vertical blocks of text separated by spaces, a proportional font will produce uneven margins for the blocks of text that are not on the left-most margin. A proportional font will allow all the blocks of text to align evenly.

Using Alternate Settings in a Line For Your Text Chart

Purpose: Let you emphasize words or phrases within a line of text.

Where Used: Text Screen

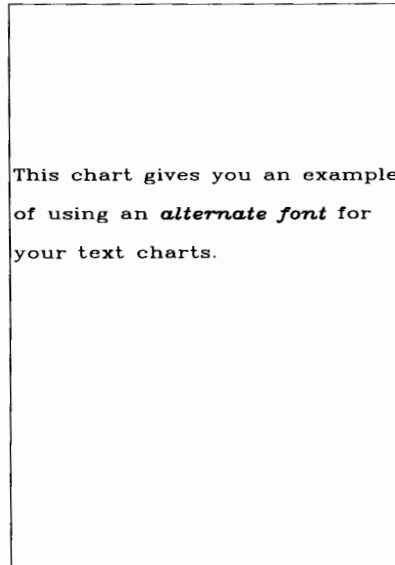
What & How: Position the cursor where you want the alternate settings to begin. Select **Start Alternat**.

Move the cursor to where you want the alternate settings to end. Select **End Alternat**.

The alternate text is enhanced with a lighted block.

If you want the alternate settings turned off, position the cursor anywhere in the enhanced block and select **Clear Alternat**.

Example:

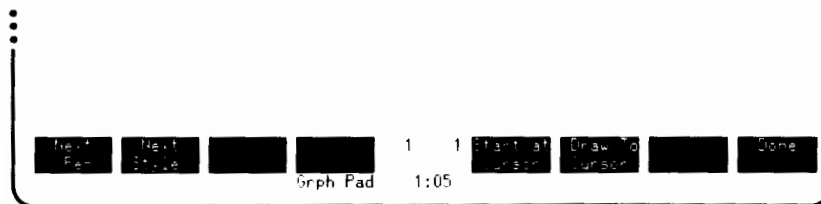


Drawing Lines and Figures on Your Text Charts

Purpose: Let you draw straight lines and simple figures, such as boxes, triangles, etc., on your text chart. You can even underline important points.

Where Used: Preview Screen

What & How: Select **Lines** and the function keys change to the following:



Position the crosshair cursor (+) where you want to start the line with the graphics cursor control keys (1, 2, 3, 5 on the numeric pad).

Select **Start at Cursor**. Notice the line trailing the cursor disappears when you select this key.

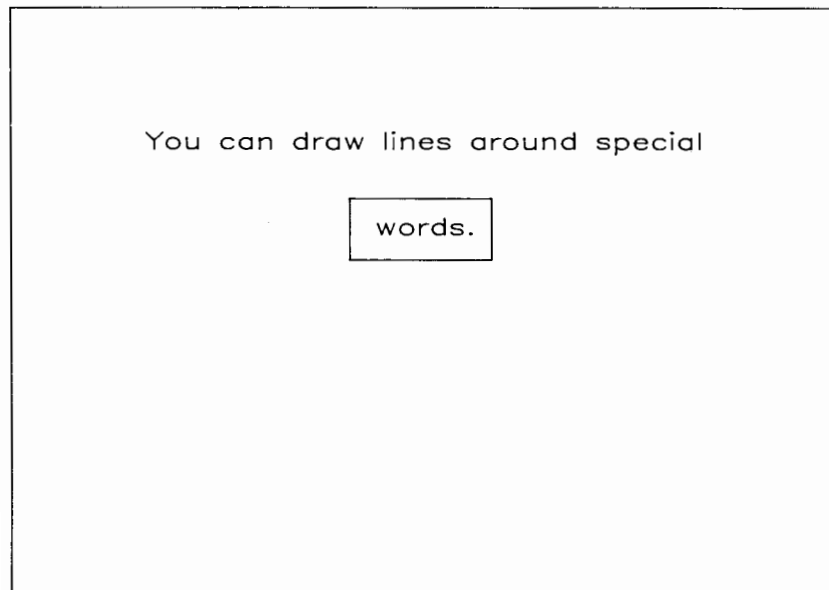
Move the cursor to where you want the line to end. Select **Draw to Cursor**. The line gets drawn.

Move the cursor, again, and select **Draw to Cursor**. You've just drawn two connected lines.

When you finish with line annotations, select **Done** or **Text** for other function keys.

When you finish drawing a line, choose the line styles and pen numbers for that line. You have an indicator box to move around from line-to-line once you've drawn a line. Press **Return** or touch the middle of the chart after making a change. Use touch, **Tab**, and **Shift Tab** to move from box to box without any changes.

Example:



Selecting the User Font

Purpose: Lets you use any of the fonts that Graphics offers even though only seven of them fit on the Text Chart disc.

Where Used: Text Screen

What & How: Go to the **File Manager** through either the Chart or Save screen.

Select **Choose Dir.**

Set **Wildcard** to ***.fnt.**

Type **B:** and press **Return**.

All of the fonts available are listed on the screen.

Find the font you want as the user font.

Exit **Choose**

Select **File Functions.**

Select **Copy File.**

Touch or **Tab** to the font you want, then type *

A:userfont.fnt **Return**.

Select **Start Copy.**

Select **Exit Copy**, **Exit FileFctn**, and then **Back to Graphics** and finally **Cancel** or **Graphics Main** and **Text** to return to the Text screen.

** A: is the example drive. You may need a different drive.*

Chapter 2

INTRODUCING THE REFERENCE SECTION



Graphics lets you make a chart with a minimum of effort. If you wished, you only need to alter the Example Chart to produce high quality presentation graphics. You learned Graphics by modifying the Example Chart in the Getting Started portion of this manual.

Graphics also lets you design your charts to fit your needs. You may take advantage of any combination of Graphics's features to customize your graphs. The Using Graphics section of this book tells you how to use Graphics's features to design your own charts.

The reference section details the chart characteristics, selection fields, and function keys that you use while making charts with Graphics. This section answers questions that you may have about Graphics's selection fields and function keys, such as, "How many characters may I use for a Main Title?" or "What does this function key do?"

Using the Reference Section

The other three chapters in the reference section are summarized below:

- Chapter 3 Chart Characteristics — Lists the minimum and maximum values for each chart type.
- Chapter 4 Selection Fields — Gives complete information about each selection field, such as, the defaults (preset choices), legal characters, purpose, etc.
- Chapter 5 Function Keys — Gives all of the information about each function key, such as, purpose, which chart to use it with, what screen it appears on, etc.

If you feel uncomfortable about working with Graphics, take a few minutes to go through the Getting Started section in this book. If you are just reviewing the Getting Started, it will go even more quickly than it did the first time.

Use the blank Special Consideration spaces to make your own notes about the selection fields and function keys.

If you have questions about how to do things that are not in this reference section, look in the Using Graphics section of this book. You'll find such things as how to rescale your X-axis, how to make a chart that contains both a line chart and a bar chart, and lots more.

Use the index and the table of contents to guide you to the answers to your questions.

Chapter 3

GRAPHICS CHART CHARACTERISTICS



Use this list of limits to decide whether or not you need to adjust your data.

Pie Chart Characteristics

Maximum Number of Pie Segments: 16

Maximum Number of Data Values per Pie Segment: 1

Data Value Range: Real Numbers greater than or equal to $-1E+30$
and less than or equal to $+1E+30$.

Maximum Number of Pie Shades: 8

Text Chart Characteristics

Maximum Number of Lines Drawn: 30

Bar Chart Characteristics

Maximum Number of Bars:

Clustered Bar Charts	
# of groups	# of Bars per group
64	1
40	2
26	3
20	4
16	5

Stacked Bar Charts

Depends on your total, based on the data value range.

Maximum Number of Data Values Per Bar:

Clustered Bar Charts	
# of Bars	# of Data Pages
1	4
2	3
3	2
4	2
5	1

Stacked Bar Charts

Depends on your total, based on the data value range.

Data Value Range: Real Numbers greater than or equal to $-1E+30$ and less than or equal to $+1E+30$.

Maximum Number of Bar Shades: 8

Line Chart Characteristics

Maximum Number of Lines: 5

Maximum Number of Data Values per Line: 64

Number of Data Pages: 4

Data Value Range: Real Numbers greater than or equal to $-1E+30$ and less than or equal to $+1E+30$.

Maximum Number of Line Styles: 8

Chapter 4

SELECTION FIELDS

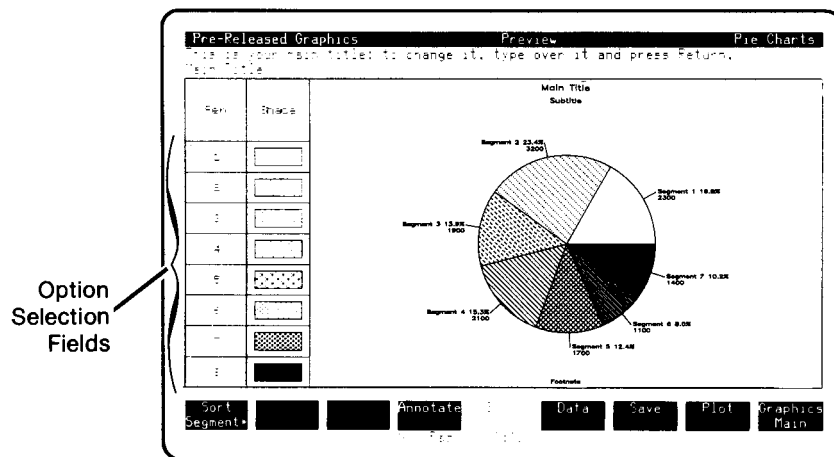


This chapter describes all of Graphics' selection fields alphabetically.

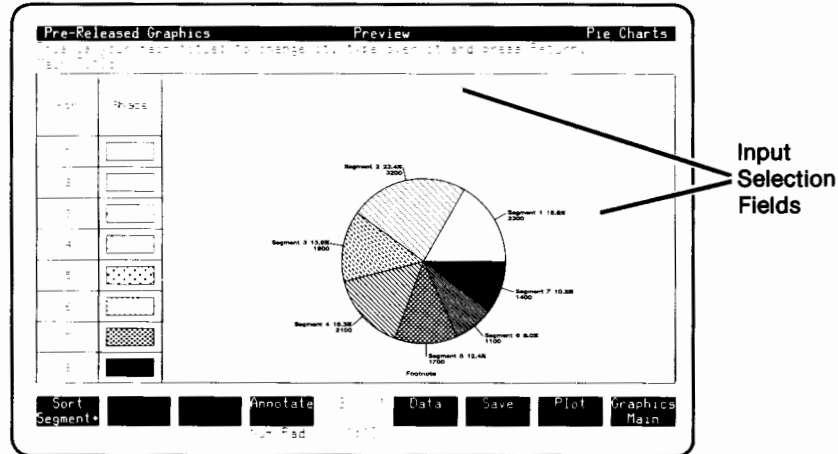
Selection fields alter the appearance of your plotted chart. In Graphics, you use selection fields to designate things like titles, footnotes, x- and y-axes ranges, and to select chart files, pen numbers, and paper sizes.

There are two types of selection fields in Graphics: Input Selection Fields and Option Selection Fields.

Option Selection Fields have specific options for you to choose from; such as, Pen numbers 1 through 8. Select the option by moving the box to the choice that you need.



Input Selection Fields let you type in the wording or numbers that you want on the chart. For instance, the Input Selection Field, MAIN TITLE would be replaced with whatever you type for the main title.



Parentheses around a selection field title means that there is no wording on the screen to match the title. The title in parentheses is simply to assign a name to that selection field.

NOTE

Function Key labels are not Selection Fields. Function Keys move you around Graphics' screens and perform functions, such as, Start Plotting. They are described in the chapter on Function Keys.

Selection Fields (Bar Chart Type)

Purpose: Select the type of bar chart that you want to make.

Charts Affected: Bar

Screen Containing this Field: Main

Field Type: Option

Choices: Vertical Clustered, Horizontal Clustered, Vertical Stacked, Horizontal Stacked

Default: Vertical Clustered

Special Considerations: This affects only the orientation of the bars; not the chart. Go to the Plot screen for chart position on a page.

Chart Position

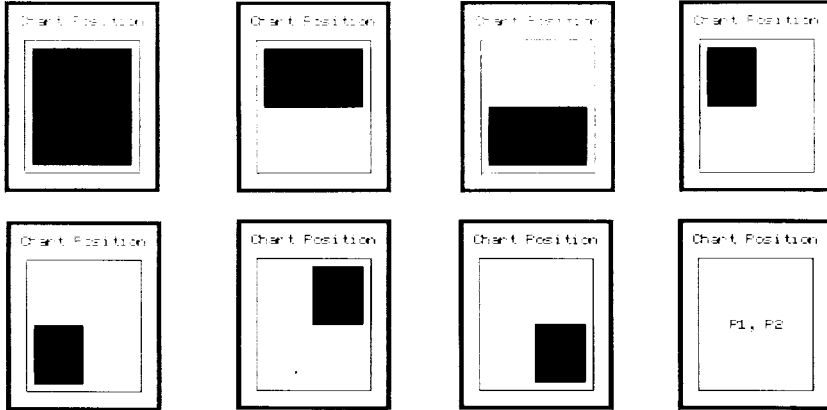
Purpose: Designate where your chart will be plotted on the medium (screen, paper, or transparency).

Charts Affected: Pie, Bar, Line, Scattergram, Text

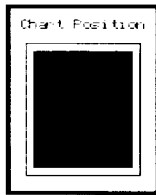
Screen Containing this Field: Plot

Field Type: Option

Choices:



Default:



Special Considerations: If you select P1, P2, you must set P1 and P2 on your plotter (see your plotter's owner's manual) before pressing the START PLOT function key. Graphics assumes that you set P1 as the lower left corner of the chart and P2 as the upper right corner. If P1, P2 is not set, the chart defaults to the whole page position.

Column (#)

Purpose: Record the data for the lines, markers, segments, or bars of a chart.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Field: Data

Field Type: Input

Legal Characters: Real numbers; you may use exponential notation.

Input Field Length: 10 characters

Default: blank

Special Considerations: This field may be left blank, e.g., if data is not available

Directory

Purpose: Indicate which directory you are retrieving chart files from or saving charts to.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: Charts, Save

Field Type: Input

Legal Characters:

Input Field Length: 60

Default:

Special Considerations:

F

Purpose: Indicate which font each line will be plotted in.

Charts Affected: Text

Screens Containing this Field: Text

Field Type: Option

Choices: H, P, B, R, I, S, U, N (default)

Series 100 Graphics *FONT*S sampler

H= Hardware Font

P= Proportional Font

B= Bold Font

R= Roman Font

Triplex Font *

I= *Italic Font*

S= *Script Font*

*Complex Font **

Gothic Font *

U=(User font. Can be copied from the Examples and Fonts disc.)

**Available on the Examples and Fonts disc.*

Default: N (normal)

Special Considerations: Normal is whatever you set it to. Change the setting by typing over the "N" with the letter that you need for that line and column.

Change the Normal setting with the function keys or by touching the field until the setting you want appears.

Change the line's setting by moving the cursor to this field and typing the letter that stands for the setting that you want.

Filename

Purpose: Indicate the file that you want to work with. Or assign a filename to a chart that you wish to save.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: Save, Chart

Field Type: Input

Legal Characters:

Input Field Length: 8

Default:

Special Considerations: You must assign a filename to save a chart file. The disc identifier must be included in the filename.

(Filenames in File Manager)

Purpose: List the existing chart filenames

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: File Mgr.

Field Type: Option

Choices: All of the listed filenames

Default: blank

Special Considerations:

Footnote

Purpose: Designate a footnote for your chart.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: Preview

Field Type: Input

Legal Characters: All displayable characters

Input Field Length: 60 characters

Default: Footnote

Special Considerations: You may change the footnote by typing over it on the input line. If you do not want a footnote, press **Clear Line** or suppress it using **Active Features** (see the chapter on function keys).

Frame

Purpose: Indicate whether or not you want a frame drawn around your plot.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: Plot

Field Type: Option

Choice: Yes, No

Default: Yes

Special Considerations: Always drawn with pen number 1.

Grid Color

Purpose: Select a pen color for an x- and/or y-axis grid.

Charts Affected: Bar, Line, Scattergram

Screen Containing this Field: Plot

Field Type: Option

Choice: 1, 2, 3, 4, 5, 6, 7, 8

Default: 1

Special Considerations: The grid lines do not draw through the bars on a bar chart.

If x- and y-grid are set to no, you don't need to set the grid color.

Bar charts have only a y-grid, no x-grid.

Major interval grid lines are thicker than minor interval grid lines.

To eliminate minor grid lines but keep major grid lines, go to the Preview screen and rescale the axis. Set the number of minor intervals per major interval to 1. (For more information see "Rescaling Axes" in the Advanced Applications section of this book.)

J

Purpose: Indicate how you want each line justified.

Chart Affected: Text

Screen Containing this Field: Text

Field Type: Option

Choices: R (Right justified) L (Left justified) C (Centered)

Default: N (Normal)

Special Considerations: You set the Normal setting by function key or touch.

Change the line's setting by moving the cursor to this field and typing the letter that stands for the setting that you want.

Labels

Purpose: Assign a label to the x-axis or pie segment.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Field: Data, (Preview for Pie Charts)

Field Type: Input

Legal Characters: If Textual, all displayable characters; if Numeric, all real numbers. (You may use exponential real numbers, too.)

Input Field Length: 20 characters

Default: blank

Special Considerations: Labels may be TEXTUAL or NUMERIC. If they are textual, they may be assigned time-period labels. (See **Textual Labels**, and **Numeric Labels** in the Function Key reference section.)

In Pie Charts, all of the labels are textual.

Legend (#)

Purpose: Assign a title to a shading pattern or line style.

Charts Affected: Bar, Line, Scattergram

Screen Containing this Field: Data, Preview

Field Type: Input

Legal Characters: All displayable characters

Input Field Length: 2 lines, 10 characters each

Default: blank

Special Considerations: The legend corresponds to the value column. When you alter the legend on the Preview screen, the / (slash) on the input line separates the first line of text from the second.

(Line Chart Type)

Purpose: Indicate which chart type that you want to make.

Charts Affected: Line, Scattergram

Screen Containing this Field: Main

Field Type: Option

Choices: Line Chart, Scattergram

Default: Line Chart

Special Considerations: The box around the chart type indicates your selection.

Main Title

Purpose: Designate the chart's main title.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Field: Preview

Field Type: Input

Legal Characters: All displayable characters

Input Field Length: 60 characters

Default: Main Title

Special Considerations: You may want to change the axis title by typing over it on the input line. If you don't want a Main Title either press **CLEAR LINE** or suppress it with **Active Features** (see the Function Key chapter).

Marker

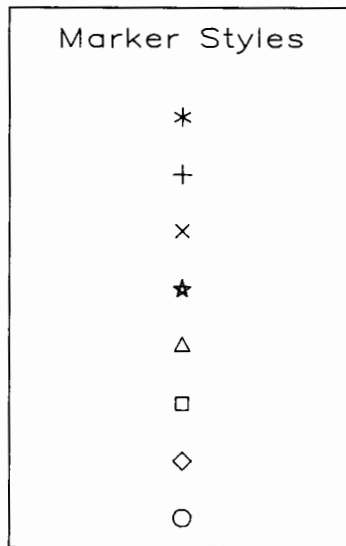
Purpose: Select the marker you want plotted for Scattergram data values.

Chart Affected: Scattergram

Screen Containing this Field: Preview

Field Type: Option

Choices:



Default: *

Special Considerations: This key appears after you select a legend.

Medium

Purpose: Indicate the medium on which you are plotting.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: Plot

Field Type: Option

Choices: Screen, Paper, Transparency

Default: Paper

Special Considerations: Select the Screen option if you want your chart displayed on the screen. After you finish looking at it on the screen, press any key to return to the Plot screen.

Orientation

Purpose: Indicate whether the chart will be positioned horizontally or vertically on the page.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: Plot

Field Type: Option

Choices: Horizontal, Vertical

Default: Horizontal

Special Considerations: Orientation relates to the long and short sides of the chart position; not necessarily to the long and short sides of the paper.

P

Purpose: Indicate what color (which pen) each line will be plotted with.

Chart Affected: Text

Screen Containing this Field: Text

Field Type: Option

Choices: 1,2,3,4,5,6,7,8,N

Default: N (normal)

Special Considerations: You set the Normal setting by function key or touch.

Change the line's setting by moving the cursor to this field and typing the letter that stands for the setting that you want.

Pen

Purpose: Select the pen color with which the shading pattern, marker or line will be plotted.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Field: Preview

Field Type: Option

Choices: 1, 2, 3, 4, 5, 6, 7, 8

Default: 1

Special Considerations: Pen numbers correspond to the pen color that you designate. If you request a pen number higher than the number of pens that your plotter holds (e.g., pen 6 on a 2 pen plotter), Graphics pauses and asks you to change pens.

S

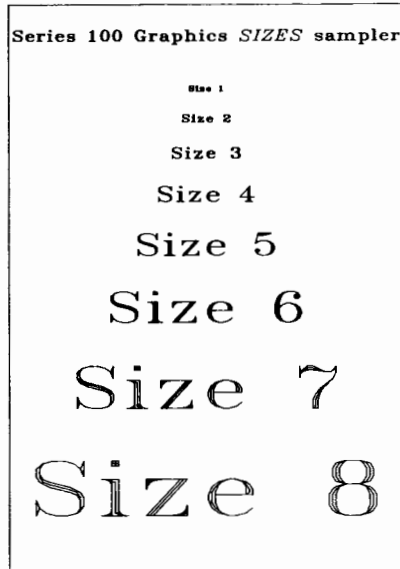
Purpose: Indicate what size you want the text on each line.

Chart Affected: Text

Screen Containing this Field: Text

Field Type: Option

Choices: 1, 2, 3, 4, 5, 6, 7, 8, N



Default: N (normal)

Special Considerations: When you choose a text size, the shading in the Text screen indicates how much room you have for the text on that line and the rest of the chart. If some of your text is inside the shaded area, it will be squeezed (thinner letters) until it fits on one line. If you don't want squeezed text, shorten the message or put it on two lines.

You set the Normal setting by function key or touch.

Change the line's setting by moving the cursor to this field and typing the letter that stands for the setting that you want.

Shade

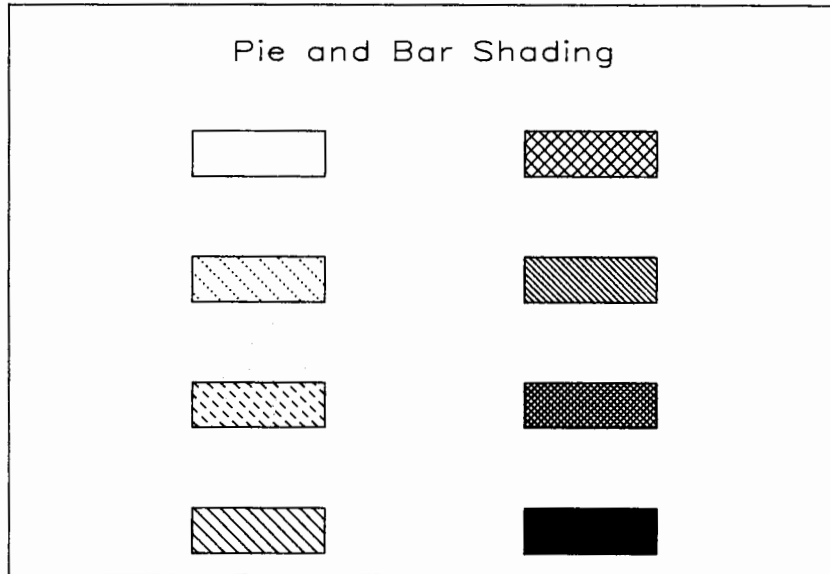
Purpose: Select a shading pattern for the corresponding legends and data columns and press .

Charts Affected: Pie, Bar

Screen Containing this Field: Preview

Field Type: Option

Choices:



Default: 

Special Considerations: When clusters of bars are drawn, different shades will be used to differentiate the data.

Size

Purpose: Indicate the media (paper or transparency) size.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Field: Plot

Field Type: Option

Choices: A (8.5 x 11 in)

B (11 x 17 in)

A4 (297 x 210 mm)

A3 (420 x 297 mm)

Default: A (8.5 x 11 in)

Special Considerations: If your plotter can't handle the paper size that you selected, Graphics gives you a message.



Style

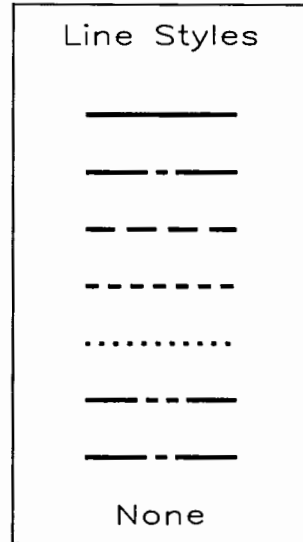
Purpose: Designate the line style that corresponds with the specified legend and press **[Return]**.

Chart Affected: Line

Screen Containing this Field: Preview

Field Type: Option

Choices:



Default: —

Special Considerations: Scattergrams use markers instead of lines. See Marker in this chapter for more information.

When multiple lines are drawn, different line styles will be used to differentiate the data.

Subtitle

Purpose: Supplement the main title.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Field: Preview

Field Type: Input

Legal Characters: All displayable characters

Input Field Length: 60 characters

Default: Subtitle

Special Considerations:

(Text Chart Type)

Purpose: Select the type of chart that you want to make.

Chart Affected: Text

Screen Containing this Field: Main

Field Type: Option

Choices: Horizontal Text Chart, Vertical Text Chart

Default: Vertical Text Chart

Special Considerations:

X-Axis Titles

Purpose: Assign a title to the x-axis.

Charts Affected: Bar, Line, Scattergram

Screen Containing this Field: Preview

Field Type: Input

Legal Characters: All displayable characters

Input Field Length: 40 characters

Default: X-Axis Title

Special Considerations: You may change the axis title by typing over it on the input line. If you do not want axis titles either blank out the title by spacing over it with the space bar or suppressing it by using the **Active Features** function key. (See the chapter on function keys for more information.)

Y-Axis Titles

Purpose: Assign a title to the y-axis.

Charts Affected: Bar, Line, Scattergram

Screen Containing this Field: Preview

Field Type: Input

Legal Characters: all displayable characters

Input Field Length: 40 characters

Default: Y-Axis Title

Special Considerations: You may change the axis title by typing over it on the input line. If you do not want axis titles, either blank out the title by spacing over it with the space bar, or suppressing it by using the **Active Features** function key. (See the chapter on function keys for more information.)

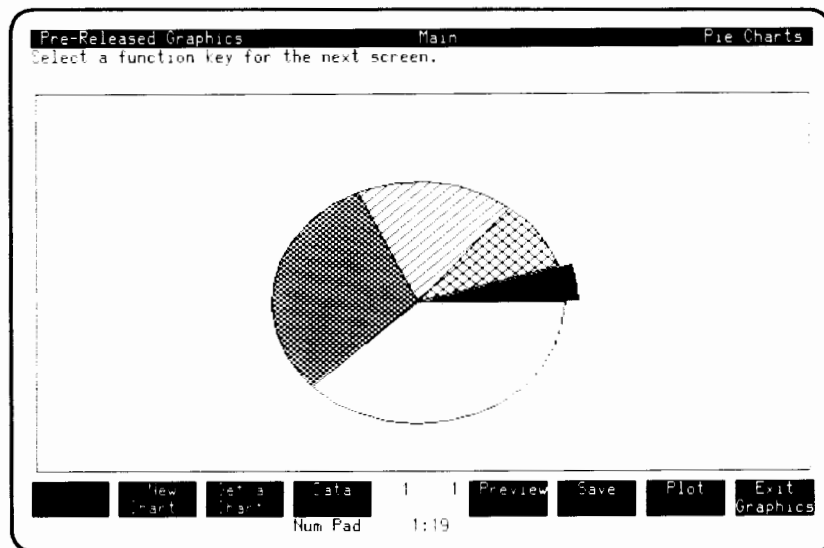
Chapter 5

FUNCTION KEYS



This chapter alphabetically lists all of the function keys and the information that you need to use them effectively.

Function keys are on the bottom row of your screen and are used to get from one screen to another, to make selections on the screen, and to perform tasks.



Some of the function keys toggle (switch to another label without changing the other function keys). Most of the toggle keys simply turn something on (designated with an *) and off (no *).

Each key description tells you whether or not the key toggles and, if it does, what the toggle choices are and what the default is.

FUNCTION KEYS

Active Features

Purpose: Bring up the Active Features function keys. These keys let you decide which features, such as, Titles, Data, etc. will be plotted.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing This Key: Plot

Toggle: No

Special Considerations:

Add Text

Purpose: Add textual annotations by positioning the cursor, typing the text and pressing **[Return]** when there is an * with this key.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Key: Preview

Toggle: Yes

Choices: *, no *

Default: *

Special Considerations: If the * is not with this key, move it there by selecting this key.

This key appears after you select **Annotate** and **Text Annotate**.

When you have added the maximum number of textual annotations, this key will not toggle on.

Note: You are limited to 10 text labels per chart with up to 60 characters per label and up to 30 lines.

Alt Font

Purpose: Change the alternate font setting.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: Yes

Choices: H, P, B, R, I, S, U, N (default)

Series 100 Graphics *FONT*S sampler

H= Hardware Font

P= Proportional Font

B= Bold Font

R= Roman Font

Triplex Font*

I= *Italic Font*

S= *Script Font*

*Complex Font**

Gothic Font*

U=(User font. Can be copied from the Examples and Fonts disc.)

**Available on the Examples and Fonts disc.*

Default: Hardware

Special Considerations: This key appears after you select

Change Norm&Alt.

Alt Pen

Purpose: Change the alternate pen setting.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: Yes

Choices: 1-8

Default: 1

Special Considerations: This key appears after you select **Change**
Norm&Alt.

Annotate

Purpose: Bring up the Annotation function keys. These keys let you make remarks and draw lines on your chart so that you can draw attention to special or unusual features on your chart.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing This Key: Preview

Toggle: No

Special Considerations:

Back to Graphics

Purpose: Take you from File Manager back to the Charts or Save screen (the one you left).

Charts Affected: Bar, Line, Scattergram, Pie, Text

Screens Containing This Key: Data, Preview, Save, File Manager

Toggle: No

Special Considerations:

Cancel

Purpose: Cancel a procedure in case you change your mind or make a mistake and need to start the procedure over.

Charts Affected: Bar, Line, Scattergram

Screens Containing This Key: Data, Preview, Save

Toggle: No

Special Considerations: If you cancel a procedure, no change is made to your chart or data. You must complete the entire procedure to change your chart.

Cancel Changes

Purpose: Return all of the normal and alternate settings to their original settings provided that **Done** has not been selected. Once **Done** is selected, you must change them back manually.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: No

Special Considerations: This key appears after you select **Change Norm&Alt**.

Change Norm&Alt

Purpose: Bring up the function keys to change the Normal and Alternate settings.

Charts Affected: Text

Screens Containing this Key: Text

Toggle: No

Special Considerations: Using this key lets you see your original settings while you search for new ones. The original settings are changed after you select the **Done** key.

If you do not need to see the original settings as you change Normal and Alternate, simply touch each setting field repeatedly until your choice appears on the screen.

Choose Dir

Purpose: Select a different directory for display.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: File Mgr

Toggle: No

Special Considerations: For more information about File Manager, see the *Owner's Guide*.

Clear Alternate

Purpose: Remove the alternate setting from the text that the cursor is on. If there is no alternate setting at the cursor, nothing will happen.

Charts Affected: Text

Screens Containing this Key: Text

Toggle: No

Special Considerations:

Data

Purpose: Take you to the Data screen.

Charts Affected: Pie, Bar, Line, Scattergram

Screens Containing This Key: Preview, Plot, Main, Chart

Toggle: No

Special Considerations:

Days

Purpose: Indicate that you want the X-axis labeled with days.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Data

Toggle: No

Special Considerations: This key appears after you select **Textual Labels** and then **Period Labels**.

Default Scale

Purpose: Change the present scaling to a default scaling based on your present data values.

Charts Affected: Bar, Line, Scattergram

Screen Containing this Key: Preview

Toggle: No

Special Considerations: This key appears when you tab to an axis scale.

A default scale is automatically assigned when you first enter the Preview screen after making a new chart. If you change the scales or change your data values, some of the data may not be included on your chart. If you want an automatic scale that includes all of the data values, select **Default Scale** to get everything back in view.

Done

Purpose: Indicate that you have finished, making your selections. Selecting this key returns you to the previous row of function keys.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screens Containing This Key: Plot, Preview

Toggle: No

Special Considerations: In the Plot screen, this key appears after you select **Active Features**. In the Preview screen, this key appears after you select **Annotate**.

In Text Charts, this key appears after you select **Norm & Alt Settings**.

Draw Axes

Purpose: Indicate whether or not you want the X- and Y-axes plotted.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw Axes *** = Draw the axes.

Draw Axes = Don't draw the axes.

Default: **Draw Axes ***

Special Considerations: This key appears after you select **Active Features**.

Draw Data

Purpose: Indicate whether or not you want the data plotted.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw Data *** = Draw the lines, bars, pies, or text according to the information on the data screen.

Draw Data = Don't draw the data.

Default: **Draw Data ***

Special Considerations: This key appears after you select **Active Features**.

Draw Labels

Purpose: Indicate whether or not you want the segment labels plotted.

Chart Affected: Pie

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw Labels *** = Draw the pie segment labels.

Draw Labels = Don't draw the labels.

Default: **Draw Labels ***

Special Considerations: This key appears after you select **Active Features**.

If you want to eliminate the lines that connect the segment labels to the segments, turn off Draw Labels, Draw Values, and Draw Percents.

Draw Legends

Purpose: Indicate whether or not you want the legends plotted.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw Legends *** = Draw the legend labels associated with the lines and bars.

Draw Legends = Don't draw the legends.

Default: **Draw Legends ***

Special Considerations: This key appears after you select **Active Features**.

Draw Marker

Purpose: Indicate whether or not you want a marker drawn on the line selected.

Chart Affected: Line

Screen Containing This Key: Preview

Toggle: Yes

Choices: `Draw Marker *` = Draw a marker on the line at the X-axis label points.
`Draw Marker` = Don't draw the markers.

Default: `Draw Marker`

Special Considerations: This key does not apply to scattergrams.

Draw Percent

Purpose: Indicate whether or not you want the segment percents plotted on your chart.

Chart Affected: Pie

Screen Containing This Key: Plot

Toggle: Yes

Choices: `Draw Percent *` = Draw the segment's percent by the segment.
`Draw Percent` = Don't draw the percent.

Default: `Draw Percent *`

Special Considerations: This key appears after you select `Active Features`.

If you want to eliminate the lines that connect the segment label to the segment, turn off Draw Labels, Draw Values, and Draw Percent.

Draw Titles

Purpose: Indicate whether or not you want the titles (Main Title, Subtitle, Footnote, X- and Y-axis Titles) plotted on your chart.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw Titles *** = Draw the titles that you specified in the Preview screen.

Draw Titles = Don't draw the titles.

Default: **Draw Titles ***

Special Considerations: This key appears after you select **Active Features**.

Draw to Cursor

Purpose: Draw a line from the point of origin (where you selected **Start at Cursor** or this key) to the present cursor position.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Key: Preview

Toggle: No

Special Considerations: When you moved the cursor a line followed it, even though you did not ask for a line to be drawn. This line is called a rubberband line. It shows you what a line would look like if you wanted it drawn, without having to draw and erase lines until you get it right. Selecting **Start At Cursor** removes rubberband line, so that you can start a separate unconnected line. Selecting **Draw To Cursor** "fixes" or draws the line.



This key appears after you select **Line**.

Draw Value

Purpose: Indicate whether or not you want the segment values plotted on your chart.

Chart Affected: Pie

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw Value *** = Draw the segment's value by the segment.

Draw Value = Don't draw the value.

Default: **Draw Value ***

Special Considerations: This key appears after you select **Active Features**.

If you want to eliminate the lines that connect the segment labels to the segments, turn off Draw Labels, Draw Values, and Draw Percent.

Draw X-Grid

Purpose: Indicate whether or not you want grid lines drawn from the X-axis to the top of your chart.

Charts Affected: Line, Scattergram

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw X-Grid *** = Draw the grid that comes from the X-axis.

Draw X-Grid = Don't draw the grid.

Default:

Special Considerations: This key appears after you select **Active Features**.

Draw Y-Grid

Purpose: Indicate whether or not you want grid lines drawn from the Y-axis to the right margin of your chart.

Charts Affected: Line, Scattergram

Screen Containing This Key: Plot

Toggle: Yes

Choices: **Draw Y-Grid*** = Draw the grid that comes from the Y-axis.

Draw Y-Grid = Don't draw the grid.

Default: **Draw Y-Grid**

Special Considerations: This key appears after you select **Active Features**.

End Alternat

Purpose: Mark the end of the alternate font and pen color within a line of text.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: No

Special Considerations: Move the cursor to the last character that you want in the alternate font and pen, then select this key.

This key appears after you select **Start Alternat**.

Erase Line

Purpose: Erase the line with the box around it.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Key: Preview

Toggle: No

Special Considerations:

Erase Text

Purpose: Erase textual annotations by tabbing to the annotation and pressing **Return** when there is an * with this key.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Key: Preview

Toggle: Yes

Choices: *, no *

Default: no *

Special Considerations: Move the * to this key by selecting it.

This key appears after you select **Annotations** and **Text**.

Exit Graphics

Purpose: Take you out of Graphics and back to P.A.M.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Main

Toggle: No

Special Considerations:

Explode Segment

Purpose: Remove the segment slightly from the rest of the pie for emphasis.

Chart Affected: Pie

Screen Containing This Key: Preview

Toggle: Yes

Choices: **Explode Segment *** = Explode the corresponding segment.
Explode Segment = Don't explode the segment.

Default: **Explode Segment**

Special Considerations: This key appears after you select a pie segment.

File Manager

Purpose: Take you to the system File Manager.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screens Containing This Key: Charts, Save

Toggle: No

Special Considerations: For more information about File Manager, see the *Owner's Guide*.

Footnote

Purpose: Add a footnote to your text chart or change the existing one by typing over it. Be sure to press **[Return]** after you finish typing your footnote.

Chart Affected: Text

Screen Containing this Key: Preview

Toggle: No

Special Considerations:

Get A Chart

Purpose: Take you to the Chart screen so that you can request the file that you want to chart from.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Main

Toggle: No

Special Considerations:

Graphics Dir

Purpose: Select a different directory

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: File Mgr.

Toggle: No

Special Considerations: For more information about File Manager, see the *HP 150 Owner's Guide*.

Graphics Chart

Purpose: Select a Graphics chart file

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: File Mgr.

Toggle: No

Special Considerations: For more information about File Manager, see the *HP 150 Owner's Guide*.

Graphics Main

Purpose: Take you to the Main screen.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screens Containing This Key: Data, Preview, Plot, Chart

Toggle: No

Special Considerations:

Lines

Purpose: Bring up the line drawing function keys and place a + cursor on the preview chart.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Key: Preview

Toggle: No

Special Considerations: In Pie, Bar, and Line Charts this key appears after you select **Annotate**.

Mark Begin

Purpose: Designate the beginning data line when you want to chart only part of the data.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Key: Data

Toggle: No

Special Considerations: The screen shading changes to reflect the beginning line.

Mark End

Purpose: Designate the ending data line when you want to chart only part of the data.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Key: Data

Special Considerations: The screen shading changes to reflect the ending line.



Modify Text

Purpose: Edit existing textual annotations by tabbing to and then retyping text while an * is with this key.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Key: Preview

Toggle: Yes

Choices: *, no *

Default: no *

Special Considerations: If the * is not with this key, move it there by selecting this key.

This key appears after you select **Annotations** and **Text**.

Move the annotation by moving the cursor to the new position before pressing **Return**.

Months

Purpose: Indicates that you want months labeled on your chart's X-axis.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Data

Toggle: No

Special Considerations: This key appears after you select **TextualLabels** and **PeriodLabels**.

(Numeric/Textual) Labels

Purpose: Select the type of X-axis label you want by toggling between Textual and Numeric.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Data

Toggle: Yes

Choices: **TextualLabels** = Labels may be any combination of letters, numbers, and punctuation. Graphics does not scale textual labels.

NumericLabels = Labels must be real numbers (including exponents). The numbers are charted in numerical order and are automatically scaled for a new chart.

Default: **Textual Labels**

Special Considerations: Time-period labels are considered Textual (except for years, which are numeric).

A numeric axis is automatically scaled for you with major and minor ticks the first time you use that data. (You may change the scaling. See "Rescaling the Axes" in the Using Graphics section.)

Textual labels are automatically abbreviated until all of the labels will fit along the axis. Refer to the following chart for the maximum label sizes.

Vertical Bar Chart	
# of Bars	#of Characters Allowed per Label
1-3	20
4	16
5	11
6	9
7	8
8	7
9	6
10	5
11-12	4
13-16	3
17-21	2
22-64	1

Horizontal Bar Chart

The maximum number of characters for a label on a horizontal bar chart is 8.

New Chart

Purpose: Take you to a blank Data screen.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Main

Toggle: No

Special Considerations: When you make a new chart some defaults (preset choices) are set for you. Be sure that you examine these fields carefully. You may change them to your specifications. All choices and defaults are listed in the Selection Fields chapter.

Next Choice

Purpose: Move between the choices for each option, such as, changing Horizontal to Vertical for the Orientation option.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Plot

Toggle: No

Special Considerations: See the chapter on Selection Fields for lists of the choices for each option.

You may also touch the option field repeatedly to move between the choices.

Next Cht Type

Purpose: Move the selection box to another chart type.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Main

Toggle: No

Special Considerations: You may also move the selection box by touching the chart type that you want.

Next Column

Purpose: Select the column of pie chart data that you want plotted.

Charts Affected: Pie

Screen Containing This Key: Data

Toggle: No

Special Considerations:

Next Marker

Purpose: Select a marker style for a set (column) of Scattergram data values.

Charts Affected: Scattergrams

Screen Containing this Key: Preview

Toggle: No

Special Considerations: This key appears after you select a Legend. You may also touch the marker style that you want.

Next Pen

Purpose: Select a different pen number (color) for plotting the legend indicated.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Preview

Toggle: No

Special Considerations: This key appears after you select a line or bar legend, or pie segment label. You may also touch the pen number that you want.

Next Option

Purpose: Move between Chart Position, Size, Medium, Frame, Orientation, and Grid Color.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Plot

Toggle: No

Special Considerations: You may select any of these options by simply touching that field. For more information on these selection fields, see the chapter on selection fields.

Next Shade

Purpose: Select a different shading pattern for the legend indicated.

Charts Affected: Pie, Bar

Screen Containing This Key: Preview

Toggle: No

Special Considerations: This key appears after you select a bar legend or pie segment label on the screen. You may also select the shade you want by touching that field.

Next Style

Purpose: Select a different line style for the legend indicated.

Chart Affected: Line

Screen Containing This Key: Preview

Toggle: No

Special Considerations: This key appears after you select a line legend on the screen.

You may also select the style you want by touching that field.

Nrm Font

Purpose: Change the Normal Font setting.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: Yes

Choices: H, P, B, R, I, S, U, N (default)

Series 100 Graphics *FONTS* sampler

H= Hardware Font

P= Proportional Font

B= Bold Font

R= Roman Font

Triplex Font*

I= *Italic Font*

S= *Script Font*

*Complex Font**

Gothic Font*

U=(User font. Can be copied from the Examples and Fonts disc.)

**Available on the Examples and Fonts disc.*

Default: Hardware

Special Considerations: This key appears after you select

Change Norm&Alt

Nrm Just

Purpose: Change the normal justification setting.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: Yes

Choices: Left, Right, Center

Default: Left

Special Considerations: This key appears after you select

Change Norm&Alt

Nrm Pen

Purpose: Change the normal pen setting.

Charts Affected: Text

Screens Containing this Key: Text

Toggle: Yes

Choices: 1-8

Default: 1

Special Considerations: This key appears after you select

Change Norm&Alt



Nrm Size

Purpose: Change the normal size setting.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: Yes

Choices: (Show) 1-8

Default: 1

Special Considerations: This key appears after you select

Change Norm&Alt.

Nxt/Prev Hlf Page

Purpose: Move the screen forward or backward one half page, so that you can maintain a frame of reference while filling in your text.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: No

Special Considerations: Selecting this key moves you forward one half page. Select this key while holding down the **Shift** key moves you back one half page. Move forward and backward one full page with the **Next** and **Prev** keys on the keyboard.

Other Keys

Purpose: Take you to other File Manager Keys.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: File Mgr

Toggle: No

Special Considerations: For more information about File Manager, see the *Owner's Guide*.

Period Labels

Purpose: Bring up the time-period function key labels.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Data

Toggle: No

Special Considerations: This key appears after you select **Textual Labels**.

Plot

Purpose: Take you to the Plot screen.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screens Containing This Key: Preview, Data, Main, Chart

Toggle: No

Special Considerations:

Preview

Purpose: Take you to the Preview screen.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screens Containing This Key: Main, Data, Plot, Chart

Toggle: No

Special Considerations:

Qtrs

Purpose: Indicate that you want quarter years plotted on your X-axis.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Data

Toggle: No

Special Considerations: This key appears after you select **Textual Labels** and **Period Labels**.

Save

Purpose: Take you to the Save screen.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screens Containing This Key: Data, Preview, Plot, Main

Toggle: No

Special Considerations:

Select Chart

Purpose: Brings the chart file into Graphics from the File Manager.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: File Mgr

Toggle: No

Special Considerations: For more information about File Manager, see the *Owner's Guide*.

Sort

Purpose: Indicate whether or not you want to have your pie segments arranged according to value (smallest segment always first, largest segment last).

Chart Affected: Pie

Screen Containing This Key: Preview

Toggle: Yes

Choices: Sort * = Sort the segments.

Sort = Don't sort the segments.

Default: Sort *

Special Considerations: If you don't sort the segments, they are plotted in the order that they appear on the data screen.

Changing this key's setting automatically redraws the screen.

Start Alternate

Purpose: Mark the start of the alternate font and pen color within a line by placing the cursor at the character where you want the alternate font and pen to start and then press this key.

Chart Affected: Text

Screen Containing this Key: Text

Toggle: No

Special Considerations: After you press this key, move the cursor to the end of the alternate text and select **EndAlternate**, the function key that replaced this key.

Start At Cursor

Purpose: Indicate where a new line will start by positioning the cursor and selecting this key.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing this Key: Preview

Toggle: No

Special Considerations: When you move the cursor a line follows it, even though you did not ask for a line to be drawn. This is called a rubberband line. It shows you what a line would look like if you wanted it drawn, without having to draw and erase lines until you get it right. Selecting this key removes the rubberband line, so that you can start a separate, unconnected line. Selecting **Draw to Cursor** "fixes" or draws the line.



This key appears after you select **Line**.

Start Plotting

Purpose: Start plotting your chart.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Plot

Toggle: No

Special Considerations:

Start Save

Purpose: Store the chart file on a disc and record its filename in the File Manager.

Charts Affected: Pie, Bar, Line, Text

Screen Containing This Key: Save

Toggle: No

Special Considerations: If you get a message telling you that the file name exists, you can rename your file by typing the new file name over the old file name.

If you are trying to save new data and chart specifications under an old file name, press the Start Save key twice to replace the old data and specs with the new.

Stop Plotting

Purpose: Stop plotting the chart before it's finished.

Charts Affected: Pie, Bar, Line, Scattergram, Text

Screen Containing This Key: Plot

Toggle: No

Special Considerations: The plotter may not stop as soon as you select "Stop Plotting" but don't worry; it takes a moment for the plotter to get the stop plotting instructions.

Text

Purpose: Take you to the Text screen.

Chart Affected: Text

Screens Containing this Key: Main, Preview, Plot, Charts

Toggle: No

Special Considerations:

Text Annotate

Purpose: Bring up the function keys that let you add, modify, and erase textual annotations.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing this Key: Preview

Toggle: No

Special Considerations:

Transfer Data In

Purpose: Transfer in data that you transferred out from another application.

Charts Affected: Pie, Bar, Line, Scattergram

Screen Containing This Key: Chart

Toggle: Yes

Choices: **Transfer Data In *** = Transfer data into Graphics from other application's transfer out key.

Transfer Data In = Don't transfer data in.

Default: **Transfer Data In**

Special Considerations: See the appendix, Using Graphics With Another Application.

Year Labels

Purpose: Indicate that you want years labeled on the X-axis.

Charts Affected: Bar, Line, Scattergram

Screen Containing This Key: Data

Toggle: No

Special Considerations: This key appears after you select **Numeric Labels**.

This key can be used for any series of numbers in the x-axis.

Appendix A

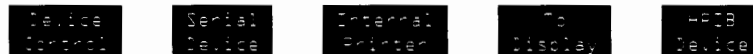
SENDING GRAPHICS TO A PRINTER



You can copy graphics charts to the internal printer on your HP 150, as well as to the following external printers:

- HP 2631G
- HP 2671G
- HP 2932
- HP 2934
- HP 82906A

1. Complete the following steps to configure your HP 150 to use the printer you have chosen.
 - a. From the PAM screen, touch **[F6] Terminal**.
 - b. Press the **User/System** key on the keyboard twice.
 - c. Press **[F1] Device Control**.
 - d. Press **[F3] All Devices**.
 - e. When the following keys appear on the screen, touch the one that designates the printer you are using. An asterisk will appear when the toggle is turned on.



NOTE

The blue softkeys are the only ones you can choose at this step.

If you do not have an internal printer, **[F3]** will be blank.

- f. Reboot the system.
2. The PRN field in the Device Configuration must be set for the printer you are using. Check your owner's manual for specific information about this.
3. The medium on the Plot screen of the graphics program must be "screen".
4. To start printing, press the Graph Copy key (Enter key on the right side of the keyboard).

Graphics cannot use the specified chart file.

The file name that appears in the Chart File field is not a Graphics file. Replace that filename with a Graphics filename. If necessary, select File Manager to see the list of available files.

If this file does exist, it may be an incompletely saved file or may be damaged. You should recreate your file or use your backup disc.

Graphics cannot use the specified Data File.

The file name that appears in the Data File field is not a Graphics file. Replace that filename with a Graphics filename. If necessary, select File Manager to see the list of available files.

If this file does exist, it may be an incompletely saved file or may be damaged. You should recreate your file or use your backup disc.

Your printer does not respond. Press Return to continue.

Is your printer ON, is it connected and plugged in, is it configured correctly. Check your HP 150 Owner's Guide for the correct settings and switches.

Currently, there are no textual annotations.

You are probably trying to modify or delete annotations that aren't there. Select Add Annotate to remedy the situation.

Currently, there are no line annotations.

You are probably trying to modify or delete annotations that aren't there. Select Add Annotate to remedy the situation.

Graphics can't place more textual annotations on your chart. If you must have more annotations, delete some of the existing ones.

You have entered the maximum number of line annotations.

Graphics can't place more line annotations on your chart. If you must have more annotations, delete some of the existing ones.

The File Manager cannot be found.

You are probably running Graphics without the Personal Application Manager (P.A.M.). Only P.A.M. can get the File Manager for you. See the HP 150 Owner's Guide for directions on how to run your applications with P.A.M..

Graphics can't find the chart that you requested.

You may have incorrectly spelled the filename or the file may be on another disc than the one you searched. Get directories of your other discs or correct your spelling. See the HP 150 Owner's Guide for more information about File Manager.

Graphics can't find the data that you requested.

You may have incorrectly spelled the filename or the file may be on another disc than the one that you searched. Get directories of your other discs or correct your spelling. See the HP 150 Owner's Guide for more information about File Manager.

The chart and data will not fit on the specified disc.

There is not enough room for your chart and data on the disc that you requested that they be stored.

This size paper will not fit in your plotter.

Since Graphics knows which plotter that you have connected, it can tell you that the paper size that you selected is too large for the plotter that you have. Change the size setting on the Plot screen.

This needs to be a positive, whole number.

Graphics sets up labels according to whole number (no fractional) responses. Look at the number and correct it as necessary.

This number must be less than 32767.

Type in a number less than 32767 then press Return.

This number must be greater than -32768.

Type in a number greater than -32768 then press Return.

Missing or invalid numeric labels on another page.

You need to look at your other data pages and correct the missing or invalid numeric labels by typing over them.

Your icon file, XXXXXXXX, is missing or invalid. Please, report.

Replace the damaged or missing files on your disc by copying the files from your master or backup disc using File Manager.

Your form file, XXXXXXX, is missing or invalid. Please, report.

Replace the damaged or missing files on your disc by copying the files from your master or backup disc using File Manager.

Your font file, XXXXXXX, is missing or invalid. Please, report.

Replace the damaged or missing files on your disc by copying the files from your master or backup disc using File Manager.

Delete the blank rows on the previous page.

Graphics can't graph data that contains blank rows. Move the cursor to the blank line and press Del Line.

Graphics can't understand your transfer data's format.

Graphics will take data from DIF file format or print file format (see the Series 100/VisiCalc manual for more information). Save your file in one of these formats while you are in the application from which the data originated.

Delete the blank rows on the following page.

Graphics can't graph data that contains blank rows. Move the cursor to the blank line and press Del Line.

Graphics can't use this plotter.

Check the HP 150 Owner's Guide for all of the possible plotters that you can use.

No XXXXXX, XXXXXX, or XXXXXX file.

Replace the damaged or missing files on your disc by copying the files from your master or backup disc using File Manager.

Appendix B

TRANSFERRING DATA FROM OTHER APPLICATIONS



VisiCalc to Graphics

1. Convert the VisiCalc data to DIF format. Usually you will want to store the data in Column format, so the orientation of the data will match the Graphics data screen. Consult the HP 150 VisiCalc Owner's Guide for instructions on this process.
2. With the selected graphics disc loaded, follow these steps:
 - a. Touch **Get a Chart**
 - b. Tab to the Data File Information Directory
 - c. Touch **Transfer Data In** (an asterisk should appear)
 - d. Touch **File Manager** (File Manager should display the directory on which the DIF file is stored. If it doesn't select that directory.)
 - e. Touch **Graphics Chart**
 - f. Touch (name of the DIF file). It should be highlighted.
 - g. Touch **Return Chart**
 - h. Touch **Back to Graphics**
 - i. Touch **Data**
3. Make any label changes, then touch **Preview** or **Plot**. If you want to save the new chart and data, touch the **Save** key to activate this menu. You will need to specify a new name.

NOTE

Before creating the DIF file, remove all blank cells and formatting from the data to be transferred.

Graphics/150 allows five data items per record. The first character string is used to fill the label portion of the Data Menu.

When using Pie Chart, remember that only one column of data can be used. The specified column must be highlighted. Use

Next Column to select the column.

Condor to Graphics

1. Using the WRITE command, copy your database for the graphics chart. The [G] option must be used to format the data for the graphics programs. Consult your Condor Reference Manual for specific instructions.
2. With the selected graphics disc loaded, follow these steps:
 - a. Touch **Get a Chart**
 - b. Tab to the Data File Information Directory
 - c. Touch **Transfer Data In** (an asterisk should appear)
 - d. Touch **File Manager** (File Manager should display the directory on which the data file is stored. If it doesn't select that directory.)
 - e. Touch **Graphics Chart**
 - f. Touch (name of the Condor file). It should be highlighted.
 - g. Touch **Return Chart**
 - h. Touch **Back to Graphics**
 - i. Touch **Data**
3. Make any label changes, then touch **Preview** or **Plot**. If you want to save the new chart and data, touch the **Save** key to activate this menu. You will need to specify a new name.

NOTE

If a field is blank in Condor, the data in the next field will be moved into the blank. Each record is displayed on a separate line, so you may need to edit the data before plotting.

Graphics/150 allows five data items per record. The first character string is used to fill the label portion of the Data Menu.

When using Pie Chart, remember that only one column of data can be used. The specified column must be highlighted. Use **Next Column** to select the column.

dBase II to Graphics

1. Remember you must "USE" your dBASE II database before you can manipulate it in any way. (.USE 'filename')

Copy the database and specify that the contents of the file is to be delimited with a comma. (.COPY TO 'filename' DELIMITED WITH ,)

2. With the selected graphics disc loaded, follow these steps:

- a. Touch **Get a Chart**
- b. Tab to the Data File Information Directory
- c. Touch **Transfer Data In** (an asterisk should appear)
- d. Touch **File Manager** (File Manager should display the directory on which the data file is stored. If it doesn't select that directory.)
- e. Touch **Graphics Chart**
- f. Touch (name of the data file from dBASE II). It should be highlighted.
- g. Touch **Return Chart**
- h. Touch **Back to Graphics**
- i. Touch **Data**

3. Make any label changes, then touch **Preview** or **Plot**. If you want to save the new chart and data, touch the **Save** key to activate the **Save** menu. You will need to specify a new name.
-

NOTE

Graphics/150 allows five data items per record. The first character string is used to fill the label portion of the Data Menu.

When using Pie Chart, remember that only one column of data can be used. The specified column must be highlighted. Use **Next Column** to select the column.

Appendix C

MESSAGES FROM SERIES 100/GRAPHICS

This appendix lists all of the messages that Graphics gives you when you make a mistake or something is wrong with Graphics. Along with each message, is a more complete explanation of what may have happened and what you can do to remedy the situation.

When possible, the messages give you complete information as to what went wrong and what you should do, however, due to line lengths, these messages are sometimes a bit abbreviated. A more complete explanation is given in this appendix.

`This file exists. Rename your file or press Start Save again to replace it.`

The HP 150 probably beeped at you and then gave you this message. You may now choose to rename the file that you are saving so that you do not erase the file that presently uses that file name. Or, you may select Start Save again to replace the present file with the version that you just made.

`This number must be less than 1E+30.`

The number by the cursor is too large for Graphics to use. Re-type the number so that it is smaller than 1E+30.

`This number must be greater than -1E+30.`

The number by the cursor is too small for Graphics to use. Re-type the number so that it is larger than -1E+30.

Type in a label or remove the blank line.

There is a blank label field in the row that the cursor is in. Type a label or delete that line with the Delete line key on the keyboard.

Your plotter does not respond. See your HP 150 Owner's Guide.

More than likely, your plotter is not plugged into the wall, into your HP 150, or is not turned on. Check all of your connections and switch settings, including the address switch, according to your HP 150 Owner's Guide. Check your Device Configuration described at the beginning of this manual. If it still won't work contact your dealer or HP service representative.

There is an error in Graphics. Report error number #####.

Graphics has an error that you cannot fix. Record all details about the chart you are working on and what you were doing when the error occurred. Please, contact your Dealer or your HP service representative and report the error number to them.

Disc error: Your data disc is not in the drive or is damaged.

Check to see if your disc is in the disc drive that you selected. If it is, you may need to use your backup data disc as your present data disc may be damaged. Be sure your disc is not write protected. See the HP 150 Owner's Guide.

Disc error: Insert the XXXX Charts disc and press Return to continue.

XXXX is Line, Pie, Bar, or Text. Simply replace the specified disc and then press Return to continue. You should leave your application disc in the disc drive until you have completely exited the application. You may not switch your application disc with a data disc while in your application.

This needs to be a number.

You need to replace the text at the cursor with a number as Graphics is expecting a numeric label or some data value.

Graphics cannot use the specified chart file.

The file name that appears in the Chart File field is not a Graphics file. Replace that filename with a Graphics filename. If necessary, select File Manager to see the list of available files.

If this file does exist, it may be an incompletely saved file or may be damaged. You should recreate your file or use your backup disc.

Graphics cannot use the specified Data File.

The file name that appears in the Data File field is not a Graphics file. Replace that filename with a Graphics filename. If necessary, select File Manager to see the list of available files.

If this file does exist, it may be an incompletely saved file or may be damaged. You should recreate your file or use your backup disc.

Your printer does not respond. Press Return to continue.

Is your printer ON, is it connected and plugged in, is it configured correctly. Check your HP 150 Owner's Guide for the correct settings and switches.



Currently, there are no textual annotations.

You are probably trying to modify or delete annotations that aren't there. Select Add Annotate to remedy the situation.

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You may have incorrectly spelled the filename or the file may be on another disc than the one that you searched. Get directories of your other discs or correct your spelling. See the HP 150 Owner's Guide for more information about File Manager.

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No XXXXXX, XXXXXX, or XXXXXX file.

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