



# VP DATA DRIVEN GRAPHICS

**XEROX**

*VP Series Training Guide*  
*Version 1.0*

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*This publication could contain technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of this publication.*

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# **1. Introduction**

In the chapter titled "Tables" in the "VP Document Editor" self study guide, you were introduced to displaying information in table form, as shown in Figure 1-1.

	Women	Men
15,000 - 20,000	1,300	2,340
20,000 - 25,000	1,789	2,410
25,000 +	1,900	2,600

Figure 1-1 Sample table

This self study guide provides you with the tools for designing business data analyses and graphic presentations in the form of bar, line, and pie charts that are automatically generated from newly entered data or from existing tables.

A table found within the same document can be used to create business graphic forms, such as the bar chart, the pie chart, and the line chart. If the data you want to represent graphically does not exist in tabular form, these graphic forms can be created by using an appropriate property sheet. The data determines the number and size of bars in a bar graph, the size of slices in a pie chart, or the placement of lines in a line graph.

A bar chart represents data through the use of bars that vary in shading, height, and texture. This data is entered into the bar chart's all-data property sheet. The spatial and appearance property sheets allow you to customize the chart by changing the shading, format, and layout (refer to Figure 1-2).

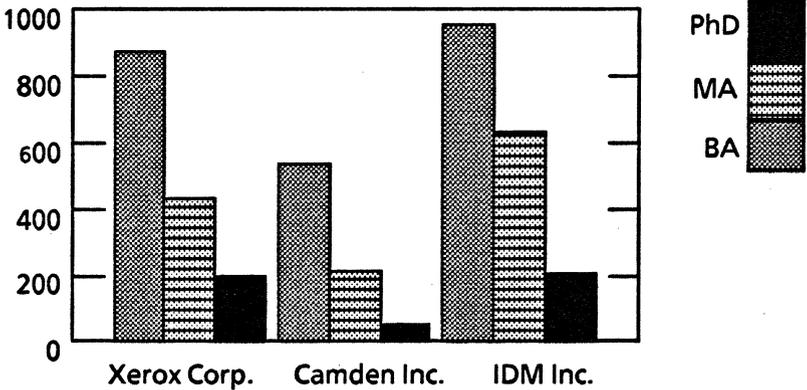


Figure 1-2 Bar chart

A pie chart is a graphic representation of a set of values as percentages of a whole. Each value is represented by a pie slice. The pie chart is created and customized using the pie chart's spatial, appearance, and all-data property sheets (refer to Figure 1-3).

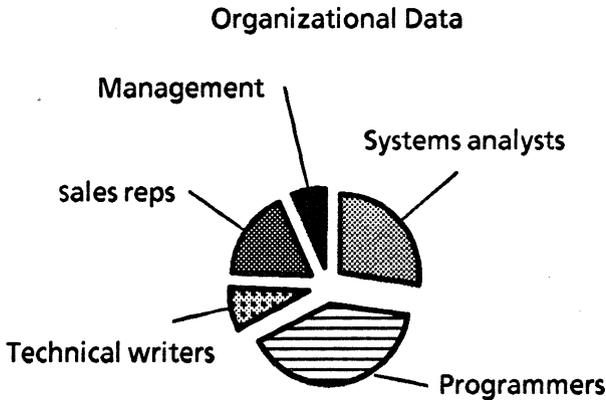


Figure 1-3 Pie chart

A line chart uses a series of lines and points to represent trends indicated by data. The line chart is created and customized using the line chart's spatial, appearance, and all-data property sheets (refer to Figure 1-4).



Figure 1-4 Line chart

This self study guide is designed to provide you with the general concepts and practice necessary to create these business graphic charts.

After completing this self study guide, you should be able to:

- Select a chart and copy it into your document from the basic graphics transfer document or from another document
- Use the function key corresponding to <JOIN> to select individual parts of a chart
- Enter original data into a bar, pie, or line chart using the all-data property sheet
- Enter and update data in a bar chart using a table as a data source
- Customize a bar, pie, or line chart using the spatial and appearance property sheets

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## Getting started

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Before you begin this self study guide, you should know how to operate your 6085 or 8010 workstation. Complete the following:

- "Introduction" tab
- "Xerox ViewPoint" self study guide
- "VP Document Editor" self study guide
- "VP NetCom," "VP RemoteCom," or "VP StandAlone" self study guide, depending on the configuration of your workstation

To complete this self study guide, you need a 6085 Professional Computer System or an 8010 Information System with VP Document Editor software and VP Data-Driven Graphics software installed and running. To verify that the software packages are installed and running, open the application loader, which is located in the workstation divider of the directory. If either package is not displayed when you open the application loader, or if its status is set to Idle, refer to the "Application Loader" chapter of the "Xerox ViewPoint" self study guide.

Additionally, you need the training disk labeled VP Training Exercises.

Each chapter of this self study guide introduces a number of related concepts. When these concepts involve on-line practice, practice exercises are included. At the end of each chapter, you test your knowledge with a self check; at the end of your training, you review all the skills taught with a final progress check.

When a term that is new or unique is introduced, it is italicized and placed in boldface type. You can find a more detailed explanation of each term in the "Glossary" tab of the VP Series reference library.

To get started, you need the folder titled VP Data-Driven Graphics on the VP Training Exercises floppy disk. Within the folder are all the documents necessary to complete this self study guide.

The folder contains four types of documents:

- Data-Driven Graphics Practice documents (for example, DDG PR 2-1)
- Data-Driven Graphics SelfCheck documents (for example, DDG SC 2-1)
- Data-Driven Graphics Answers to SelfCheck documents (for example, DDG A SC 2-1)
- Data-Driven Graphics Progress Check documents (for example, DDG PC 2-1).

At this point, you are ready to load the VP Training Exercises floppy disk onto your desktop. To review the procedure for loading a floppy disk, refer to the chapter titled "Floppy Utility" in the "Xerox ViewPoint" self study guide. If your system does not have a floppy disk drive, see your System Administrator.

You can copy the VP Data-Driven Graphics folder and rename it. This automatically allows you to work with a copy of the original documents and to store your completed practices.

Beginning with this introduction, continue through each chapter sequentially, at your own pace, until you have mastered the skills taught. Your training should take approximately six hours.

While you are completing this self study guide, it is advisable that you have the tabs titled "VP Data-Driven Graphics" and "VP Document Editor" in the VP Series reference library available for easy referral.

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## 2.

## Bar charts

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### Overview

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VP Data-Driven Graphics software provides the tools for creating three types of business graphic charts: bar charts, pie charts, and line charts.

After completing this chapter, you should be able to select an entire bar chart as well as individual parts, enter a bar chart by copying it from the basic graphics transfer document or from another document, use the all-data property sheet or an already existing table as a data source, and customize the bar chart using the spatial and appearance property sheets.

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### Selecting a chart

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A chart can be selected as a whole or as individual parts.

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### Selecting the whole chart

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A chart must be selected in its entirety before it can be entered into a document. After the chart is selected, it can be stretched, magnified, moved, copied, or deleted.

Selecting a chart is different from selecting other graphic objects. This is because the control points for a chart are located on an invisible rectangle surrounding the chart rather than on the perimeter of the object itself, as shown in Figure 2-1. These control points become visible only when the chart is selected as a whole.

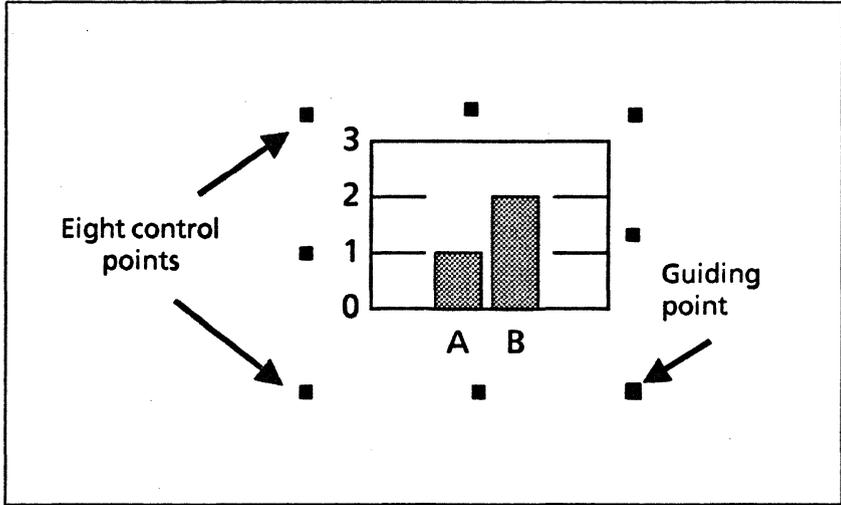


Figure 2-1 Control points

A chart is selected by positioning the pointer on the bar closest to the desired guiding point and clicking with the left mouse button. The invisible rectangle and its eight control points should then appear, with the guiding point appearing larger than the rest. Once the guiding point is visible, the chart can be stretched, magnified, moved, copied, or deleted. (Refer to the chapter titled "Basic Graphics" in the "VP Document Editor" self study guide to review the process of stretching and magnifying an object.)

At this point, a copy of the basic graphics transfer document should be on your desktop. If it is not, please make a copy now. It is found in the basic icons subdivider, which is located in the workstation divider of the directory. (Refer to the "Electronic Desktop" chapter in the "Xerox ViewPoint" self study guide for a review of how to copy an icon from the directory onto your desktop.)

In the following exercise, you select a bar chart.

1. **Open** the basic graphics transfer document.
2. **Position** the pointer on the lower righthand corner of the bar chart.
3. **Click** with the left mouse button. The eight control points appear, with the lower right guiding point larger than the rest.

**NOTE:** If the control points do not appear after you click, reposition the pointer and try again. Since the rectangle surrounding the chart is invisible, it may be difficult to position the pointer accurately.

4. **Position** the pointer on the top righthand corner of the bar chart.
5. **Click** with the left mouse button. The guiding point is now in the top righthand corner.

Practice clicking on different areas of the chart. Notice that the guiding point position alternates.

6. **Do not close** the basic graphics transfer document.

Not only can a whole chart be selected; individual parts of a chart can be selected.

## Selecting individual parts of a chart

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A bar chart is made up of many different parts (lines, rectangles, text frames, and so forth), which have been joined together. In order to select an individual part of the bar chart, the chart itself must be unjoined.

A bar chart is separated into its individual parts by selecting the bar chart and pressing the function key corresponding to <JOIN>. The control points are no longer highlighted, and any individual portion of the bar chart can be selected and its appearance changed through the appropriate page of the property sheet.

The individual parts are reunited into one joined bar chart by selecting an individual part and pressing the function key corresponding to <JOIN>. The control points for the whole chart appear at this time.

In the following exercise, you unjoin a bar chart, select individual parts, and join the parts again. The basic graphics transfer document should still be open. If it is not, please open it now.

1. Open DDG PR 2-1.
2. Select [EDIT].
3. Select the bar chart in the basic graphics transfer document on the lower righthand corner.
4. Press <COPY>.
5. Position the pointer on the [●] inside the graphics frame.
6. Click the left mouse button. A copy of the bar chart is in the graphic frame.
7. Select [CLOSE] on the basic graphics transfer document.
8. Select the bar chart.

#### Unjoining the bar chart:

9. Press the function key that corresponds to <JOIN>. The following message appears in the message area:

**The chart has been split.**

The chart's control points are no longer highlighted

10. Position the pointer on the edge of one of the bars and click with the left mouse button. The bar itself is highlighted.

Practice selecting other parts of the chart. The numbers and letters are enclosed within a text frame.

#### Joining the parts of the bar chart:

11. Select a line.

12. Press the function key corresponding to <JOIN>. The following message appears in the message area:

**The chart has been joined.**

The invisible rectangle containing the control points appears. The bar chart parts have now been rejoined.

13. Select [CLOSE].

Now that you know how to select a chart, you are ready to enter one into a document.

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## Entering a chart into a document

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A bar chart can be entered into a document in one of two ways: using the basic graphics transfer document or copying a previously existing chart from the same or another document.

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## Using the basic graphics transfer document

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Just as the basic graphics transfer document provides a template for frames, shapes, lines, curves, points, and so forth (as discussed in the "Basic Graphics" chapter of the "VP Document Editor" self study guide), it also provides a template for the three kinds of charts.

No chart can be entered into a document unless it is enclosed within a graphics frame. After the graphics frame is entered into the document at the desired location, it must be stretched to a size that will accommodate the desired chart. Once the frame has been stretched, the bar chart can be selected in the transfer document and copied into the graphic frame.

In the following exercise, you enter a bar chart into a document by using the basic graphics transfer document. Since two document windows will appear on the desktop at one time (the basic graphics transfer document and the practice document), you need to resize and/or move them so both are visible. (Refer to the "Electronic Desktop" chapter in the "Xerox ViewPoint" self study guide, or the "Windows section in the "Document Creation" chapter of the "VP Document Editor" self study guide for a review of how to manipulate windows.)

1. **Open** the basic graphics transfer document.
2. **Open** DDG PR 2-2.
3. **Select** [EDIT].
4. **Position** the pointer after the sentence "Enter your bar chart here:" in DDG PR 2-2.
5. **Click** with the left mouse button. The caret is now at that location.
6. **Enter** a graphic frame.
7. **Stretch** the graphic frame until it is big enough to accommodate the basic bar chart found on the basic graphics transfer document.
8. **Select** the bar chart in the basic graphics transfer document, and **copy** it to the graphic frame.
9. **Select** [CLOSE] on the basic graphics transfer document.
10. **Open** DDG A PR 2-2. Your bar chart within the graphic frame may look like this, depending upon the size of your frame and the location selected.
11. **Select** [CLOSE] on both documents.

---

## Copying a chart from another document

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An already existing chart from another document can be entered into a new document by copying both the existing chart and its frame. This is done by selecting the anchor of the graphic frame containing the chart and copying it to a preselected location in the destination document.

**NOTE:** The chart itself can be copied into another frame in the same document or a frame in another document.

In the following exercise, you copy a bar chart from one document to another. Since two document windows will appear on the desktop at one time, you need to resize and/or move them so both are visible.

1. Open DDG PR 2-3.
2. Select [EDIT].
3. Open DDG PR 2-4.
4. Select [EDIT].

### Copying a chart and its frame:

5. Select [SHOW STRUCTURE] in the document auxiliary menu of DDG PR 2-3.
6. Select the frame anchor in DDG PR 2-3.
7. Press <COPY>.
8. With the left mouse button, click after the words "Place the bar chart and its frame here:" in DDG PR 2-4. The chart and its frame have been copied to the destination document.
9. Select [CLOSE] on DDG PR 2-3.

The bar chart template is very small. To ensure that it can accommodate data entered, the chart should be stretched.

**NOTE:** Before stretching the bar chart, make sure the frame is large enough to accommodate it. Also, once it is stretched, the chart may need to be repositioned within the frame. This is done by selecting the chart, pressing <MOVE>, and releasing the mouse button at the desired location. Once the chart is moved, it can be stretched again, if desired.

#### Stretching a chart:

10. Click on the lower right edge of the bar chart. The guiding point appears in that area.
11. Press the function key corresponding to <STRETCH>.
12. Hold down the left mouse button, and stretch the chart to a larger size.
13. Open DDG A PR 2-4. Your chart should look similar to this one, depending upon how large the frame and the chart were stretched.
14. Select [CLOSE] on both documents.

---

## Entering data into a bar chart

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The number of bars in a bar chart and the height of each bar are determined by the data entered into the all-data property sheet. This property sheet allows you to enter original data reflected on the chart or specify a table in the same document as the source of the data.

## Entering original data on the all-data property sheet

In order to enter data, the all-data property sheet must be displayed. This is done by selecting the bar chart and pressing <PROP'S>. When the property sheet appears, there are three property sheets from which to choose: the spatial property sheet, the appearance property sheet, and the all-data property sheet. By selecting [ALL DATA] on the display line, the all-data property sheet is displayed. **NOTE:** The first two property sheets are used to change the appearance and layout of the bar chart and will be discussed later.

When entering original data through the property sheet, not from an already existing table, select [PROPERTY SHEET] in the Data table in option. The system automatically sets [PROPERTY SHEET] as the default. When this is selected, the data table appears, as well as the Fill in by option. Figure 2-2 illustrates the all-data property sheet with [PROPERTY SHEET] set as the default.

The screenshot shows the 'BARCHART PROPERTIES' dialog box. At the top, there are buttons for 'Done', 'Apply', 'Cancel', 'Defaults', and 'Reset'. Below these is a 'Display' section with three radio buttons: 'Spatial', 'Appearance', and 'All data' (which is selected). The main area contains several settings: 'Title' (empty text box), 'Data set is' (radio buttons for 'Row' and 'Column', with 'Column' selected), 'Language' (a menu button showing 'US English'), 'Decimal separator is' (empty text box), 'Data table in' (radio buttons for 'Property sheet' and 'Document table', with 'Property sheet' selected), and 'Fill in by' (radio buttons for 'Row' and 'Column', with 'Column' selected). At the bottom, there is a 'Labels' table with two rows: 'A' with value '1' and 'B' with value '2'.

Labels	
A	1
B	2

Figure 2-2 Barchart all-data property sheet

The following options are found on the all-data property sheet:

- The Title option allows you to name your bar chart.
- The Data set is option allows you to select [ROW] or [COLUMN]. Selecting one of these options determines whether the chart labels appearing along the bottom axis of the chart are those found in the header row or in the first column of the data table. Figure 2-3 illustrates data entered into a data table.

Labels	Corn	Wheat
1981	100	300
1982	200	250

Figure 2-3 Sample data table

If [COLUMN] is selected for the Data set is option, the data entered in the first column of the data table appears along the bottom axis, as shown in Figure 2-4.

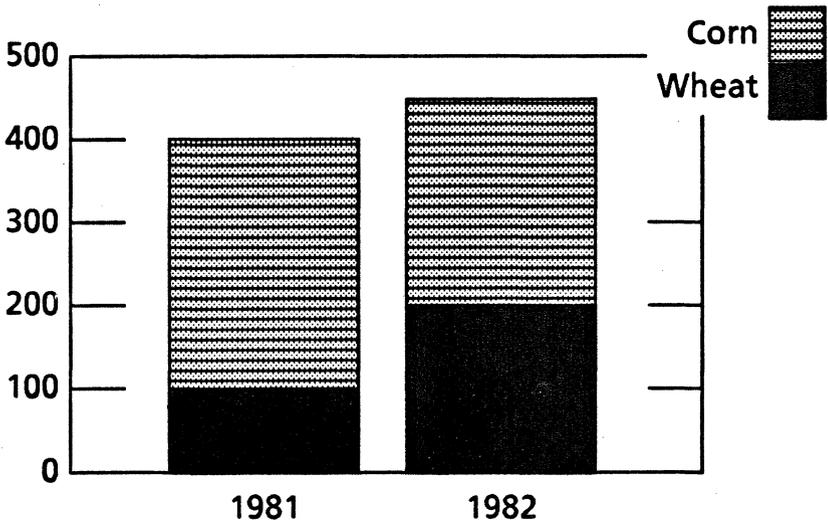


Figure 2-4 Data set is option with [COLUMN] selected

If [ROW] is selected for the Data set is option, the data entered into the header row of the data table appears along the bottom axis, as shown in Figure 2-5.

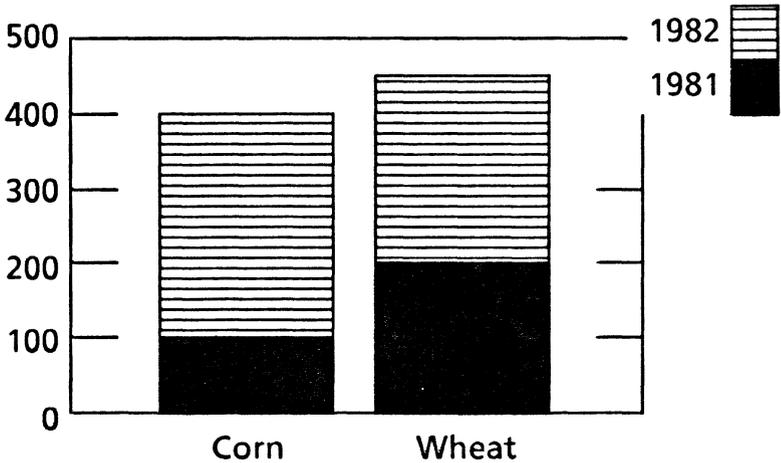


Figure 2-5 Data set is option with [ROW] selected

**NOTE:** Each of these charts has a key. The key option is found on the spatial property sheet. These charts have also been stretched larger to accommodate the data.

- The Language option allows you to enter data in a specified language. Not all languages may be implemented. Check with your System Administrator or Workstation Administrator.
- The Decimal separator is option displays the type of decimal separator used in the language specified in the Language option. On this property sheet, English is selected for the Language option, and the decimal separator appears as a point [.]. If German is selected for the Language option, the decimal separator would be [,]. Refer to the tab titled "VP Data-Driven Graphics" in the VP Series reference library for more details.

- The Data table in option determines whether data is being entered through the property sheet or through a preexisting table found in the same document. When [PROPERTY SHEET] is selected, the Fill in by option and the data table appear.
- The Fill in by option determines whether data entered into the data table will be filled in by row or column when <NEXT> is pressed. It also determines how rows and columns are added to this data table. (Since the procedures for adding, deleting, and copying rows and columns of a data table are the same as for tables, refer to the "Tables" chapter of the "VP Document Editor" self study guide if you need a review.)

The data table itself contains all the information to be reflected in the bar chart you are creating.

- Labels for identifying the elements of the chart and the key are entered into the column headers and the first column. Selecting [ROW] or [COLUMN] in the Data set is option determines which data is used for labeling the chart elements and which data is used within the key. (Refer to information on Data set is earlier in this section.)
- Data entered into the column itself must be numerical. The numbers can, however, be positive, negative, or decimal. They can even contain exponents (for example,  $15^2$ ). The numbers cannot, however, contain commas.

**NOTE:** If positive and negative numbers are used in a bar chart, the side-by-side bar layout must be used to display the information correctly. The stacked layout can be used only if the numbers are all positive or all negative. (Layout of the bars is discussed in a later section.)

In the following exercise, you enter original data into the all-data property sheet.

1. **Open** DDG PR 2-5.
2. **Select** [EDIT].
3. **Select** the bar chart.
4. **Press** <PROPS>. The bar chart property sheet immediately appears.
5. **Select** [ALL DATA] on the display line. The all-data property sheet immediately appears.
6. **Type:** Computers in the Title option.
7. **Select** [ROW] for the Data set is option, if it has not been already selected.

**NOTE:** [PROPERTY SHEET] in the Data table in option should already be selected, since it is the default for that option.

8. **Select** [ROW] for the Fill in by option.

#### **Adding a column:**

9. **Select** the second column using the select-adjust method.

Select one field of the column with the left mouse button.

Select another field of the same column with the right mouse button. The entire column should be highlighted.

10. **Press** <COPY>.
11. **Position** the pointer on the right boundary of the second column and click the mouse button. Notice that a new column appeared.

#### **Entering data:**

12. **Position** the caret in the second column header.
13. **Type:** Attle Inc.

14. Press <NEXT>.
15. Type: Efar Inc.
16. Position the caret in the first field of the first column and delete the A.
17. Type: 1984.
18. Press <NEXT>. The caret moves to the next field in that row. That is because [ROW] is selected for the Fill in by option.
19. Delete 1 and type: 200.
20. Press <NEXT>.
21. Delete 1 and type: 189.
22. Press <NEXT>.
23. Delete B and type: 1985.
24. Press <NEXT>.
25. Delete 2 and type: 350.
26. Press <NEXT>.
27. Delete 2 and type: 300.
28. Select [DONE].
29. Open DDG A PR 2-5. Your document should look similar to this one.
30. Select [CLOSE] on both documents.

Notice that the bar chart you created automatically has shading for the different bars, a stacked layout, and a specified scale measurement line (located on the left side of the bar chart). These properties are defaults of VP Data-Driven Graphics. The scale measurement numbers were determined by the data entered into the property sheet.

Later in this chapter you will customize the appearance of this chart by changing the shading, texture, and orientation of the bars, and adding a key. You will also select individual parts of the bar chart and rearrange them to maximize the visual appearance of the chart.

## **Entering data through a table in the document**

---

A specific table in the same document as the bar chart can become the source of that chart's data. The source table cannot have divided columns or repeating rows. The information is still entered through the all-data property sheet by selecting [DOCUMENT TABLE] in the Data table in option.

In the following exercise, you create a bar chart using a table as the data source.

1. **Open** DDG PR 2-6.
2. **Select** [EDIT].
3. **Copy** the bar chart from the basic graphics transfer document to the graphic frame in DDG PR 2-6.
4. **Select** [CLOSE] on the basic graphics transfer document.
5. **Stretch** the chart to fit the frame.
6. **Press** <PROP'S>.
7. **Select** [ALL DATA].
8. **Select** [DOCUMENT TABLE] in the Data table in option. The Table name option appears.
9. **Type:** Microchips and disks into the Table name option.
10. **Select** [DONE]. The basic bar chart now displays the data found in the table.
11. **Open** DDG A PR 2-6. Your bar chart should look similar to this one.

**NOTE:** The positioning of the bars and the layout of the numbers along the vertical measurement line are determined by the system, based on the data from the table. These can be changed on the spatial and appearance property sheets.

12. Select [CLOSE].

---

## Customizing the bar chart

---

You have seen how a bar chart is created by entering data into the all-data property sheet. At that point, the appearance of the bar chart was determined by the system itself. Once the data has been entered, the bar chart can be customized by changing the bar orientation to vertical or horizontal, stacking or grouping the bars, altering both vertical and horizontal tick marks, adding a key, and shading and texturing the bars. This customizing is done on the spatial and appearance property sheets.

The chart can also be customized by manipulating the individual parts of the chart. This can include moving the key, moving chart labels, adjusting the space between the bars, and changing the properties of, or deleting, the bars.

**NOTE:** The charts you have created did not include a key. This option is found in the spatial property sheet. Therefore, some labels were placed in the chart in unusual locations. First stretch the chart, and, if the labels are still not presentable, manipulate them until the chart is visually appealing.

## Using the spatial property sheet

The spatial property sheet, which is one of the three bar chart property sheets, is used to design the layout of the bar chart. Figure 2-6 illustrates the spatial property sheet.

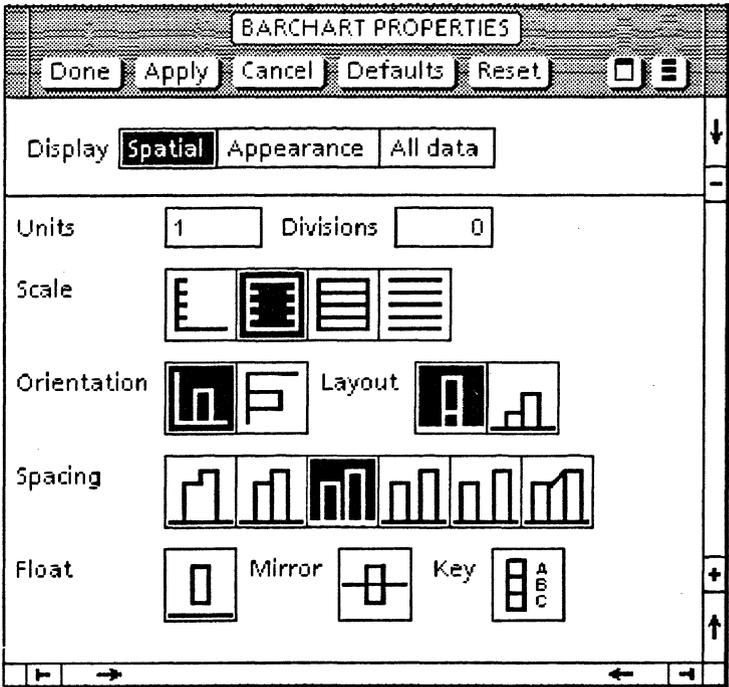


Figure 2-6 Spatial property sheet

This spatial property sheet determines the style of axes, the orientation of the bars, the spacing between bars, and the creation of a key to the chart. It is displayed by selecting the bar chart, pressing <PROP'S>, and selecting [SPATIAL] on the display line.

In the following exercise, you use the spatial property sheet to change the layout of the Computers bar chart.

1. Open DDG PR 2-7.

2. **Select [EDIT].**
3. **Select the bar chart.**
4. **Press <PROP'S>.** The spatial property sheet is displayed.
5. **Delete the number found in the Units option.** This number was automatically entered by the system when the data for the bar chart was entered.

The Units option determines the difference between successive labels on the vertical line measurement. For example, if 5 is entered, the increments are 5, 10, 15, and so forth (1 is the default).

6. **Type: 100 into the Units option.**
7. **Select [APPLY].** The vertical line measurement labels change to increments of 100.
8. **Delete 0 from the Divisions option (0 is the default).**

The Divisions option allows you to determine whether or not minor tick marks (unlabeled) will appear between the labeled tick marks on the vertical line measurement. If 0 or 1 is entered, no minor tick marks will appear.
9. **Type: 2 in the Divisions option.**
10. **Select [APPLY].** There is one minor unlabeled tick mark between major labels on the vertical line measurement.
11. **Select the first Scale option.** (The second option is the default.)

12. Select [APPLY]. The style of the bar chart has changed.
13. Select the second Orientation option.
14. Select [APPLY]. The bars are now horizontal rather than vertical.

The Layout option always appears when there is more than one bar set. It determines whether the bars will be stacked on top of one another or side by side.

The Spacing option determines how much space appears between bar sets. The first option places the bar sets flush against each other. (This option is not yet available.) The second option allots no space between the bars. The third through fifth options determine the amount of space between the bar sets as well as the width of the bars themselves.

15. Select the fourth Spacing option. (The third option is the default.)
16. Select [APPLY]. The spacing between the bar sets has increased, and the bars themselves have decreased in width.
17. Select [KEY].
18. Select [DONE]. The years are now placed in key format in the bottom righthand corner.

Selecting [KEY] provides a key that shows names and shadings of each of the bar sets. This key should appear in the upper lefthand corner of the chart.

19. Open DDG A PR 2-7. Your chart should look similar to this one.
21. Select [CLOSE] on both documents.

When you develop a bar chart, or any chart, it is important to remember that the chart must be large enough to accommodate all the data to be displayed. The chart used in this practice was stretched prior to any changes being made. Therefore, it is recommended that the basic bar chart and the frame in which it is located be stretched to a larger size immediately upon entry into your document.

## Using the appearance property sheet

The appearance property sheet, which is the third property sheet within the bar chart property sheet, is used to customize shading and texture for the bar sets within your bar chart.

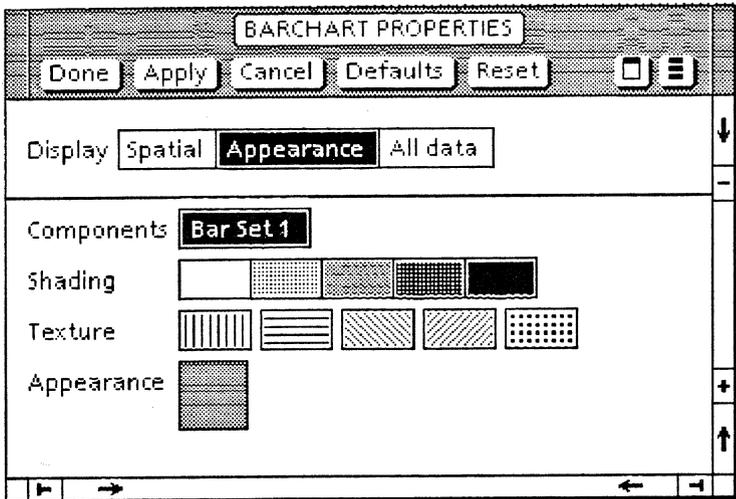


Figure 2-7 Appearance property sheet

This property sheet determines the shading and texture of the bars. It is displayed by selecting the bar chart, pressing <PROP'S>, and selecting [APPEARANCE] on the display line.

In the following exercise, you use the appearance property sheet to customize the Computers bar chart.

1. Open DDG PR 2-8.
2. Select [EDIT].
3. Select the bar chart.
4. Press <PROP'S>.
5. Select [APPEARANCE] on the display line. [1984] in the Components option is automatically highlighted. This is the first of your two bar sets.  

The Components option displays the names of the bar sets. If the bar sets are not labeled, the names Bar Set 1, Bar Set 2, and so forth are automatically assigned.
6. Select the last (black) Shading option. Notice that the box next to Appearance immediately becomes black.  

The Appearance option immediately reflects selections made in the Shading and Texture.
7. Select [APPLY]. The 1984 bar set and key have changed to black.  

The Shading option allows you to customize the shading for each bar set. The default is the second option.
8. Select [1985] in the Components option.
9. Select the third Shading option.
10. Select the third Texture option. The Appearance box immediately reflects both of these selections.
11. Select [DONE].

**NOTE:** Only one Shading option can be selected at a time, but several Texture options can be selected at one time.

12. Open DDG A PR 2-8. Your chart should look similar to this one.
13. Select [CLOSE] on both documents.

## Changing individual parts of a bar chart

A newly created bar chart, even after being stretched to accommodate the data, occasionally has parts that need to be moved or changed in some way. By unjoining the chart, individual parts can be selected and altered.

In the following exercise, you move labels within a bar chart.

1. Open DDG PR 2-9.
2. Select [EDIT].
3. Select [SHOW STRUCTURE] in the document auxiliary menu.
4. Select the bar chart.
5. Press the function key corresponding to <JOIN>. The control points have disappeared. The following message appears in the message area:

The chart has been split.

6. Select the text frame containing Single.
7. Press <MOVE>.
8. Position the frame under the first bar set so that the entire word is visible, and click with the mouse button.
9. Select the text frame containing Divorced.
10. Position the frame under the last bar set so that the entire word is visible, and click with the mouse button.

11. **Select** the text frame containing Marital Status, located in the upper lefthand corner.
12. **Press** <MOVE>.
13. **Position** the frame above the bar chart in the middle, and click with the mouse button.
14. **Select** the text frame containing Doctors with the left mouse button.
15. **Select** the text frame containing Lawyers, and the two key boxes with the right mouse button.
16. **Press** <MOVE>.
17. **Position** the selection in the upper righthand corner outside the chart and click with the mouse button.
18. **Select** any line.
19. **Press** the function key corresponding to <JOIN>. The control points are now visible. The bar chart is joined.
20. **Select** [DON'T SHOW STRUCTURE] in the document auxiliary menu.
21. **Open** DDG A PR 2-9. Your chart should look similar to this one.
22. **Select** [CLOSE] on both documents.

---

## Updating table-based bar charts

---

A chart created in the all-data property sheet can be updated by selecting the chart, pressing <PROP'S>, and selecting [ALL DATA]. After the new data is entered and [DONE] is selected, the chart is updated automatically.

Charts created from data in tables found in the same document are not automatically updated if the data is changed. In order to update them, you must select [UPDATE CHARTS] in the document auxiliary menu.

**NOTE:** A chart created from data in a table may be updated in the all-data property sheet, if desired.

In the following exercise, you update the data in a previously created chart.

1. **Open DDG PR 2-10.**
2. **Select [EDIT].**
3. **Position the caret in the last field of the last column of the table.**
4. **Press <NEXT>.**
5. **Position the caret in the new column header.**
6. **Type in the column header: Hardware.**
7. **Select in the first row of the new column.**
8. **Type: 75.**
9. **Press <NEXT>.**
10. **Type: 100.**
11. **Select [UPDATE CHARTS] in the document auxiliary menu. Notice that the bar chart reflects the new information.**
12. **Select the bar chart and press <PROP'S>.**
13. **Select [APPEARANCE] in the display line.**
14. **Select [HARDWARE] in the Components option.**
15. **Select the last Shading option.**
16. **Select [APPLY]. The newest bar is now black.**
17. **Select [SPATIAL] in the display line.**
18. **Delete the number in the Units option.**
19. **Type: 200 in the Units option.**
20. **Select [KEY].**
21. **Select [DONE]. The bar chart is updated with new vertical line measurements and a key.**

22. Open DDG A PR 2-10. Your table should look like the one in this document, and your chart should look similar to the one in the document.
23. Select [CLOSE] in both documents.

---

## Summary

---

In this chapter, you studied how to:

- Select an entire bar chart and its individual parts
- Enter a bar chart into a document by using the basic graphics transfer document or by copying a chart from another document
- Enter data into a bar chart through the all-data page of the bar chart property sheet
- Enter data into a bar chart through a table found in the same document
- Customize the layout of a bar chart using the spatial page of the bar chart property sheet
- Customize the shading and texture of a bar chart using the appearance page of the bar chart property sheet
- Update a bar chart with source data in a table

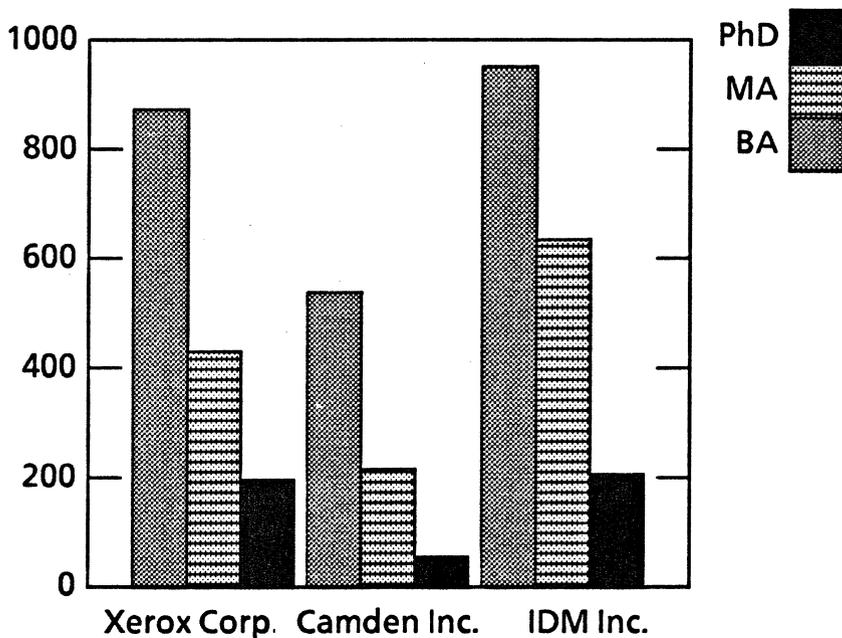
If you need more practice, complete the exercises again. To do this, use new copies of the practice documents for this chapter.

For more details on bar charts, refer to the tab titled "Data-Driven Graphics" in the VP Series reference library.

The following pages contain an optional self check exercise.

## Self check 2-1

You have practiced creating bar charts and customizing their appearance. Now you are ready to check your knowledge of these skills by recreating the bar chart below. Open DDG SC 2-1, which is a blank document, and select [EDIT].



The following information should be entered in the three column headers:

BA, MA, PhD

The following information should be entered in the column under Labels:

Xerox Corp., Camden Inc., IDM Inc.

The following numerical data should be entered by column, starting with the second column:

**876, 539, 952, 432, 219, 637, 197, 57, 208**

If you need assistance with any of the procedures, turn to the next page for detailed instructions on one way to recreate this chart.

---

## Answers to self check 2-1

---

**1. To enter and stretch a graphics frame:**

Select [EDIT].

Hold down <KEYBOARD>.

Press the function key corresponding to <SPECIAL>.

Press <A>.

Release <KEYBOARD>.

Stretch the graphic frame.

**2. To copy a bar chart into the graphic frame:**

Open the basic graphics transfer document.

Select the bar chart.

Press <COPY>.

Position the pointer in the center of the graphic frame.

Click the left mouse button.

Select [CLOSE] on the basic graphics transfer document.

**3. To stretch the bar chart:**

Select the bar chart in the lower righthand corner.

Press the function key corresponding to <STRETCH>.

Stretch the chart to the desired size.

**4. To enter data into the all-data page of the property sheet:**

Press <PROPS>.

Select [ALL DATA] in the display line.

Select [COLUMN] in the Data set is option.

Select [PROPERTY SHEET] in the Data table in option.

Select [COLUMN] in the Fill in by option.

Position the pointer in the last field of the last column.

Press <NEXT>. (A new column is added.)

Repeat the last two steps above. (Another new column is added.)

Select a row using the select-adjust method.

Press <COPY>.

Click the pointer on the bottom line of the last row.

Your data table should look like this:

Labels			

Enter the necessary information in the column headings and data table fields.

Select [APPLY].

**5. To change the layout of the chart:**

Select [SPATIAL] in the display line.

Delete the number in the Units option.

Type: 200.

Select [KEY].

Select [APPLY].

**6. To change the shading and texture of the chart:**

Select [APPEARANCE] in the display line.

Select BA in the Components option.

Select the third Shading option for BA Components.

Select MA in Components.

Select the second Shading option and the second Texture option.

Select PhD in Components.

Select the last (black) Shading option.

Select [DONE].

**7. To rearrange individual parts of the bar chart:**

Select the bar chart.

Press the function key corresponding to <JOIN>

Select the desired parts and move to the desired location or stretch to the desired size.

Select one part of the chart.

Press the function key corresponding to <JOIN>.

### 3.

## Pie charts

---

### Overview

---

The *pie chart* graphically represents a set of values as percentages of a whole. The whole is represented by a full circle, or pie. Each value is a percentage of that pie and is represented by a wedge-shaped portion called a *pie slice*. The size of each individual pie slice corresponds to the percentage of that slice's value in relationship to the whole pie and is determined by a numerical value entered into the data table of the all-data page of the pie chart property sheet or from a pre-existing table. This numerical value is not visible on the pie chart itself.

Each pie slice has a name, which is used to label the slice. The label of each pie slice is also entered into the data table found in the pie chart all-data property sheet. The label is visible on the pie chart itself and is connected to each slice by a link line.

Slices of a pie chart can be either in an adjoining or separated layout. As seen in Figure 3-1, the pie slices in an adjoining pie chart are placed flush with one another to form a circle, whereas the pie slices in a separated pie chart are positioned outward from the circle. The pie slices are formed clockwise in the order of entry of the data sets in the data table. The first one appears at the top of the chart.

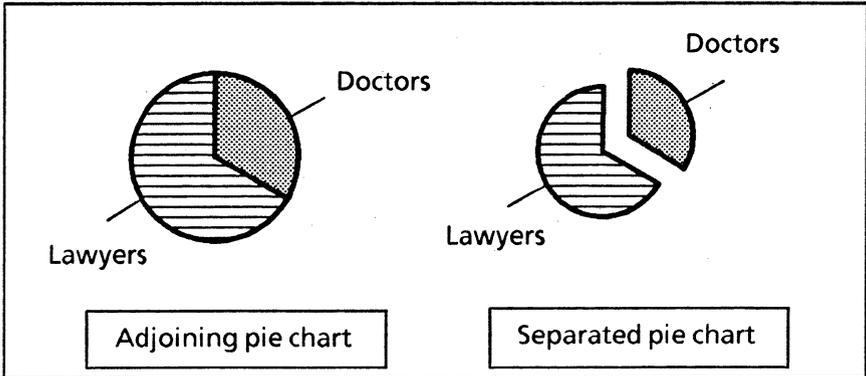


Figure 3-1 Adjoining and separated layout

The look of the pie chart, including line widths, shading, and texture, can be customized to meet your individual preference. The look of individual parts of the pie chart, such as pie slices and lines, can also be customized.

Once a pie chart has been created, the data can continuously be updated, with the chart reflecting these updates. After completing this chapter, you should be able to use the pie chart all-data property sheet or a table as a data source for a pie chart, and customize the pie chart using the spatial and appearance property sheets.

---

## Entering data into a pie chart

---

The number of pie slices and the size of each is determined by the data entered into the all-data property sheet. The all-data property sheet allows you to enter original data reflected on the pie chart or specify a table in the same document as the source of the data.

## Entering original data on the all-data property sheet

In order to enter data, the all-data property sheet must be displayed. This is done by selecting the pie chart and pressing <PROP'S>. There are three property sheets from which to choose: the spatial property sheet, the appearance property sheet, and the all-data property sheet. When you select [ALL DATA] on the display line, the all-data property sheet is displayed.

**NOTE:** The all-data property sheets for the bar and pie charts are the same and have the same options. Therefore, these options will not be discussed in detail here. For a review of these options, refer to Chapter 2.

In order to enter original data, not data from an already existing table, you must select [PROPERTY SHEET] in the Data table in option. When this option is selected, the data table appears, as well as the Fill in by option. Figure 3-2 illustrates the pie chart all-data property sheet with [PROPERTY SHEET] selected.

LINECH=FT PROPERTIES

Done Apply Cancel Defaults Reset

Display Spatial Appearance **All data**

Title

Data set in: Row **Column**

Language U: English

Decimal separator is

Data table in **Property sheet** Document table

Fill in by Row **Column**

Labels	A	B
1	1	2
2	1	2

Figure 3-2 Pie chart all-data property sheet

The Data set is option determines how the source data is read in the data table. Figure 3-3 illustrates data entered into a data table.

Labels	Mortgage	Auto expenses
Clothing	1200	800
Medical	500	600

Figure 3-3 Sample data table

When you select [COLUMN] in the Data set is option, the chart is created with the column header labels becoming the labels seen on the chart, and the first value in each column determining the size of the pie slices. The first value in each data set must be a positive number. Figure 3-4 illustrates this pie chart using the data table above.

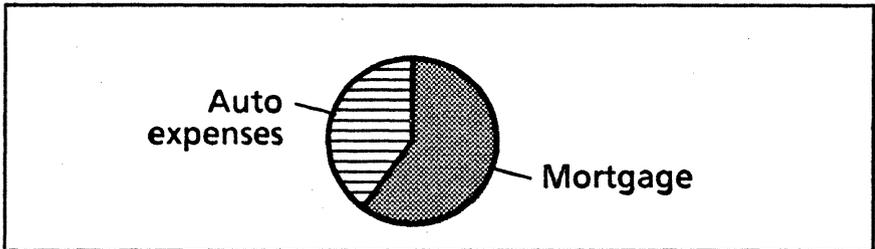


Figure 3-4 Data set is option with [COLUMN] selected

When you select [ROW] in the Data set is option, the chart is created with the labels in the leftmost column becoming the labels seen on the chart, and the first value in each row determining the size of the pie slices. Again, the first value in each data set must be a positive number. Figure 3-5 illustrates this pie chart using the previous data table.

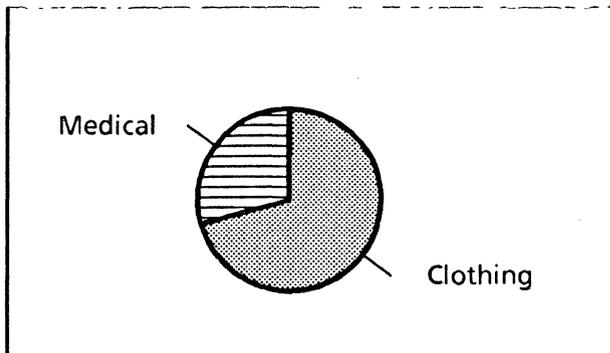


Figure 3-5 Data set is option with [ROW] selected

**NOTE:** If the data set label is blank, no label or link line is drawn on the pie chart diagram, and a default name appears in the appearance property sheet under Components.

In the following exercise, you enter original data into the all-data property sheet. Since two document windows will appear on the desktop at one time (the basic graphics transfer document and the practice document), you need to resize and/or move them so both are visible.

**NOTE:** The concepts of selecting a chart, selecting portions of a chart, entering a chart into a document, adding rows and columns, and updating a chart through the property sheet or [UPDATE CHARTS] in the document auxiliary menu were discussed in detail in the previous chapter.

1. **Open** DDG PR 3-1.
2. **Select** [EDIT].
3. **Open** the basic graphics transfer document.
4. **Copy** the pie chart to the graphic frame in DDG PR 3-1.
5. **Select** [CLOSE] on the basic graphics transfer document.
6. **Stretch** the pie chart to fit the frame.
7. **Press** <PROP'S>. The pie chart property sheet immediately appears.
8. **Select** [ALL DATA] on the display line.  
**NOTE:** [COLUMN] for the Data set is option and [COLUMN] for the Fill in by option are set as defaults and already selected.
9. **Add** one column to the data table.
10. **Delete** A in the first column header.
11. **Type:** Republicans in the first column header (next to Labels).
12. **Press** <NEXT>.
13. **Delete** B in the second column header.
14. **Type:** Democrats.
15. **Press** <NEXT>.
16. **Type:** Independents in the next column header.
17. **Delete** 10 in the field under Republicans.
18. **Type:** 1500 in the first field of the Republicans column.
19. **Delete** 20 in the field under Democrats.
20. **Type:** 1450 in the first field of the Democrats column.
21. **Type:** 800 in the first field of the Independents column.

22. Select [DONE]. Notice that the pie chart is updated with the appropriate labels and pie slices.
23. Open DDG A PR 3-1. Your pie chart should look similar to this one.
24. Select [CLOSE] on both documents.

**NOTE:** The pie slices are a percentage of the whole. The system adds the three values entered into the data table and determines the percentage of each. These percentages are reflected in the size of the pie slices.

## **Entering data through a table in the document**

---

A specific table in the same document as the pie chart can become the source of that chart's data. The source table cannot have divided columns or repeating rows. The information is still entered through the all-data property sheet by selecting [DOCUMENT TABLE] in the Data table in option.

In the following exercise, you create a pie chart using a table as the data source.

1. Open DDG PR 3-2.
2. Select [EDIT].
3. Select the pie chart.
4. Press <PROP'S>.
5. Select [ALL DATA].
6. Select [DOCUMENT TABLE] in the Data table in option. A Table name option appears.
7. **Type:** Produce Survey in the Table name option. Produce Survey is the name of the table.
8. Select [DONE]. The pie chart now displays the data found in the table.

9. Open DDG A PR 3-2. Your pie chart should look similar to this one
10. Select [CLOSE] on both documents.

## Customizing the pie chart

You have seen how a pie chart is created by entering data into the all-data property sheet. At that point, the appearance of the pie chart is determined by the system itself. Once the data has been entered, the pie chart can be customized by changing the layout of the pie slices, adjusting the line width, and customizing the shading and texture of the pie slices. This customizing is done on the spatial and appearance property sheets.

## Using the spatial property sheet

The spatial property sheet is used to select either the adjoined or separated layout of the pie chart and determine the width of the lines within the pie chart. Figure 3-6 illustrates the spatial property sheet.

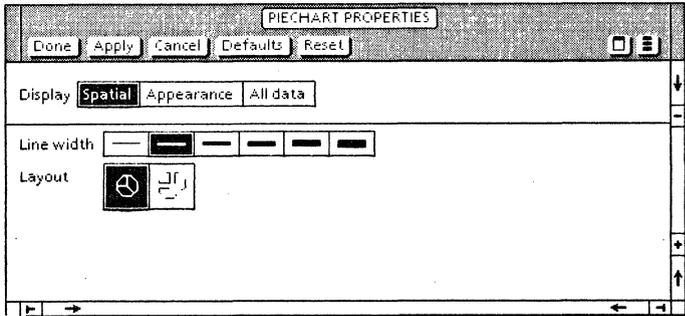


Figure 3-6 Spatial property sheet

The spatial property sheet is displayed by selecting the pie chart and pressing <PROP'S>.

In the following exercise, you use the spatial property sheet to change the layout of the Produce Survey pie chart.

1. Open DDG PR 3-3.
2. Select [EDIT].
3. Select the pie chart.
4. Press <PROP'S>. [SPATIAL] has already been selected on the display line.
5. Select the third Line Width option.
6. Select the second (separated) Layout option.
7. Select [DONE]. Notice that the layout of the pie chart reflects the changes made on the property sheet.
8. Open DDG A PR 3-3. Your pie chart should look similar to this one.
9. Select [CLOSE] on both documents.

## Using the appearance property sheet

The appearance property sheet is used to customize shading and texture for the pie slices within your pie chart. (Refer to Figure 3-7.)

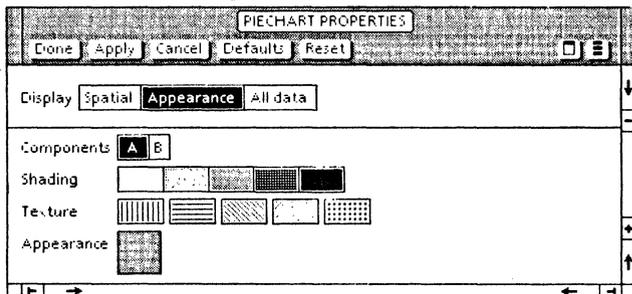


Figure 3-7 Appearance property sheet

This property sheet determines the shading and texture of the pie slices. It is displayed by selecting the pie chart, pressing <PROP'S>, and selecting [APPEARANCE] on the display line.

In the following exercise, you use the appearance property sheet to customize the Produce Survey pie chart.

1. Open DDG PR 3-4.
2. Select the pie chart.
3. Press <PROP'S>.
4. Select [APPEARANCE] on the display line. [APPLES] has already been selected. This is the first of your three pie slices.
5. Select the last (black) Shading option .
6. Select [APPLY].
7. Select [ORANGES] in Components.
8. Select the second Shading option and the first Texture option.
9. Select [APPLY].
10. Select [BANANAS] in Components.
11. Select the fourth Shading option and the second Texture option.
12. Select [DONE].
13. Open DDG A PR 3-4. Your chart should look like this one.
14. Select [CLOSE] on both documents.

## Changing individual parts of a pie chart

---

The various parts of a pie chart (pie slices, lines, and labels) can all be customized individually. This is done by unjoining the whole pie chart and selecting individual parts to alter. Once these parts are altered, the whole chart can be joined again.

A pie chart is unjoined by selecting the chart and pressing the function key corresponding to <JOIN> . A pie chart is joined again by selecting an individual part and pressing the function key corresponding to <JOIN>. If you want to review the steps in this procedure, refer to the "Changing individual parts of a bar chart" section in the previous chapter.

---

## Updating table-based pie charts

---

A chart created in the pie chart all-data property sheet can be updated by selecting the chart, pressing <PROP'S>, and selecting [ALL DATA]. After the new data is entered into the data table, selecting [DONE] automatically updates the chart.

A chart created from data in a table found in the same document is not automatically updated if that table data is changed. Once the table data is updated, [UPDATE CHARTS] must be selected in the document auxiliary menu . Once you select it, the pie chart itself is updated. If you want to review the steps in this procedure, refer to the "Updating table-based bar charts" section in the previous chapter.

## Summary

---

In this chapter, you studied how to:

- Use the pie chart all-data property sheet to enter original data into a pie chart
- Use a table as a data source for a pie chart
- Use the pie chart spatial property sheet to change the layout for the pie chart
- Use the pie chart appearance property sheet to customize shading and texture of the pie slices

If you need more practice, complete the exercises again. To do this, use new copies of the practice documents for this chapter.

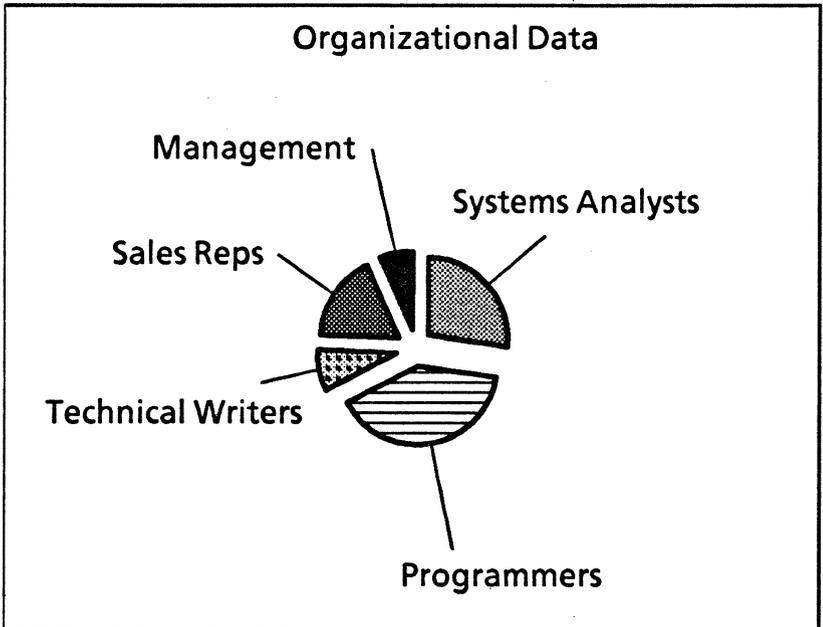
The following pages contain an optional self check exercise.

---

## Self check 3-1

---

You have practiced creating pie charts and customizing their appearance. Now you are ready to check your knowledge of these skills by recreating the pie chart below. Open DDG SC 3-1, and select [EDIT].



The following information should be entered into the five column headings:

Systems Analysts, Programmers, Technical Writers, Sales Reps, Management.

The following numerical data should be entered into the first field under each of the column headings:

350, 520, 110, 230, 85

If you need assistance with any of the procedures, turn to the next page for detailed instructions on one way to recreate this chart.

## Answers to self check 3-1

---

1. **To copy a pie chart to a graphic frame from the basic graphics transfer document:**

Open the basic graphics transfer document.

Select the pie chart template.

Press <COPY>.

Position the template in the graphic frame and click with a mouse button.

2. **To stretch the pie chart:**

Select the pie chart.

Press the function key corresponding to <STRETCH>.

Stretch it until it is the desired size.

3. **To enter data into the all-data property sheet:**

Press <PROP'S>.

Select [ALL DATA] in the display line.

Type: Organizational Data in the Title option.

Select [COLUMN] in the Data set is option, if it has not already been selected.

Add three more columns to the data table.

Select [ROW] in the Fill in by option.

Delete unnecessary information in column headings and data table fields.

Enter the necessary information in the column headings and data table fields.

Select [APPLY].

**4. To change the layout of the pie chart:**

Select [SPATIAL] in the display line.

Select the second Layout option.

Select [APPLY].

**5. To change the appearance of the pie chart:**

Select [APPEARANCE] in the display line.

Select [TECHNICAL WRITERS] in the Components option.

Select the second Shading option and the last Texture option.

Select [APPLY].

Select [SALES REPS].

Select the fourth Shading option.

Select [APPLY].

Select [MANAGEMENT].

Select the last Shading option.

Select [DONE].

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## 4.

# Line charts

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---

## Overview

---

The **line chart** represents trends indicated by data, using a series of lines or points. The construction of a line chart is made up of three basic elements: data, points, and lines. A line chart is created by copying the line chart template or an already existing line chart illustration and changing its properties in the appropriate property sheet. The coordinate locations of the data points and the construction of the line related to them is determined by data entered into the data table of the line chart all-data property sheet.

The line chart data can be displayed in two different plotting methods:

- The **data point graph** is similar to a scattergram. It displays data as points on specific locations along the coordinates.
- The **straight line-pieced graph** is a straight-line connect-the-dots graph. It connects the points located on the coordinates. More important, it adds the advantage of showing an impression of the trend while retaining the data point locations.

These graphs can be seen in the following illustrations (Figures 4-1 and 4-2).

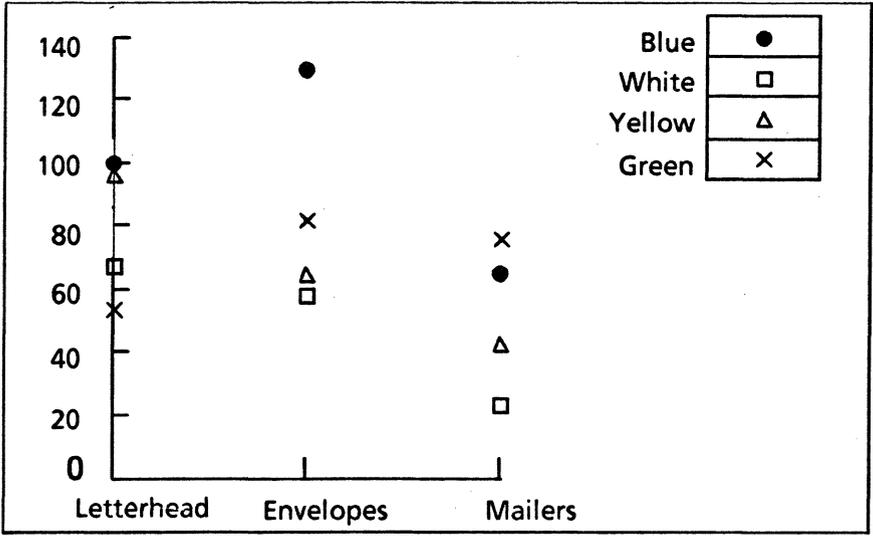


Figure 4-1 Data point graph

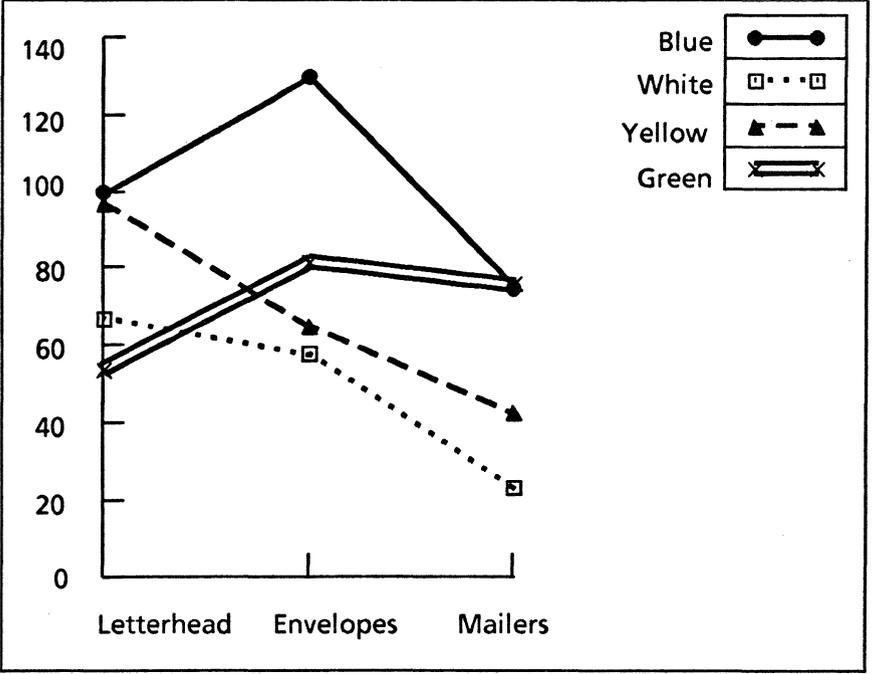


Figure 4-2 Straight line-pieced graph

**NOTE:** The type of graph created is determined on the appearance property sheet.

The look of the line charts, including the orientation, (vertical, horizontal, left, or right), the tick marks and numbers, the labels and keys, and the point and line structure can be customized to meet your individual preference. The look of individual parts of the line charts can also be customized. Once a line chart has been created, the data can be continuously updated, with the chart reflecting these updates.

After completing this chapter, you should be able to enter original data into a line chart using the line chart all-data property sheet, and customize the line chart using the spatial and appearance property sheets.

---

## Entering data into a line chart

---

The placement of points within a line chart is determined by the data entered into the all-data property sheet. This allows you to enter original data reflected on the line chart or specify a table in the same document as the source of the data.

## Entering original data on the all-data property sheet

---

In order to enter data, the all-data property sheet must be displayed. This is done by selecting the line chart and pressing <PROPS>. There are three property sheets from which to choose: the spatial property sheet, the appearance property sheet, and the all-data property sheet. When you select [ALL DATA] on the display line, the all-data property sheet is displayed.

**NOTE:** The all-data property sheets for the bar, pie, and line charts are the same and have the same options. Therefore, these options will not be discussed in detail here. For a review of these options, refer to Chapter 2.

Similarly to bar and pie charts, the data table is used for displaying data. However, in the line chart data table, the way in which the chart is constructed depends upon the type of labels found in the column headings or first column (depending upon which option is selected in the Data set is option). Labels can be one of two types:

- All valid numbers
- At least one of them empty or not a valid number

When all the labels are valid numbers, the x-max and x-min values are automatically set by the system and placed in the spatial property sheet. The largest and smallest value in the column headings (or first column) of the data table are used for the x-max and x-min on the x- (horizontal) axis. When values are placed in the data table, the smallest is compared to the x-min value in the spatial property sheet. Whichever value (that found in the data table or that found in the spatial property sheet) is the smallest becomes the x-min value set in the chart. The other is ignored. For example, if the smallest value entered into the data table is 2, and the x-min on the spatial property sheet is 1, 1 becomes the x-min, and the 2 is ignored.

Whichever x-max value (that found in the data table or that found in the spatial property sheet) is the largest is the one set in the chart. For example, if the largest value entered into the data table is 75, and the x-max on the spatial property sheet is 60, 75 becomes the x-max and is automatically set in the property sheet when [APPLY] or [DONE] is selected. Figure 4-3 illustrates this concept.

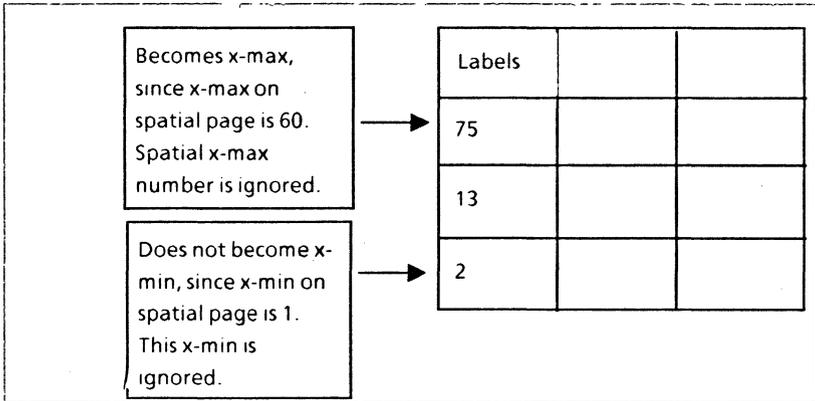


Figure 4-3 Valid numbers entered into data table

When at least one of the labels in the first column (or header row) is empty or not a valid number (text), all of the labels are treated as text. The sequence of the labels within the header row or column determines their positions on the x-axis.

Any text found in the column headings or the first column (depending upon the option selected in Data set is) is used to label the line segments of the key, which is found on the spatial property sheet.

All other elements entered into the data table specify a points to be drawn on the line chart. Elements can be positive or negative numbers. If an element is empty, no point is drawn.

In the following exercise, you enter original data into the all-data property sheet. Since two document windows will appear on the desktop at one time (the basic graphics transfer document and the practice document), you will need to resize and/or move them so both are visible.

**NOTE:** The concepts of selecting a chart, selecting portions of a chart, entering a chart into a document, adding rows and columns, and updating a chart through the property sheet or [UPDATE CHARTS] in the document auxiliary menu were discussed in detail in Chapter 2.

1. Open DDG PR 4-1.
2. Select [EDIT].
3. Open the basic graphics transfer document.
4. Copy the line chart to the graphic frame.
5. Select [CLOSE] on the basic graphic transfer document.
6. Stretch the line chart to fit the frame.
7. Select [SHOW STRUCTURE] in the document auxiliary menu.
8. Press <PROP'S>. The line chart property sheet appears.
9. Select [ALL DATA] on the display line.
10. Type: Soft Drink Survey in the Title option.  
**NOTE:** [COLUMN] is default for the Data set is and the Fill in by options.
11. Add two columns to the data table.
12. Add two rows to the data table.
13. Delete the existing information in the entire chart by pressing <NEXT> through the fields.

14. Enter the following information into the column headings:

Cola, Orange, Lemon Lime, Root Beer

15. Delete the existing information in the first column.

16. Enter the following information into the first column under Labels, beginning with White Collar and moving down the column:

White Collar, Blue Collar, College Students, High School Students

17. Enter the following information into the table (by column):

100, 150, 86, 79, 75, 89, 63, 42, 125, 52, 85, 66, 60, 76, 37, 47

Your data table should look like the one in Figure 4-4.

Labels	Cola	Orange	Lemon Lime	Root Beer
White collar	110	75	125	60
Blue collar	150	89	52	76
College students	86	63	85	37
High school students	79	42	66	47

Figure 4-4 Sample data table

18. Select [DONE].
19. Open DDG A PR 4-1. Your line chart should look like this one.

**NOTE:** If the text frames within the chart do not fully reveal the text within them, select the graphic frame and stretch it. Then select the chart, stretch it, press <PROP'S>, and select [APPLY]. The text frames should now be stretched enough to reveal text within them. If not, unjoin the chart and stretch each individual text frame. Then, join the chart again.

20. Select [CLOSE] on both documents.

**NOTE:** The basic line chart transferred from the basic graphics transfer document is a straight line-pieced graph. This can be changed to a data point graph in the spatial page of the line chart property sheet.

## Entering data through a table in the document

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A specific table in the same document as the line chart can become the source of that chart's data. The source table cannot have divided columns or repeating rows. The information is still entered through the all-data property sheet by selecting [DOCUMENT TABLE] in the Data table in option.

Once [DOCUMENT TABLE] is selected, the Table name option appears. By typing in the name of the table within the same document you wish to be the source of your data and selecting [DONE], a line chart is created, based on the data found within that table.

## Customizing the line chart

You have seen how a line chart is created by entering data into the all-data property sheet. At that point, the appearance of the line chart is determined by the system itself. Once the data has been entered, the line chart can be customized and redesigned by selecting the type of scale; the size of the scale; whether or not there will be a key; the point size, structure and form; and the line width and structure. This customizing is done on the spatial and appearance property sheets.

## Using the spatial property sheet

The line chart spatial property sheet, is used to select the type of scale, the size of the scale, the key showing the label, and the line type of each line or the point configuration for each label. Figure 4-5 illustrates the spatial property sheet.

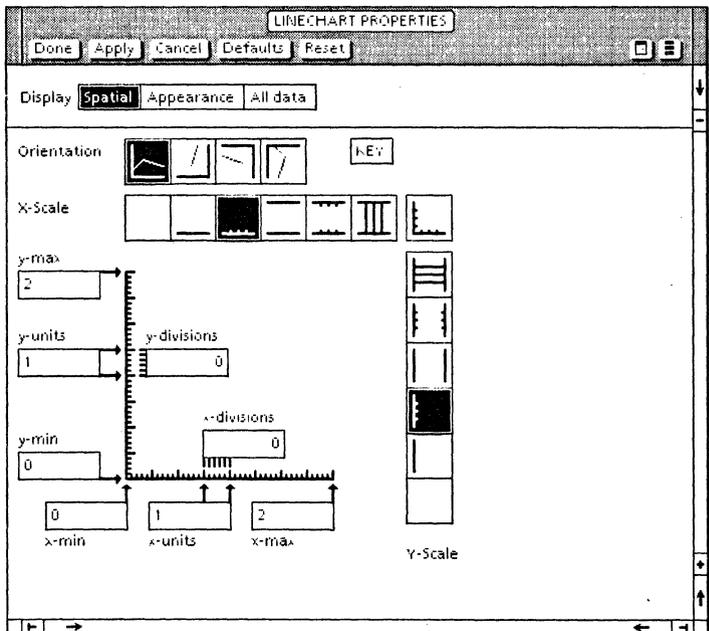


Figure 4-5 Line chart spatial property sheet

The property sheet is displayed by selecting the line chart and pressing <PROP'S>.

In the following exercise, you use the spatial property sheet to change the layout of the Soft Drink Survey line chart.

1. **Open DDG PR 4-2.**
2. **Select [EDIT].**
3. **Select [SHOW STRUCTURE] in the document auxiliary menu.**
4. **Select the line chart.**
5. **Press <PROP'S>. [SPATIAL] has already been selected on the display line.**

The Orientation option determines which rotation the graph will be displayed in. The rotations can be normal, 90, 180, or 270. The defaulted rotation is normal, or the first option.

**NOTE:** This chart is left at the normal rotation (first option).

6. **Select [KEY].**

The key option inserts a legend representing the labels and appearance of the line sets. It is automatically inserted in the top lefthand corner of the chart, but it can be moved to any position.
7. **Select the fifth option from the left for the X-Scale option.**
8. **Select the sixth option from the bottom for the Y-Scale option.**

X-Scale and Y-Scale determine the look of the x-axis and y-axis. The third option is the default look for both the X-Scale and Y-Scale.

**NOTE:** The box located in the top corner of the X-Scale and Y-Scale is the appearance box. Within this box, a small view of the chart's layout appears. As options are changed, so is the appearance of the chart within this box.

X-max, y-max, x-min, and y-min were discussed in the "Entering original data in the all-data property sheet" section. This chart will not have x-min or x-max, since the data is text, not numerical values.

9. Enter 0 into the y-min option. This sets the y-axis scale to begin at 0.
10. Enter 160 into the y-max option. This sets the y-axis maximum at 160. It is determined by the values entered into the data table.
11. Enter 10 into the y-units option. This determines the numerical labels placed along the measurement line. Y-divisions break the y-units into smaller tick marks.
12. Select [DONE].
13. Open DDG A PR 4-2. Your line chart should look like this one.

**NOTE:** If the text frames within the chart do not fully reveal the text within them, select the graphic frame and stretch it. Then select the chart, stretch it, press <PROP'S>, and select [APPLY]. The text frames should now be stretched enough to reveal text within them. If not, unjoin the chart and stretch each individual text frame. Then rejoin the chart again.

14. Select [CLOSE] on both documents.

When you develop a line chart, or any chart, it is important to remember that the chart must be large enough to accommodate all the data to be displayed. The size of any chart can be altered at any time by selecting the chart, pressing the function key corresponding to <STRETCH>, and stretching it to the desired size.

For more detailed information on the use of the spatial page of the property sheets, refer to the tab titled "Data-Driven Graphics" in the VP Series reference library.

## Using the appearance property sheet

The appearance property sheet, is used to customize the point size, structure, and form, as well as the line width and structure. This page also determines whether the line chart created will be a data point graph or a straight line-pieced graph (refer to Figure 4-6).

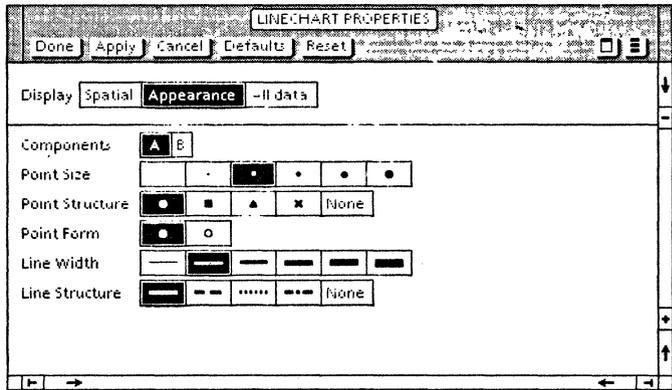


Figure 4-6 Appearance property sheet

The line chart appearance property sheet is displayed by selecting the line chart, pressing <PROP'S>, and selecting [APPEARANCE] on the display line.

In the following exercise, you use the appearance property sheet to customize the Soft Drink Survey line chart.

1. Open DDG PR 4-3.
2. Select [EDIT].
3. Select [SHOW STRUCTURE] in the document auxiliary menu.
4. Select the line chart.

5. Press <PROP'S>.
6. Select [APPEARANCE] on the display line.
7. Select [COLA] in the Components option. This is the first of your four line sets.  
 Components displays the names of your line sets. If the line sets are not labeled, the system automatically assigns them a name.
8. Select the fifth Point Size option.
9. Select the second Point Structure option.
10. Select the third Line Width option.

**NOTE:** When certain options are not selected, this means that the option was left at default (such as Point Form and Line Structure) for Cola.

11. Select the following options for the following components:

Component:	Orange	Lemon Lime	Root Beer
Point Size:	Fifth	Fifth	Fifth
Point Structure:	First	Third	Fourth
Point Form:	Second	First	First
Line Width:	Second	Second	Second
Line Structure:	Second	Third	Fourth

12. Select [DONE].
13. Open DDG A PR 4-3. Your chart should look like this one.

**NOTE:** If the text frames within the chart do not fully reveal the text within them, disjoin the chart and stretch the text frames individually.

14. Select [CLOSE] on both documents.

The chart you just created is a straight line-pieced graph. In order to create a data point graph, the option [NONE] should be selected for the Line Structure option. This eliminates the line, leaving the points graphed on the chart.

## Changing individual parts of a chart

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A newly created line chart, even after being stretched to accommodate the data, occasionally has parts that need to be moved or changed in some way. By unjoining the chart, individual parts can be selected and altered. You may have done this when working with your practice line charts.

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## Updating table-based line charts

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Any chart created in the all-data property sheet can be updated by selecting the chart, pressing <PROP'S>, and selecting [ALL DATA]. After the new data is entered, selecting [DONE] updates the chart automatically.

A chart created from data in a table found in the same document is not automatically updated if that table data is changed. In order to update the chart, you must select [UPDATE CHARTS] in the document auxiliary menu.

For detailed instructions on updating table-based line charts, refer to Chapter 2.

## Summary

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In this chapter, you studied how to:

- Use the all-data property sheet to enter original data into a line chart
- Use the spatial property sheet to change the layout for a line chart
- Use the appearance property sheet to customize width and structure of the lines, as well as point size, structure, and form

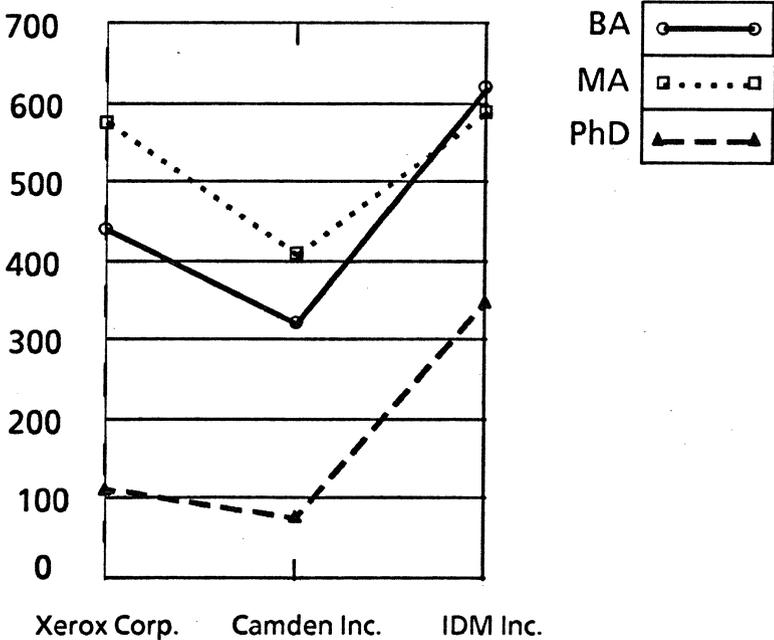
If you need more practice, complete the exercises again. To do this, use new copies of the practice documents for this chapter.

The following pages contain an optional self check exercise.

Once the self check exercise has been completed, you have completed the training for VP Data-Driven Graphics. Refer to the tab titled "VP Data-Driven Graphics" in the VP Series reference library for further information on data-driven graphics software.

## Self check 4-1

You have practiced creating line charts and customizing their appearance. Now you are ready to check your knowledge of these skills by recreating the line chart in below. Open DDG SC 4-1 and select [EDIT].



The following information should be entered into the three column headings:

BA, MA, PhD

The following information should be entered in the column under Labels:

Xerox Corp., Camden Inc., IDM Inc.

The following numerical data should be entered by column, starting with the second column:

**439, 322, 619, 576, 409, 588, 113, 78, 350**

If you need assistance with any of the procedures, turn to the next page for detailed instructions on one way to recreate this chart.

## Answers to self check 4-1

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**1. To enter and stretch a graphic frame:**

Select [EDIT].

Hold down <KEYBOARD>.

Press the function key corresponding to <SPECIAL>.

Press <A>.

Release <KEYBOARD>.

Stretch the graphic frame.

**2. To copy a line chart into the graphic frame:**

Open the basic graphics transfer document.

Select [EDIT].

Select the line chart.

Press <COPY>.

Position the pointer in the center of the graphic frame.

Click the left mouse button.

Select [CLOSE] on the basic graphics transfer document.

**3. To stretch the line chart:**

Select the line chart on the lower righthand corner.

Press the function key corresponding to <STRETCH>.

Stretch the chart to the desired size.

**4. To enter data into the all-data property sheet:**

Press <PROPS>.

Select [ALL DATA] in the display line.

Select [COLUMN] in Data set is option.

Select [PROPERTY SHEET] in the Data table in option.

Select [COLUMN] in Fill in by option.

Position the pointer in the last field of the last column.

Press <NEXT>. (A new column is added.)

Select a row using the select -adjust method.

Press <COPY>.

Click the pointer on the bottom line of the last row.

Your data table should look like the one below

Labels			

Enter the necessary information in the column headings and data table fields.

Select [APPLY].

**5. To change the layout of the chart:**

Select [KEY].

Select the fifth X-Scale option.

Select the sixth option from the bottom in the Y-Scale option.

Enter 0 in the y-min option.  
Enter 625 in the y-max option.  
Enter 100 in the y-units option.  
Select [APPLY].

**6. To change the appearance of the chart:**

Select [APPEARANCE].  
Select BA in the Components option.  
Select the fifth Point Size option.  
Select the second Point Form option.  
Select MA in the Components option.  
Select the fifth Point Size option.  
Select the second Point Structure option.  
Select the second Point Form option.  
Select the third Line Structure option.  
Select PhD in the Components option.  
Select the fifth Point Size option.  
Select the third Point Structure option.  
Select the second Line Structure option.  
Select [DONE].

**7. To rearrange individual parts of the line chart:**

Select the line chart.  
Press the function key corresponding to <JOIN>.  
Select the desired parts and move them to the desired location or stretch them to the desired size.  
Press the function key corresponding to <JOIN>.