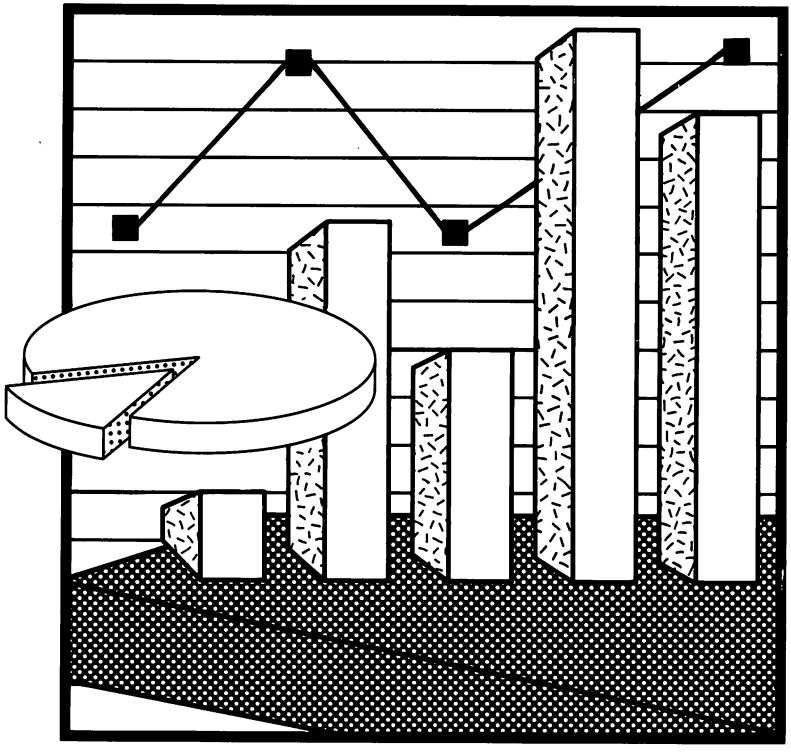
GEOCHART™

FOR USE WITH GEOS™ and GEOS 128™



For Commodore 64 and 128 Computers

Berkeley Softworks

geoChart User's Manual Erratum

For Commodore 128 Users

geoChart will operate under GEOS 128 as well as versions of GEOS that run in 64 mode. If you use GEOS 128, switch to 40-column mode before opening geoChart. geoChart will not operate in 80-column mode.

You can select 40-column mode by using the following procedure:

1: On the deskTop, select **switch 40/80** from the **geos** menu.

2: When the screen goes dark, press the RGB button or the composite switch on your monitor as follows:

- If you have an RGB button, press this button so that it is in CVBS mode.
- If you have a composite switch, press this switch so that it is in COMP mode.

After you press the RGB button or the composite switch, the screen will appear in 40-column mode.

Part No.: 14-0303-0111

GEOCHART

User's Manual

Berkeley Softworks
2150 Shattuck Ave.
Berkeley, CA 94704

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Customer Service
2150 Shattuck Avenue
Berkeley, CA 94704

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Copyright Information

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How to Get Help

If you ever encounter any problems with geoChart, there are several steps you should take before trying to contact Customer Service. First, re-read the pertinent chapter(s) in the manual. With a graphic interface it is often tempting to ignore the manual and forge ahead with using the program. However, if the program does not perform in a manner you expect, reading the manual may help clarify any confusion. If the chapter does not answer your question directly, try looking in the appendices, table of contents, or index for help. Should you come across any unfamiliar terms, refer to the glossary on page 94.

QuantumLink

The first, fastest, and recommended way to obtain information about and help with GEOS and its follow-on applications is through the Q-Link telecommunications network. Q-Link is an on-line service network designed for Commodore users.

Berkeley Softworks provides Customer Service message boards, along with a Programming message board and other useful services, in the Commodore Software Showcase section of Q-Link. Through these message boards, you can receive the most timely help and information from Berkeley Softworks employees and thousands of GEOS users. In addition, you will have access to programs and products from Berkeley Softworks that are offered through Q-Link, many of them free of charge.

Customer Service

The second way to obtain help is to contact Customer Service at Berkeley Softworks, either by phone or letter. If you write, *please include your telephone number.* All inquiries are answered in order received. The Berkeley Softworks customer service telephone number and address are as follows:

Call:
Customer Service: (415) 644-0890, 9 a.m.–5 p.m. Pacific Time

Or write:
Berkeley Softworks
Commodore Customer Service Division
2150 Shattuck Avenue
Berkeley, CA 94704

Welcome to geoChart

geoChart enables you to expand the usefulness of the geoCalc, geoWrite, geoFile, and the Note Pad desk accessory. With geoChart, you can translate a set of values from these four sources into a chart format.

This manual is divided into eight chapters:

1. **Getting Started** describes how to install geoChart to your System disk.

2. **Learning geoChart** gives an overview of how geoChart works. A tutorial is included in this chapter.

3. **Preparing a Text Scrap** describes how to create charting information in geoCalc, geoWrite, geoFile, or the Note Pad desk accessory. The Note Pad, which is included on your geoChart program disk, has been upgraded to enable you to create text scraps for use with geoChart. Once you have prepared the charting data in the correct manner, you can copy it to a geoChart document.

4. **Opening geoChart** explains how prepare work disks for geoChart and how to create or open a geoChart document.

5. **Importing Data** describes what happens when you first open geoChart and how to use Data Mode to import sections of a text scrap.

6. **Formatting Charts** describes the many ways you can alter the appearance of a chart once you have imported a text scrap.

7. **File Management** explains basic file management procedures: copying a chart to another document, ways to save or reverse changes, printing a geoChart document, and exiting geoChart.

8. **Appendices** contains a glossary, a summary of geoChart's menu options, illustrations of the various chart types, and a listing of error messages. Also included are instructions for using the GEOS demonstration program found on Side 2 of the geoChart program disk.

Suggested Order of Reading

Before you try to use geoChart, we suggest you use the chapters in this manual in the following manner:

Chapter 1, "Getting Started"	to see what hardware and software you need in order to use geoChart, and to install and make backup copies of the geoChart program disk. Before you can use geoChart, you *must* install it to your System disk.
Chapter 2, "Learning geoChart"	to get an overall idea on how geoChart works. It is most important that you read "How geoChart Works" before you attempt to use geoChart. A tutorial is provided in Chapter 2 so that you can get some hands-on experience with geoChart.

Once you have completed Chapters 1 and 2, you will be ready to use the instructions in remaining chapters to create your own charts. You may also wish to try out the GEOS demonstration program on Side 2 of the geoChart program disk. The instructions for using this demo are found in Appendix E: Demo Program. Enjoy!

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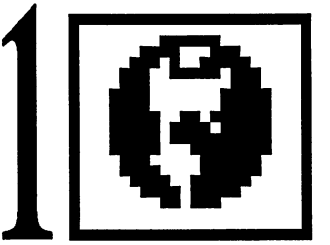


Getting Started

Welcome to geoChart! Use the procedures in this chapter to get started with geoChart. This chapter describes the basic equipment you need to run geoChart and how to install geoChart to your System disk. Also included is a brief description of work disks.

Unfamiliar terms are defined in Appendix A: Glossary (page 94). geoChart's command menu options are summarized in Appendix B: Menu Listing (page 98). Error messages are explained in Appendix D: Error Messages (page 106).

What You Need to Run geoChart

Required Equipment

- a Commodore 64 or 64c computer, or a Commodore 128 or 128D computer (running in 64 mode).
- a compatible monitor or TV. The best monitor to use is a Commodore 1084, 1702, 1802, 1902, or 1902A monitor. A television set can be used, but the resolution is higher with a Commodore monitor.
- an input device (joystick, mouse, Koala Pad, or Inkwell light pen).
- one 5 1/4 inch disk drive (1541 or 1571).
- blank 5 1/4 inch diskettes (for backup and work disks).
- this product package, which contains one program disk and the *geoChart User's Manual.*
- any version of GEOS that operates in 64 mode (1.2, 1.3, and 2.0).

Optional Equipment

- any version of geoCalc, geoWrite, or geoFile.
- a RAM Expansion Unit (REU). With an REU, the operating speed of geoChart is greatly increased. In addition, you will be able to dedicate more disk space to geoChart and any other GEOS program you are using.
- additional disk drives (1541, 1571, and, if you are using GEOS 2.0, a 1581).
- a GEOS supported printer. Refer to your *GEOS User's Manual* or *GEOS 2.0 User's Manual* for how to set up a printer for use with GEOS and for a list of supported printers.

Installing geoChart

Installing geoChart means "linking" it to your System disk. Once geoChart is linked to your System disk, you will be able to open geoChart after booting from your System disk.

You will need to install geoChart only once. The installation procedure takes only a few minutes. After you install geoChart, you should copy it to a backup disk. Also copy geoChart to work disks for day to day use.

Step 1: Boot GEOS

In order to install and use geoChart, you will need to boot GEOS in 64 mode if you are using a Commodore 128 or 128D. It is recommended that you use the same boot disk you used to install your other GEOS applications.

To boot GEOS:

1: Set up your Commodore, disk drive(s), monitor, and input device according to the directions found in their instruction manuals. If you are using a RAM Expansion Unit, carefully insert it into the proper slot of your Commodore, as explained in the REU's instruction guide.

2: Turn on the monitor and disk drive switches.

NOTE Never boot GEOS with more than one disk drive turned on. Doing so will prevent GEOS from properly booting.

3: Insert the System disk (label side up) into the disk drive and close the disk drive door.

4: **64 and 64c users:** turn on your computer keyboard.

128 and 128D users: hold down the C= key and turn on your computer keyboard.

5: The Commodore 64 BASIC V2 screen will appear. Type **LOAD"GEOS",8,1** and press RETURN. The System deskTop will appear shortly.

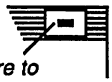
NOTE If you are using a Parallel Printer Interface (PPI), enter the following command to load GEOS:
OPEN4,25:PRINT#4:CLOSE#4:LOAD"GEOS",8,1. Press RETURN. The System deskTop will appear shortly.

Step 2: Install geoChart

After you have booted GEOS, the System deskTop will appear. Now you are ready to install geoChart to your System disk. You will not need to install the Note Pad desk accessory, which is also supplied on your geoChart program disk.

To install geoChart:

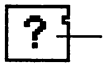
1: Close the System disk by clicking on its close icon (or pressing C). The disk note pad will go blank and a question mark will appear in the disk drive icon representing the disk drive.



Click here to close the System disk.

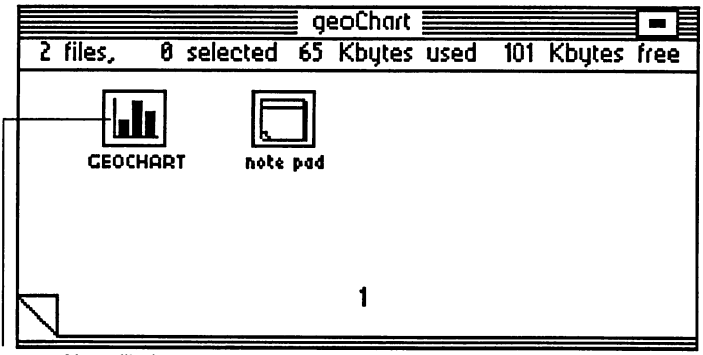
2: Remove the System disk from the disk drive and insert the geoChart program disk.

3: Click on the disk drive icon at the right side of the screen to activate the geoChart program disk.



Click here to open the geoChart disk.

The geoChart disk note pad will appear as follows:



the geoChart file icon *(This deskTop is version 2.0.)*

4: Open geoChart by double-clicking on its file icon.

NOTE An alternative is to click once on the geoChart file icon to highlight it, then select **open** from the **file** menu.

5: After you open geoChart for the first time, it will become installed to the System disk you used to boot GEOS with in Step 1, "Boot GEOS." A dialog box saying "geoChart installed" will appear. Click **OK** to return to the deskTop.

NOTE If you copy geoChart to a work disk before installing it and try to open geoChart from that disk, an error message saying "Cannot install geoChart to this disk" will appear. You will need to install geoChart from its original application disk first, and then transfer copies of the installed geoChart to your work disks.

Step 3: Make a Backup Copy of Your Program Disk

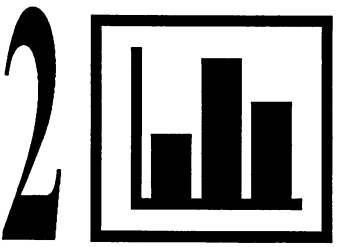
After you have installed geoChart, you will be ready to make a backup disk. You should always make a backup copy of any master disk, in case it is damaged in the future. If necessary, refer to "Copying a Disk," page 3-9, of your *GEOS User's Manual*. If you are using GEOS 2.0, refer to the *GEOS 2.0 User's Manual*: "Copying a Disk Using One Disk Drive" on page 71 or "Copying a Disk Using More than One Disk Drive" on page 72.

Work Disks

Once you have installed geoChart and made a backup copy of the program disk, you will be ready to use geoChart and the Note Pad desk accessory. The easiest way to use geoChart (and any other GEOS application) is to prepare work disks, which are disks you use on a day to day basis. The kind of geoChart work disk you create depends entirely on your needs: the kind of project you are working on, your disk drive set-up, and how much space you have on your disks. Suggestions for how you can set up work disks for geoChart are found under "geoChart and Work Disks" on page 42.

Now Go to Chapter 2, "Learning geoChart"

Now that you have installed geoChart, you will be ready to learn how to use geoChart's features. Go to Chapter 2, "Learning geoChart."



Learning geoChart

This chapter contains an overview on how geoChart works as well as a tutorial to give you some hands-on experience using geoChart. Read "How geoChart Works" on the next page to get an idea of what you need to do to create a geoChart document. Afterwards, try the tutorial on page 14.

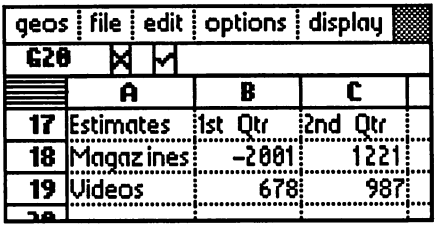
If you come across any unfamiliar terms, refer to Appendix A: Glossary (page 94). The command menu options are summarized in Appendix B: Menu Listing (page 98). Error messages are explained in Appendix D: Error Messages (page 106).

How geoChart Works

The geoChart application enables you to create a one-page chart using a variety of styles and chart types. The actual size of a chart is approximately 3 1/2 by 4 inches, depending on the resolution of your printer. The chart's components come from two application sources: one source is either geoCalc, geoWrite, geoFile, or the Note Pad desk accessory; the other source is geoChart itself. The data you wish to chart comes from either geoCalc, geoWrite, geoFile, or the Note Pad. geoChart will translate the data to a chart format.

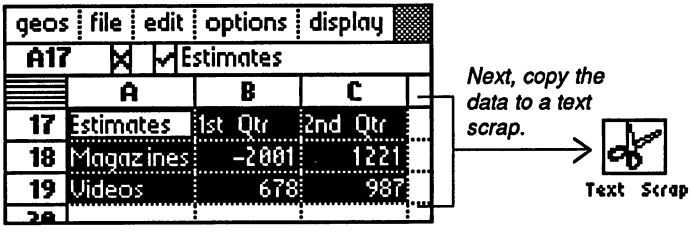
Read (but don't try) the following steps to get a general idea of how to use geoChart. This section covers a lot of information, so don't feel you have to learn everything all at once just by reading this section. You can refer to it later on if needed. When you try the tutorial on page 14, you will be able to get some hands-on experience with using geoChart.

1. First, you need to create the basic charting data — values, labels, and chart title — in the Note Pad, geoCalc, geoWrite, or geoFile. You need not worry about other components of the chart; these will be handled by geoChart later on.



First, you create the basic charting data.

2. Next, you highlight the data you wish to have charted, then copy it to a text scrap.

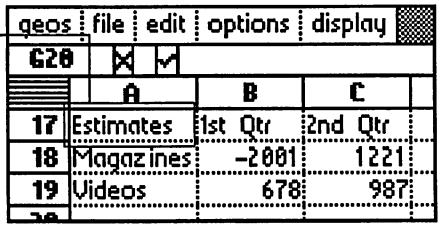


3. Then you paste the text scrap into a geoChart document.

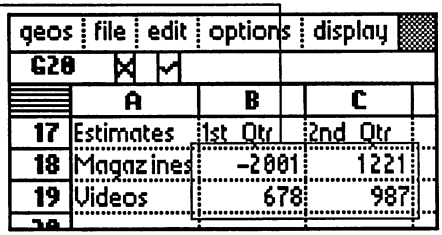
However, the text scrap won't be pasted into the geoChart document right away. This is because geoChart first divides the data within the text scrap into sections, then gives you the option of selecting which sections you want placed into a chart.

Here is how the text scrap data is divided into sections:

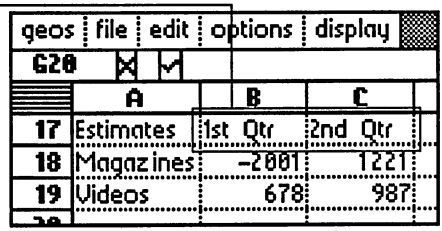
a. **the chart's title**
Once you paste a text scrap into a chart, you can change or delete the chart's title if needed. The text scrap data need not contain a chart title.



b. **values**
Values are arranged in columns and rows. You can select an entire column or row (up to 20 values) to be placed in the chart, or you can select part of a column or row if desired. Each set of values you select is called called a **data series.** You can place up to four data series in each chart, with each data series containing up to 20 values. The text scrap data must contain values in order to be valid.

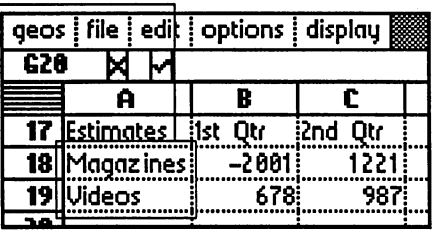


c. **series names**
Each data series is headed by a series name. A series name need not be restricted to labels at the head of a column, though; you can designate the row labels (Magazines and Videos) as series names instead of 1st Qtr and 2nd Qtr. Once you paste the text scrap into a chart, you can



change or delete the series names if desired. The text scrap data need not contain series names.

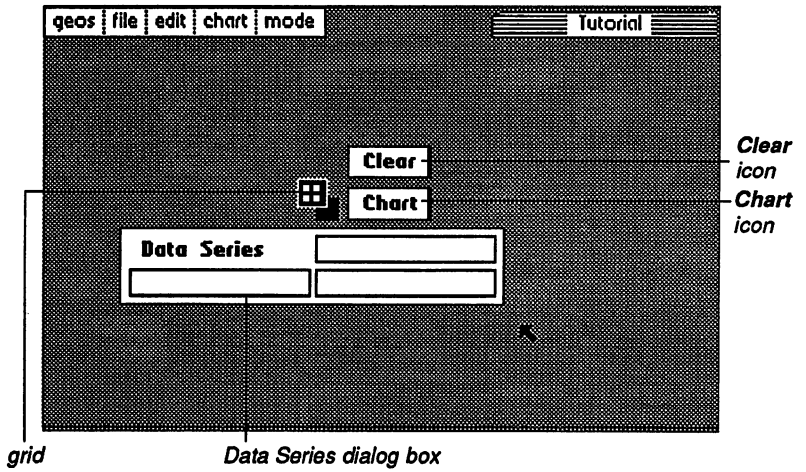
d. **category names**



A category name is used as a basis for measurement for each of its corresponding values. In the illustration at the right, the category name Magazines is used as a basis of measurement for the values -2001 and 1221. You need not restrict the category names as row labels; if desired, you can have geoChart read the column labels (1st Qtr and 2nd Qtr) as category names instead of Magazines and Videos. Once you paste in the text scrap, you can change or delete the category names. The text scrap data need not contain category names.

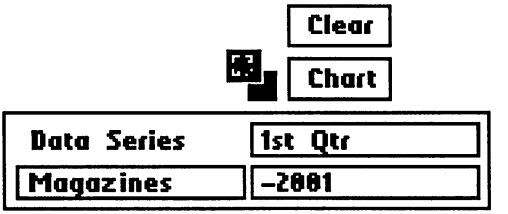
In summary, the text scrap data *must* contain values. The other components, the chart's title, series names, and category names, are optional.

4. Once you know the components of a text scrap, it is easy to learn how to select these components to be placed into a chart. Pasting in a text scrap will activate Data Mode, which you use to select the sections you want to be placed in the chart:



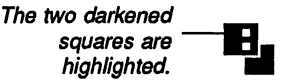
The main icon you use in Data Mode is the **grid**. Each square in the grid represents a value in the text scrap:

To view values in the text scrap, move the pointer over the grid:



The Data Series dialog box will display each value and its corresponding labels. For example, in the illustration above, the top left square, where the pointer is positioned, represents the value -2001. That value's corresponding label names, 1st Qtr and Magazines, will be included in the chart as well, even though there are no grid squares to represent them.

To select a section of the text scrap, you need to highlight a corresponding section of the grid. If you wish to place the left column of values into the chart, you will need to highlight the left column of grid squares. Selecting a set of values is easy: all you need to do is highlight the appropriate squares:



If you make a mistake, you can undo your selections by clicking on the **Clear** icon.

5. After you make your selections in the grid, you can exit Data Mode by clicking on the **Chart** icon. At any time, you can reenter Data Mode to select a different set of data series, if desired.

6. After you exit Data Mode, you enter Chart Mode, which displays your charted data. Here is how charting data is placed in a chart:

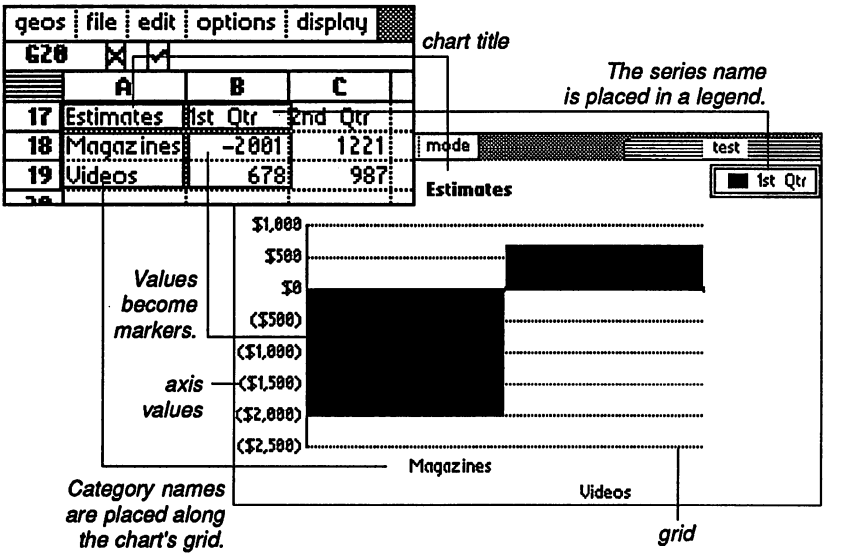


Chart Mode enables you to change the appearance of a chart in a variety of ways:

- **Chart style** You have nine chart styles from which to choose: area, bar, column, pie, point, line, scatter point, scatter line, and unibar. (See Appendix C: Chart Samples, page 100, for how the various chart styles appear.)
- **Text** If desired, you can add or change text (e.g., the labels) in a number of ways. Not only can you change the basic formatting such as font, style, point size, and content, you can determine whether the text is displayed as well.
- **Markers** Markers represent the values you import into a chart. You can change the patterns used for markers. If the marker is a filled shape, as in a column or pie chart, you can select from 32 different patterns. (These patterns are the same patterns used in geoPaint.) If the marker is a point, you can select from four different styles.

- **Axis values** Axis values are automatically input by geoChart and provide a basis for measuring the values you pasted into the chart. You can include negative values, if needed, depending on the chart type currently displayed. In addition, you can change the format (e.g., to percentages or dollar amounts) of axis values.
- **Background grid** For charts that contain a background grid, you can change the grid to one of two styles, or you can remove its display entirely.

At any time, you can reenter Data Mode to select a different set of data series, if desired.

After You've Created a Chart

After you have created the exact type of chart you need, you can copy it to another document. geoChart's file management operations, which enable you to update, recover, rename, and print a document, work in much the same manner as those of other GEOS applications. As with other GEOS applications, you can use desk accessories with geoChart.

Now that you have an idea of how geoChart works, try the tutorial on the next page.

The Tutorial

Use the following tutorial to become more familiar with geoChart. Before you begin this tutorial, make sure you have installed geoChart according to the instructions in Chapter 1, "Getting Started." You should also have read "How geoChart Works" on page 8 at the beginning of this chapter.

In this tutorial, you use the Note Pad to create a text scrap, which you will paste into geoChart. Once you have pasted the text scrap into the tutorial document, you will try out a few of geoChart's features.

Step 1: Prepare a Work Disk

Never use an original application disk to create documents! Instead, use a work disk, which is more convenient to use. For this tutorial, the work disk will be a copy of the original program disk.

The following instructions describe how to prepare the work disk using one disk drive, one disk drive and a RAM Expansion Unit, and two disk drives.

To prepare the work disk using one disk drive:

1: Format a blank 5 1/4 inch disk. Name the disk **TUTORIAL**. After the disk has been formatted, remove it from the disk drive.

   NOTE If necessary, refer to "Formatting a Disk" on page 3-9 of the *GEOS User's Manual.* If you are using GEOS 2.0, refer to page 75 of the *GEOS 2.0 User's Manual.*

2: Insert your System disk into the disk drive and activate the System disk by clicking on its disk drive icon.

3: Use the **DISK COPY** program to copy the contents of the geoChart program disk to the TUTORIAL work disk. When you open **DISK COPY**, simply follow the directions on the screen.

   NOTE If necessary, refer to "Copying a Disk" on page 3-9 of the *GEOS User's Manual.* If you are using GEOS 2.0, refer to "Copying a Disk Using One Disk Drive" on page 70 of the *GEOS 2.0 User's Manual.*

4: When the System deskTop appears, copy the DESKTOP file onto the TUTORIAL work disk.

NOTE If necessary, refer to "Copying a File to Another Disk" on page 3-4 of the *GEOS User's Manual.* If you are using GEOS 2.0, refer to "Copying a File to Another Disk" on page 66 of the *GEOS 2.0 User's Manual.*

To prepare a work disk using one disk drive and a RAM Expansion Unit:

1: Format a blank 5 1/4 inch disk. Name the disk **TUTORIAL.** After the disk has been formatted, remove it from the disk drive.

NOTE If necessary, refer to "Formatting a Disk" on page 3-9 of the *GEOS User's Manual.* If you are using GEOS 2.0, refer to page 75 of the *GEOS 2.0 User's Manual.*

2: Insert the geoChart program disk into the disk drive and activate the program disk by clicking on its disk drive icon.

3: Copy the geoChart program disk contents onto the RAM Expansion Unit.

NOTE If necessary, refer to "Copying a Disk" on page 3-9 of the *GEOS User's Manual.* If you are using GEOS 2.0, refer to "To copy if the disk drive formats are the same" under "Copying a Disk Using More Than One Disk Drive" on page 73 of the *GEOS 2.0 User's Manual.*

4: Close the geoChart program disk and remove it from the disk drive.

5: Insert the System disk into the disk drive and activate the disk.

6: Copy the DESKTOP file to the RAM Expansion Unit.

NOTE If necessary, refer to "Copying a File to Another Disk" on page 3-4 of the *GEOS User's Manual.* If you are using GEOS 2.0, refer to "Copying a File to Another Disk" on page 66 of the *GEOS 2.0 User's Manual.*

7: Close the System disk and remove it from the disk drive.

8: Insert the TUTORIAL work disk into the disk drive and activate the disk by clicking on its disk drive icon.

9: Open the RAM Expansion Unit disk drive and copy the contents of the REU onto the TUTORIAL work disk.

To prepare a work disk using more than one disk drive:

1: Format a blank 5 1/4 inch disk. Name the disk **TUTORIAL**. After the disk has been formatted, remove it from the disk drive.

NOTE If necessary, refer to "Formatting a Disk" on page 3-9 of the *GEOS User's Manual*. If you are using GEOS 2.0, refer to page 75 of the *GEOS 2.0 User's Manual*.

2: Insert the geoChart program disk into Drive A and activate the program disk by clicking on its disk drive icon.

3: Insert the TUTORIAL work disk into Drive B and activate the TUTORIAL disk by clicking on its disk drive icon.

4: Open the geoChart program disk and copy its contents onto the TUTORIAL work disk.

NOTE If necessary, refer to "Copying a Disk" on page 3-9 of the *GEOS User's Manual*. If you are using GEOS 2.0, refer to "Copying a Disk Using More Than One Disk Drive" on page 72 of the *GEOS 2.0 User's Manual*.

5: Close the geoChart program disk and remove it from Drive B.

6: Insert the System disk into Drive A and activate the disk.

7: When the System deskTop appears, copy the DESKTOP file onto the TUTORIAL work disk.

NOTE If necessary, refer to "Copying a File to Another Disk" on page 3-4 of the *GEOS User's Manual*. If you are using GEOS 2.0, refer to "Copying a File to Another Disk" on page 66 of the *GEOS 2.0 User's Manual*.

Step 2: Open geoChart

Once you have prepared the TUTORIAL work disk, you will be ready to create a geoChart document.

To create a new geoChart document:

1: Open geoChart by double-clicking on its file icon.

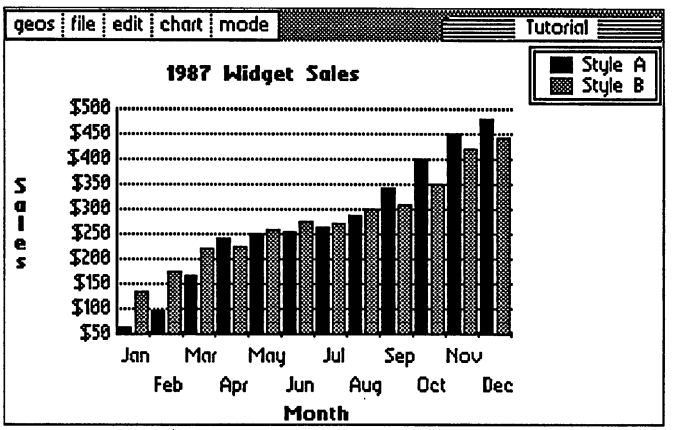
Look for this file icon.

NOTE An alternative is to click once on the geoChart file icon so that it is highlighted, then select **open** from the **file** menu.

2: The Create/Open/Quit dialog box will enable you to create a new document, open an existing document, or quit to the deskTop. Click on **Create new document.**

3: The next dialog box will ask you to name the document. Enter the name **Tutorial** and press RETURN.

4: Whenever you create a new geoChart document, the first screen will display the geoChart Generic Chart. The purpose of this chart is to give you a rough idea of how a chart will appear. Its values do not reflect the values in the text scrap you are about to paste into the document.



the Generic Chart

Step 3: Open the Note Pad and Enter Some Data

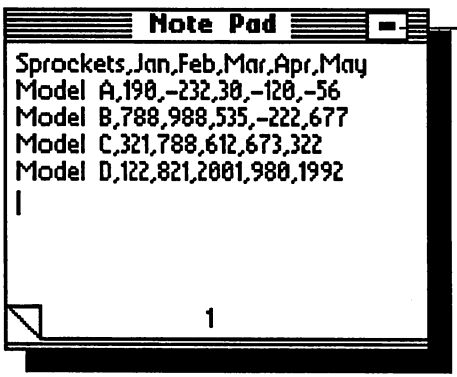
The Note Pad desk accessory supplied on your geoChart program disk has been upgraded to enable you to copy its contents into a text scrap, which then can be placed into a geoChart document.

To use the Note Pad:

1: Select **note pad** from the **geos** menu. The Note Pad will appear over the geoChart generic chart.

2: Type the following data into the Note Pad, exactly as follows:

Be sure to include commas and a RETURN *after each line.*



close icon

In order for charting data to be used, it must be set up in a certain manner:

- **Sprockets** is the chart's title: chart titles are always placed at the upper left corner.

- **Jan, Feb, Mar, Apr,** and **May** are column labels. Each column label heads a vertical line of values. For example, **Jan** heads the values **190, 788, 321,** and **122.** By default, geoChart will translate column labels as series names; in the chart these will be placed in a legend. If desired, you can change this default. In this tutorial, you will have geoChart place the column labels below the chart's grid.

- **Model A, Model B, Model C,** and **Model D** are row labels. As with the column labels, each row label heads a horizontal line of values. For example, **Model A** heads **190, -232, 30, -120,**and **-56.**

By default, geoChart will translate row labels as category names; in the chart these will be placed below the charting grid. As with column names, you can change the default; in this tutorial you will have geoChart place the row labels in a legend.

- **Values** are always placed directly after the labels, as in the example in the illustration on the previous page.

When using the Note Pad to create charting data, separate each data item with a comma, and enter a RETURN after each line. Do not include spaces between each data item.

3: Once you have entered all of the charting data in the correct manner, you will be ready to copy it into a text scrap. To copy a Note Pad page into a text scrap, hold down the C= key and press C.

4: Now exit the Note Pad by clicking on the **close** icon in the upper right corner. The Note Pad will disappear and you will be returned to the geoChart Tutorial document.

Click here to close the Note Pad.

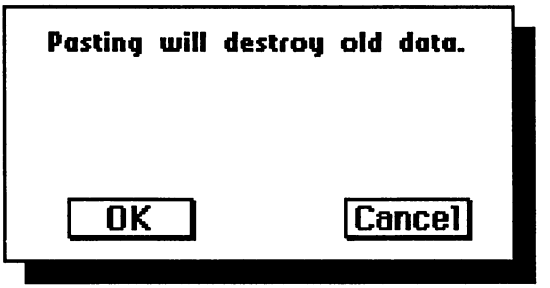
Step 4: Now Paste in the Text Scrap and Select the Charting Data

In geoChart, you paste in a text scrap in much the same manner as you would in any other GEOS application. However, the text scrap's data will be redefined by geoChart.

To paste the text scrap into the Tutorial document and select the charting data:

1: Select **paste** from the **edit** menu (or press C= T).

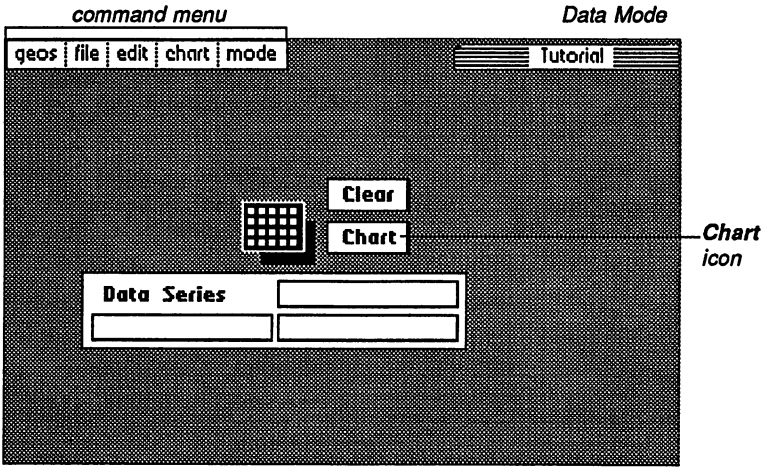
2: The following dialog box will appear:



The new text scrap data will overwrite any current charting data in the document.

This dialog box will appear whenever you are about to paste a new text scrap into the document. It will let you know that the text scrap data you are about to paste into the document will overwrite the current text scrap data. The data that creates the geoChart Generic Chart will be overwritten by your text scrap data. Click **OK** to continue.

3: Data Mode, which lets you select specific rows or columns to be charted, will appear:



First you need to use the grid to select which set of values in the text scrap you wish to chart. The text scrap is composed of four rows and five columns of values. Each set you select is called a data series. You can chart up to four data series at a time. If you want to place the first four columns of data into a chart, you can do so by clicking on the **Chart** icon (or selecting **chart mode** from the **mode** menu). However,

for this tutorial, you need to compare the values in Row 1 with the values in Row 4.

Sprockets,Jan,Feb,Mar,Apr,May — *These labels will be placed in the chart.*

Model A,190,-232,30,-120,-56 — *Here is the first data series.*

Model B,788,988,535,-222,677

Model C,321,788,612,673,322

Model D,122,821,2001,980,1992 — *Here is the second data series.*

4: To select the first data series (Row 1), move the pointer so that it is positioned over the top left square in the grid.

Move the pointer here.

Each square in the grid represents a value in the text scrap. Note the Data Series dialog box below the grid: as you move the pointer over a square, the value, its category name, and its series name are displayed in the three Data Series windows.

The values and labels appear when the pointer is over the grid.

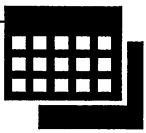
Clear

Chart

Data Series	Jan
Model A	190

5: To select Row 1, make sure the pointer is positioned over the top left square, click, and hold down the input device button. While holding down the button, move the pointer to the end of Row 1. Each square will become highlighted.

the first data series



Here are the actual components of that data series. — Model A,190,-232,30,-120,-56

NOTE If you make a mistake, click on the **Clear** icon. This will undo your selection and let you start over again.

6: Release the input device button when the entire row is highlighted. You have just selected the first data series.

7: Now move the pointer down to the fourth row and click anywhere on that row. As with Row 1, the entire row will become selected. You have just selected the second data series.

Step 5: Return to Chart Mode and Change the Chart's Format

After you have selected the data series in Data Mode, you can have geo-Chart translate your selections to a charting format.

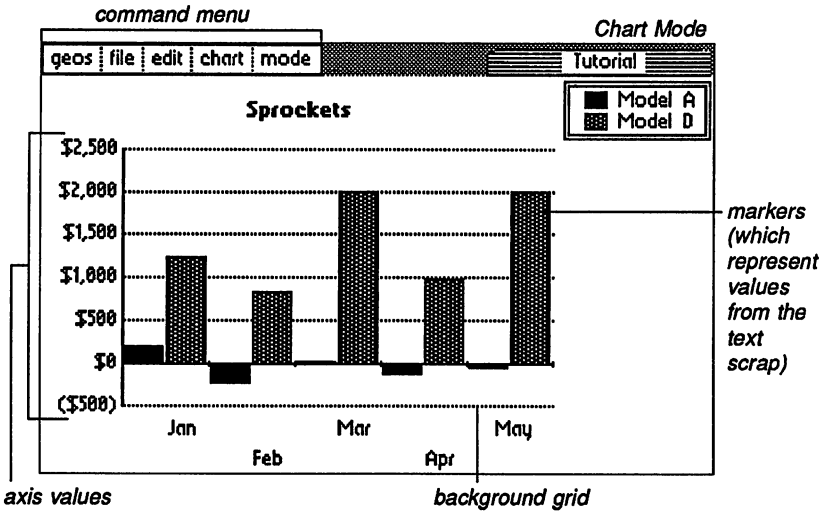
1: To exit Data Mode, use one of the following methods:

- Click on the **Chart** icon.
- Select **chart mode** from the **mode** menu.

In either case, a "Reading Data" message will appear and you will be returned to Chart Mode.

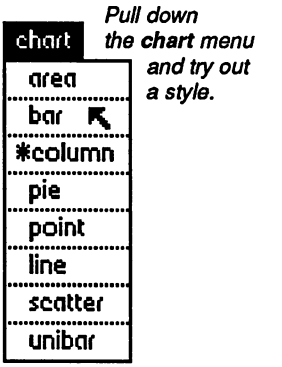
2: The two data series you selected will be translated into a charting format. The Generic Chart will be replaced by a column chart with your text scrap data charted.

NOTE At any time, you can reenter Data Mode and reselect a different set of data series. Switch between the two modes as often as you need by selecting the mode you want from the **mode** menu.



Use the command menu in Chart Mode to change the appearance of your chart. In this mode, you can add or change text, change the patterns of the markers, alter the axis value range and format, and vary the appearance of the background grid.

3: Now that you have imported the text scrap, try out some of the chart styles: open the **chart** menu and click on a chart type. The current chart type will have an asterisk (*) before its name.



*Pull down the **chart** menu and try out a style.*

NOTE See Appendix C: Chart Samples (page 100) for how the various chart styles appear.

The chart type you select will be displayed, with the charting information reformatted. Experiment with the chart's format as much as you like. If necessary, refer to Chapter 6, "Formatting Charts" (page 65) or to the index if you wish to try out specific menu options.

Step 6: Exit geoChart

Once you have created a chart, you can copy it to any GEOS application document that accepts photo scraps. If you wish to try copying the chart to another document, please refer to "Copying a geoChart Document Elsewhere" on page 86 first. The copying procedure for geoChart is slightly different from the copying procedure used for other GEOS applications.

Exit geoChart in the same manner you would exit any GEOS application. You can exit to create or open a new geoChart document, or you can exit directly to the deskTop. In either case, once you exit a document, its contents will be saved to disk. For this tutorial, you will exit to the deskTop.

To exit the geoChart document:

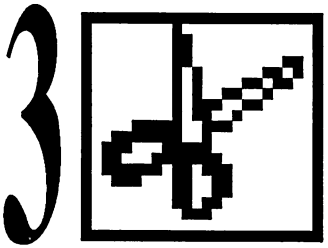
- Select **quit** from the **file** menu.

Step 7: Look for the New File Icon

the Tutorial file icon

After you create a document with geoChart (or any other GEOS application), GEOS will create a document icon for the file on the deskTop. After you exit geoChart, look closely at the deskTop. You will see a new file icon: it resembles the geoChart file icon and has the name **Tutorial** underneath. If you wish to open **Tutorial** again, you can do so by double-clicking on its icon, or by highlighting the file icon and selecting **open** from the **file** menu. This will open geoChart directly to the data contained within the **Tutorial** document.

Congratulations! You have just completed the geoChart tutorial. Now that you have had some hands-on experience using geoChart, you are ready to create your own charts.



Preparing a Text Scrap

In order to create a chart in geoChart, first you will need to create the chart's data — its values and labels — in geoCalc, geoWrite, geoFile, or the Note Pad desk accessory. Once you have created this basic charting data, you can copy it into a text scrap, then copy the text scrap contents into a geoChart document. After the charting data has been placed in a geoChart document, you can chart specific sections of the data or change the chart's appearance in a variety of ways.

This chapter explains how you can create charting data using geoCalc, geoWrite, geoFile, and the Note Pad desk accessory.

Unfamiliar terms are defined in Appendix A: Glossary (page 94).

What Goes in a Text Scrap?

Any GEOS application that supports the use of text scraps can be used to create a geoChart document. The most commonly used applications are geoCalc, geoWrite, and geoFile. The version of the Note Pad desk accessory that is supplied on your geoChart program disk has been enhanced to create text scraps.

How Data Must Be Created

In geoChart, data is organized into series. Each data series contains a set of categories, each having a corresponding value. The document you create can contain the chart's title, column labels, row labels, and values.

The data you create must be set up in the following manner:

Place the chart's title in the upper left corner.

Place the column labels at the top.

Widgets	Jan	Feb	Mar
TurboWidg	123	456	789
SuperWidg	321	654	987
WidgXL	213	546	879

Place the row labels along the left side.

Place the values immediately after the labels.

Each label-value intersection is called a **data point**. In the above example, the data point for TurboWidg in January is 123. Jan, Feb, and Mar are column labels. TurboWidg, SuperWidg, and WidgXL are row labels.

You will note that the charting information is arranged in rows (e.g., Widgets, TurboWidg, SuperWidg, WidgXL, and corresponding values) or columns (Widgets, Jan, Feb, Mar, and corresponding values).

The Chart's Title

Any non-numeric data entered in the upper left corner of the text scrap area (e.g., the name "Widgets") will be interpreted by geoChart as the chart's

title. If you wish, you need not include a chart title for your chart. The procedure for omitting data from a source document is described under each appliction description in this chapter.

If you wish to give the chart a numeric title, you can do so by changing the chart's name after the text scrap has been pasted into a geoChart document. (The procedure for editing the text is described under "Changing Text for All Charts" on page 71 in Chapter 6, "Formatting Charts.") In the geoChart document, the chart's title will appear above the chart's grid.

Row and Column Labels

geoChart will recognize a data item as a label as long as it is non-numeric. For example, entering **12345** instead of **TurboWidg** will cause geoChart to interpret 12345 as a value, not a label. If you wish to enter numeric labels, you can do so by editing the text after you have placed it into a chart. (The procedure for editing the text is described under "Changing Text for All Charts" on page 71 in Chapter 6, "Formatting Charts.")

As with the chart's title, you need not include row or column labels in the text scrap. If you wish to leave out these labels, but want a chart title, leave the appropriate areas blank:

```
Chart Title
          123    456    789
          321    654    987
          213    546    879
```

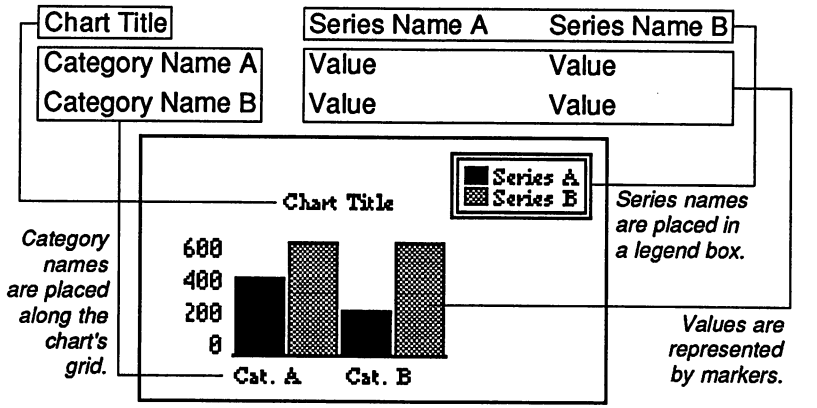
If you plan to include row and column labels in your chart, they *must* be placed either along the top row or the left column.

How Row and Column Labels Are Interpreted by geoChart

Depending on how you select data to be charted (in geoChart's Data Mode), the row and column labels will be placed either alongside the chart's grid or in a legend box. In most charts, row labels are by default read as **category names** and will be placed along the chart's grid. In pie and unibar charts, however, category names are placed in the legend box. Categories are used as a basis of measurement for their corresponding values.

Column labels are by default read as **series names** and will be placed in the chart's legend.

By default, here is how geoChart will interpret a chart's labels:



After you have pasted the text scrap into geoChart, you can easily change the default label reading. For example, if you wish a label in the Series Name A position to be read as a category name (i.e., placed along the chart's grid), you can do so by using Data Mode's grid to select the series horizontally.

In other words, you need not exit geoChart and reformat the original charting data if you wish to change the placement of labels. geoChart will do it for you.

Values

You do not need to have the same number of values in each row. A blank value position will be ignored by geoChart. However, the values to the right of the blank value will be shifted to the left:

123	456	789
321		987
213	546	879

Here are the text scrap values with one blank value.

123	456	789
321	987	
213	546	879

Here is how geoChart reads them.

In Data Mode, the grid will display a small white box over the grid cell representing the missing value. If you want the values to remain aligned with their corresponding labels, enter a 0 (zero) into the blank space.

geoChart will interpret the values as markers on the chart's grid. In the geoChart document, there will be no marker to represent blank values.

Maximum Text Scrap Size

You can import a text scrap up to 50 columns and 25 rows of values. If your charting data includes labels (i.e., the chart title, category names, and series names), the maximum text scrap size is 51 columns and 26 rows of data.

Creating the Data in geoCalc

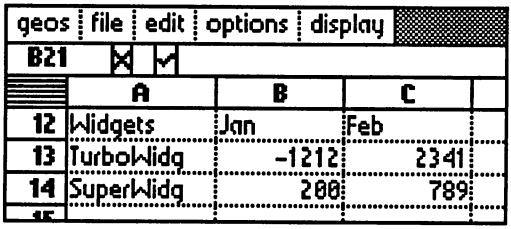
You can use any version of geoCalc or geoCalc 128 to create a text scrap for use with geoChart.

To create a geoCalc text scrap:

1: In the geoCalc document, enter the chart's title, category names, series names, and values in the following format:

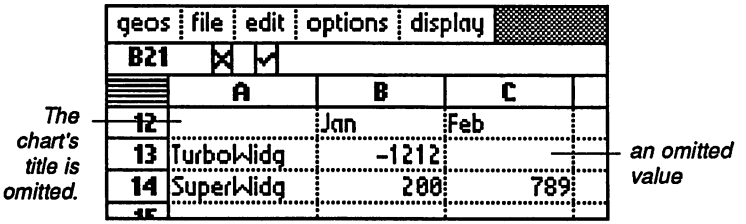
Chart Title	Series Name A	Series Name B
Category Name A	Value	Value
Category Name B	Value	Value

For example, a geoCalc document could appear as follows:



When entering charting data in a geoCalc document, enter each data item into a cell, using the same format as above. You can vary the alignment of data items, if desired. However, make sure the values are in "general" format. (You can change the values in geoCalc to a general format by highlighting the values, selecting **format** from the **display** menu, clicking on **general** in the dialog box, then clicking **OK**.)

If you do not wish to include a label or a specific value, just leave the appropriate cells blank:



You need not include blank rows or columns when you highlight data for the text scrap. If you want the values aligned with their corresponding labels, enter a zero (0) into the blank space. In the geoChart document, there will not be a marker or label for the omitted data.

2: Once you have entered the data you need, highlight the labels and values you wish to place in the chart.

3: Select **copy text scrap** from the **options** menu to place the information into a text scrap.

4: Exit geoCalc by selecting **quit** from the **file** menu.

5: Copy the text scrap to the work disk containing the geoChart application file.

NOTE Remember that you can only have one text scrap per work disk. If you wish to store more than one text scrap on a work disk, you can do so by copying each text scrap to a text album. Text albums are created by using the Text Manager desk accessory. The Text Manager is included in the GEOS, GEOS 128, and GEOS 2.0 packages.

You are now ready to open geoChart. Go to Chapter 4, "Opening geoChart" (page 41).

Creating the Data in geoWrite

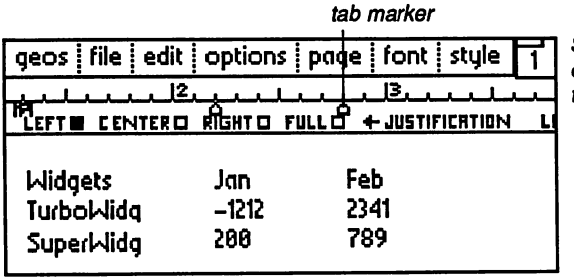
You can use any version of geoWrite to create a text scrap for use with geoChart.

To create a geoWrite text scrap:

1: In the geoWrite document, enter the chart's title, category names, series names, and values in the following format:

Chart Title	Series Name A	Series Name B
Category Name A	Value	Value
Category Name B	Value	Value

For example, a geoWrite document could appear as follows:



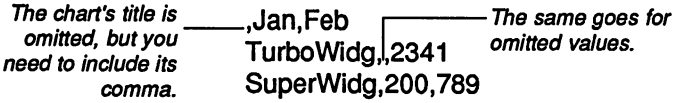
When entering charting data in a geoWrite document, use either tabs or commas to separate the data items, and press RETURN at the end of each row. You can use both tabs and commas in the same document.

If you plan to use commas, enter the text in the following format:

```
Widgets,Jan,Feb
TurboWidg,-1212,2341
SuperWidg,200,789
```

Do not enter spaces between each comma and data item, and press RETURN at the end of each line.

If you do not wish to include a label or a specific value, just leave the appropriate area blank:



If you want the values aligned with their corresponding labels, enter a zero (0) into the blank space. You need not include an omitted row of data when you highlight data for the text scrap. In the geoChart document, there will not be a marker or label for the omitted data.

2: Once you have entered the data you need, highlight the information you wish to place in the chart.

3: Select **copy** from the **edit** menu (or press [Commodore] [C]) to place the information into a text scrap.

4: Exit geoWrite by selecting **quit** from the **file** menu.

5: Copy the text scrap to the work disk containing the geoChart application file.

NOTE Remember that you can only have one text scrap per work disk. If you wish to store more than one text scrap on a work disk, copy each text scrap to a text album. Text albums are created by using the Text Manager desk accessory. The Text Manager is included in the GEOS, GEOS 128, and GEOS 2.0 packages.

You are now ready to open geoChart. Go to Chapter 4, "Opening geoChart" (page 41).

Creating the Data in geoFile

You can use any version of geoFile or geoFile 128 to create a text scrap for use with geoChart. The format for entering labels and values in a geoFile document is slightly different from the procedure used for geoCalc or geoWrite. The labels will be placed differently, and each category will have its own record. Even though each category will have its own geoFile record, all of the category-records will be placed in one text scrap.

To create a geoFile text scrap:

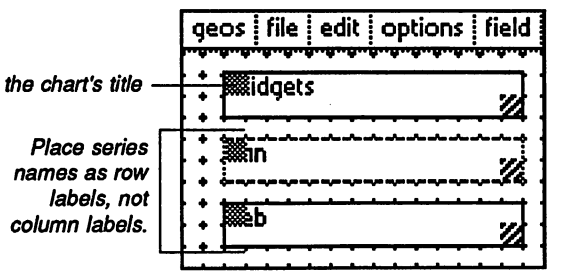
1: In the geoFile document, use Form Design Mode to set up the chart's form design in the following format:

Chart Title
Series Name A
Series Name B

Enter Form Design Mode by selecting **form design** from the **options** menu.

If desired, you can use a sublayout to set up the charting data in specific fields.

For example, the charting data fields could appear as follows:



2: Once you have created the form design, use Data Entry Mode to enter the category names and values. Enter Data Entry Mode by selecting **data entry** from the **options** menu.

Here is how the first category/record should be set up:

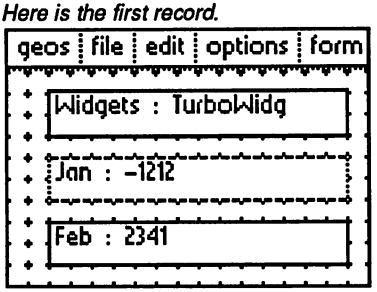
Chart Title : Category Name A
Series Name A : Value
Series Name B : Value

Here is how the second category/record should be set up:

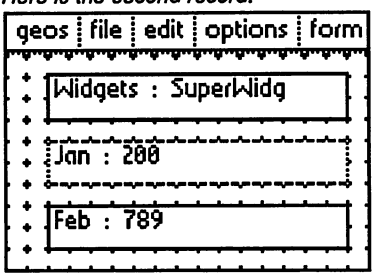
Chart Title : Category Name B
Series Name A : Value
Series Name B : Value

For example, your records, which contain the category names and values, could appear as follows:

Here is the first record.

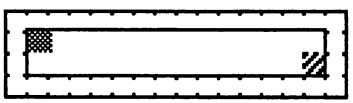


Here is the second record.

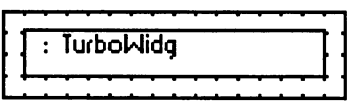


You can omit the chart's title and series names (in geoFile, the row names), but you cannot omit the category names or any values. If you wish to omit a value, enter a 0 (zero) in its place. You can delete category names in the geoChart document.

For example, suppose you wish to exclude the chart's title. Here is how you would omit it:



In Form Design Mode, leave the chart title field blank.



In Data Entry Mode, here is how the same field will appear.

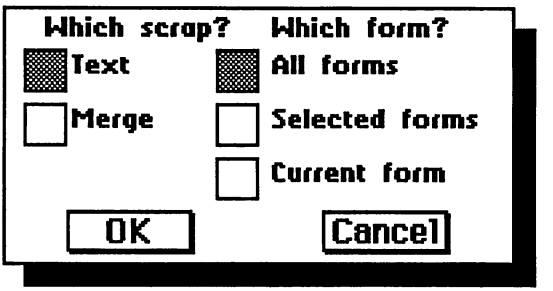
Remember that in the geoChart document, blank fields will be discounted; there will not be a marker to represent them.

3: You are now ready to create a text scrap. To select the data entry fields you wish to include in the chart, click on each field.

NOTE Click on each field in the order you wish it to appear in the document, e.g., top to bottom.

4: Go to the next record and click on each data entry field to be included in the chart.

5: After you have clicked on the necessary fields from each record, select **build scrap** from the **file** menu. The following dialog box will appear:



6: Click on the **Text** option, then click on **All forms** (to chart all the category/records in the file) or **Current form** (to chart the current category/record).

7: Once you have made the appropriate selections, click on **OK** to place the charting information into a text scrap.

8: Exit geoFile by selecting **quit** from the **file** menu.

9: Copy the text scrap to the work disk containing the geoChart application file.

NOTE Remember that you can only have one text scrap per work disk. If you wish to store more than one text scrap on a work disk, copy each text scrap to a text album. Text albums are created by using the Text Manager desk accessory. The Text Manager is found in the GEOS, GEOS 128, and GEOS 2.0 packages.

You are now ready to open geoChart. Go to Chapter 4, "Opening geoChart" (page 41).

Creating the Data in the Note Pad Desk Accessory

The Note Pad desk accessory supplied on your geoChart program disk has been upgraded to enable you to copy its contents to a text scrap. In addition, you can add or delete pages, move the text cursor, and use keyboard commands to go to another Note Pad page. This version of the Note Pad is the same version supplied with GEOS 2.0. Do not attempt to use earlier versions of the Note Pad to create text scrap data, since these versions do not enable you to create text scraps.

The Note Pad is particularly useful with geoChart in that you can create the charting data in the Note Pad while a geoChart document is displayed on the screen. If you need to change the data, you can gain access to the Note Pad right away, since it is listed in the **geos** menu along with any other desk accessories you may have copied to your work disk. Use the Note Pad if you wish to chart small amounts of data; i.e., data that does not exceed a Note Pad page. However, the Note Pad holds up to 127 pages, so you can store up to 127 pages of separate charting data at a time.

Before you use the Note Pad, be sure to copy it to the work disk containing the geoChart application file. If the Note Pad is on that disk, you can take full advantage of its easy accessibility when you are using geoChart.

To create a Note Pad text scrap:

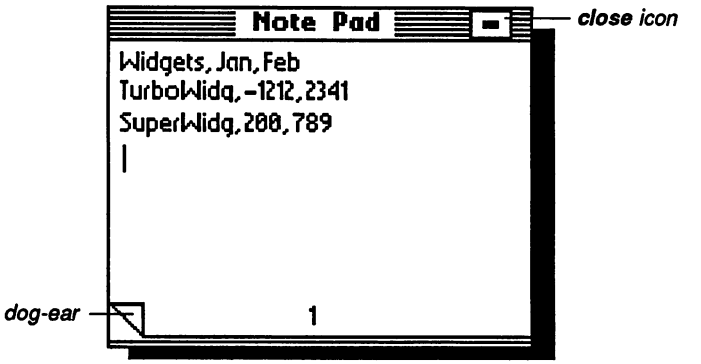
1: Open the Note Pad by selecting **note pad** from the **geos** menu. The Note Pad will appear on the screen over the current application.

   NOTE If the deskTop is displayed, another method of opening the Note Pad is to double-click on its file icon (or highlight its file icon and select **open** from the **file** menu). You cannot open the Note Pad by trying to open the Notes data file icon. This data file is used to store the Note Pad entries.

2: Enter the chart's title, category names, series names, and values in the following format:

```
Chart Title,Series Name A,Series Name B
Category Name A,Value,Value
Category Name B,Value,Value
```

Use commas to separate data items and be sure to enter a RETURN after the last value in each line. For example, the Note Pad could appear as follows:



If a lengthy row of data wraps around to the next line, geoChart will still interpret it as one row of data, just as long as you enter a RETURN after the last value.

If you wish to omit labels or values you can do so by not entering them. If you wish to omit a label or a specific value, set up the charting data as follows:

Here the chart's title is omitted, but you still need to include its comma.

```
,Series Name A,Series Name B
Category Name A,,Value
Category Name B,Value,Value
```

The same goes for omitted values.

If you want the values aligned with their corresponding labels, enter a zero (0) in the blank space. In the geoChart document, there will not be a marker or label for the omitted data.

3: Once you have entered the data you need, you can place it into a text scrap. To do so, hold down ⌘ and press C.

4: Exit the Note Pad by clicking on its **close** icon. If the geoChart document is displayed, you can paste in the Note Pad text scrap right away. See Chapter 4, "Opening geoChart" (page 41).

Click here to close the Note Pad.

Changing Note Pad Entries

1: Click on the desired insertion point within an open Note Pad. The text cursor will move to that location.

2: To delete characters, press INST/DEL to backspace over the characters. To insert text, simply begin typing.

Adding a Note Pad Page

- Press C A. The new page, which will be inserted after the current page, will be displayed.

Deleting a Note Pad Page

- Press C X. The current Note Pad page will be moved into a text scrap and the page itself will be automatically deleted.

Moving to Another Note Pad Page

- To go to pages 1–9, hold down C and press the page number.

- Use the dog-ear at the lower left corner to move to the next page or the previous page:

Click here to go to the next page.

Click here to go to the previous page.

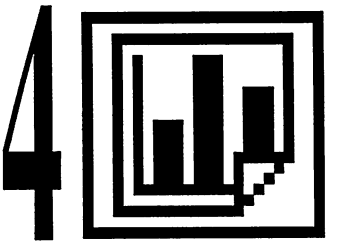
Deleting the Entire Note Pad Contents

1: Exit the current application or desk accessory and return to the deskTop.

2: Look for the file icon entitled Notes (*not* note pad).

Delete this file icon.

3: Delete the Notes file from the deskTop by dropping its ghost icon into the waste basket. This will remove all existing notes and give you a fresh Note Pad.



Opening geoChart

Once you have installed geoChart and prepared work disks, you can begin using geoChart. This chapter describes how to begin using geoChart. Once you have completed this chapter, you will know how to prepare a geoChart work disk and how to open geoChart.

Unfamiliar terms are defined in Appendix A: Glossary (page 94). The command menu options are summarized in Appendix B: Menu Listing (page 98). Error messages are explained in Appendix D: Error Messages (page 106).

Before You Try to Use geoChart

Is geoChart Installed?

- Make sure you have installed geoChart as explained in the instructions under "Installing geoChart" in Chapter 1, "Getting Started." Do not attempt to use geoChart or copy it to a work disk before you install it to your system.

geoChart and Work Disks

The following instructions describe how to set up work disks for using geoChart, depending on your preferences and the disk drive set-up you have. If you are setting up the data in geoCalc, geoWrite, or geoFile, the easiest method for creating a geoChart work disk is to do the following:

1. Create the geoCalc, geoWrite, or geoFile documents on the work disks you usually use for those applications.

2. Copy the document's charting data into a text scrap.

3. Copy the text scrap to a geoChart work disk.

If you are using the Note Pad desk accessory to create charting data, its text scrap will automatically be placed on the correct disk as long as the Note Pad is on the geoChart application work disk.

If you have one disk drive:

- Copy geoChart, the text scrap (from the geoCalc, geoWrite, or geoFile document), geoChart documents, the printer driver, font files, the Note Pad desk accessory and other desk accessories to one disk. If you have room, add geoCalc, geoWrite, or geoFile, and the DESKTOP file (from your System disk).

If you have one disk drive and a RAM Expansion Unit (REU):

- Copy geoChart, the text scrap, the printer driver, font files, Note Pad, and other desk accessories to the REU. If you have room, add geoCalc, geoWrite, or geoFile, and the DESKTOP file (from your System disk).

- Use the disk drive for the disk containing your geoChart documents.

If you have more than one disk drive:

- Copy geoChart, the printer driver, text scrap, font files, the Note Pad desk accessory and other desk accessories, and the DESKTOP file from your System disk.

- Copy your geoChart documents to another disk.

The Note Pad Desk Accessory

Do not use earlier versions of the Note Pad to create text scraps, since they are not designed to do so. Only use the version supplied on your geoChart program disk. This version is also available with GEOS 2.0.

The DESKTOP File

If your application work disk has room, it is recommended that you copy the DESKTOP file onto that disk. If not, when you exit the document, a message will instruct you to insert a disk containing the version of the DESKTOP file that was in use when you booted GEOS. If this happens, you will need to remove the current disk and insert a disk containing the DESKTOP (e.g., your System disk). If you wish to avoid this procedure, simply copy the DESKTOP file to your work disk. When you exit a document, you will be returned directly to the deskTop.

The Text Manager and Photo Manager Desk Accessories

If you plan to use geoCalc, geoWrite, or geoFile to create text scraps, you may wish to keep copies of the Text Manager and Photo Manager desk accessories on your work disks. These two desk accessories enable you to store text and photo scraps permanently into special files called text albums or photo albums. In this manner, you will be able to store more than one text or photo scrap on a disk. The Text Manager and Photo Manager desk accessories are included in GEOS, GEOS 128, and GEOS 2.0.

The Note Pad desk accessory holds up to 127 pages of data. Because of its easy accessibility to geoChart, you can use the Note Pad to store more than one set of charting data at a time. However, one set of charting data cannot exceed more than one page of the Note Pad.

Special Fonts

geoChart will accept most GEOS-supported fonts, but not megafonts. It is recommended that you use smaller fonts so that geoChart will be able to devote more room to the chart's grid area. Remember that the **font** menu only displays the first six font files on the disk. If you wish to use a font not displayed (e.g., the seventh font file on the disk), rearrange the font files on the deskTop.

GEOS 2.0

If you are using GEOS 2.0, you may be using two different disk drive types (e.g., a 1541 and a 1571). If this is the case, you will need to add the CONFIGURE 2.0 file (from the System disk) to any work disk containing the DESKTOP 2.0 file. If you have a RAM Expansion Unit, however, you need not copy the CONFIGURE file to the work disk containing the DESKTOP file.

General Steps to Create a geoChart Document

The overall procedure for creating a chart using geoChart and geoCalc, geoWrite, geoFile, or the Note Pad entails the following steps.

1. First, you create the basic charting information (labels and values) in a source document (geoCalc, geoWrite, geoFile, or the Note Pad). Copy the information into a text scrap. The instructions for creating the text scrap are covered in Chapter 3, "Preparing a Text Scrap" (page 25).

2. Next, if you are using geoCalc, geoWrite, or geoFile, you copy the text scrap to the work disk containing the geoChart application file.

3. After you have copied the text scrap to your geoChart work disk, you can open geoChart. The procedures for doing so are covered in "Entering geoChart" (page 47).

4. Next, you paste the text scrap into the geoChart document by selecting **paste** from the **edit** menu (or pressing [C=] [T]).

5. After you have pasted the text scrap into the geoChart document, geoChart will enter Data Mode. Data Mode enables you to select which parts of the data you want placed in the chart. You can do one of two things:

   - Click on the **Chart** icon (or select **chart mode** from the **mode** menu). geoChart will designate the first four columns in the grid as data series. Chart Mode will be automatically activated.

   - Use the grid to select specific rows or columns of data to chart, then click on the **Chart** icon (or select **chart mode** from the **mode** menu). Your selections will be charted, and Chart Mode will be activated.

   NOTE The instructions for entering Data Mode and selecting data series are found in Chapter 5, "Importing Data" (page 51).

6. After you enter Chart Mode, you can change the chart's appearance in a variety of ways. For example, you have nine chart styles from which to choose. In addition, you can change the axis range, text, or marker styles.

   NOTE The procedures for changing the appearance of a chart are covered in Chapter 6, "Formatting Charts" (page 65).

7. After you have created a chart, you can copy it to another GEOS application document. Note that the procedure for copying a geoChart document to a photo scrap differs slightly from how most GEOS application documents are copied to photo scraps. These instructions are in "Copying a geoChart Document Elsewhere" (page 86).

Entering geoChart

Once you have prepared a text scrap, you will be ready to import the data into a geoChart document. This section describes how to create or open a geoChart document.

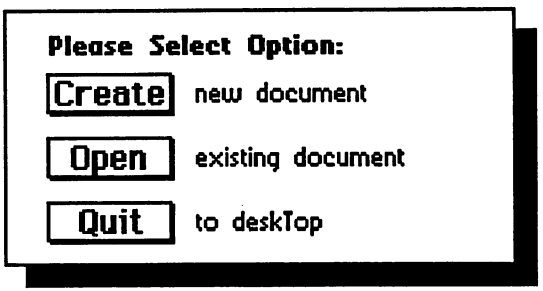
Entering geoChart from the deskTop

From the deskTop, there are two ways to enter geoChart:

- Double-click on the geoChart application icon.
- Click once on the geoChart icon so that it is highlighted, then select **open** from the **file** menu.

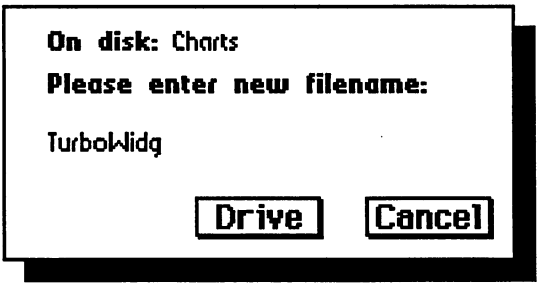
  NOTE If you are using GEOS 2.0, you can highlight the geoChart file icon and press Commodore Z to open geoChart.

In either case, geoChart will load and display a dialog box on the screen. It will contain three options: **Create new document, Open existing document,** and **Quit to deskTop**. Click on one.



Creating a New Document

If you select **Create new document**, a second dialog box will appear, displaying the name of the currently open disk and asking you to enter a new file name. You have the option of creating the new chart on the current disk, on a disk in the other disk drive, or on another disk entirely. Make sure that the text scrap you need is on the same disk as the geoChart application.



Create a document in either drive.

To create a document on the currently open disk:

- Type in a name for your geoChart document and press RETURN.

To create a new document on a disk in the other active disk drive:

1: Click on **Drive.**

2: Type in a name for your geoChart document and press RETURN.

To create a new document on a different disk in the other active disk drive:

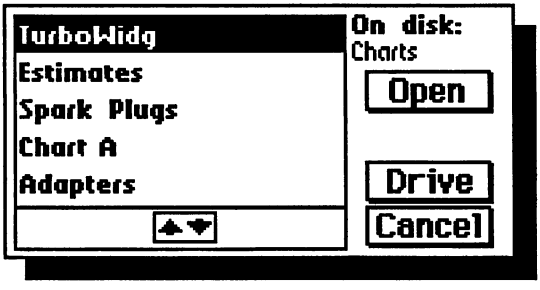
1: Click on **Drive.** When the **Disk** icon appears, click on **Disk.**

2: A dialog box will ask you to "Insert new disk into disk drive." Remove the disk from the disk drive and insert the disk you need.

3: Type in a name for your geoChart document and press RETURN.

Opening a Document

If you select **Open existing document,** a second dialog box will appear, displaying the name of the currently open disk and a list of the first five geoChart documents on that disk. If there are more than five geoChart documents on the disk, click on the down scrolling arrow to view the rest of the document names. You have the option of opening a geoChart document on the currently active disk, on a disk in the other disk drive, or on another disk entirely. Make sure that the text scrap you need is on the same disk as the geoChart application.



Open a document in either drive.

To open a document on the currently open disk:

- Click on the name of the document you need, then click on **Open.**

To open a document on a disk in the other active disk drive:

1: Click on **Drive.** The dialog box will display the names of the geoChart documents on the disk in the other disk drive.

2: Click on the name of the document you need, then click on **Open.**

To open a new document on a different disk in the other active disk drive:

1: Click on **Drive.** When the **Disk** icon appears, click on **Disk.**

2: A dialog box will ask you to "Insert new disk into disk drive." Remove the disk from the disk drive and insert the disk you need. The dialog box will display the names of the geoChart documents on that disk.

3: Click on the name of the document you need, then click on **Open.**

The first 15 geoChart documents can be displayed in the Open Existing Document dialog box window. It is unlikely you will have more than 15 documents on a single disk. If you do, you will need to rearrange the file icons on the deskTop if you wish to view their names in the Open Existing Document dialog box window. Note that you can open an existing document directly from the deskTop by double-clicking on the document file icon (regardless of the file icon's location on the disk).

Quitting to the deskTop

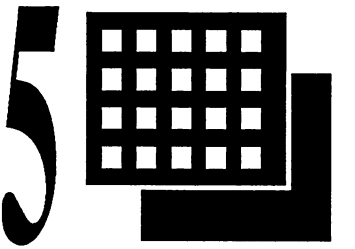
- The third option in the Create/Open/Quit dialog box is **Quit to desk-Top**. Click on **Quit to deskTop** to exit geoChart and return to the deskTop.

Opening an Existing Document from the deskTop

Once you have created a document, its file icon will appear on the deskTop. You can open it the same way you open geoChart or any other application, using one of the following methods:

a geoChart document file icon

- Double-click on the document file icon.
- Click once on the document file icon so that it is highlighted, then select **open** from the **file** menu.



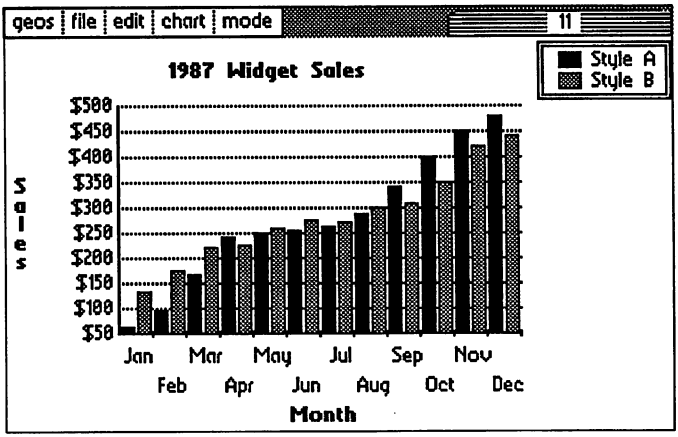
Importing Data

Once you have created a text scrap and opened geoChart, you will be ready to import the text scrap into a geoChart document. To do so, you will need to use Data Mode. This mode enables you to define which sections of the text scrap you wish to place in the chart. This chapter describes how to import the text scrap and use Data Mode.

Unfamiliar terms are defined in Appendix A: Glossary (page 94). The command menu options are summarized in Appendix B: Menu Listing (page 98). Error messages are explained in Appendix D: Error Messages (page 106).

Once You Open geoChart

When you create a new geoChart document, the Generic Chart will appear:



This GenericChart is designed to give you a general idea of how a chart is set up. Once you paste in a text scrap, the Generic Chart will no longer exist. A new chart containing your text scrap data will replace the Generic Chart.

Use the command menu in the upper left corner to change the charting information and alter the appearance of a chart. The **geos** menu displays the desk accessories on the application work disk. The **file** menu options let you perform basic file management operations, such as renaming, updating, and exiting a document. **Edit** will enable you to copy and paste photo and text scraps and reformat the chart's appearance. The **chart** menu options will change the type of chart used (pie, area, bar, and so on). The **mode** menu enables you to switch between data mode and chart mode, the modes used to select charting information and change the appearance of a chart.

In the command menu, menu options in *italics* are inactive, depending on the mode you are using. Active menu options appear in regular text. If you are using Data Mode, the active menu options are as follows:

- geos menu **geoChart info** and any desk accessories you may have copied to that disk.

- file menu **close, rename,** and **quit.**

- mode menu **chart mode.**

If you are using Chart Mode, the type of chart you are using will also determine whether menu options are active or inactive. When using area, bar, column, point, line, and scatter charts, the only inactive menu option is **chart mode** in the **mode** menu. When using pie or unibar charts, the **edit** menu's **change range, change marker, change grid,** and **change format** options are inactive as well as **chart mode** in the **mode** menu.

Entering Data Mode

Data Mode enables you to select sections of data from the source document (such as a spreadsheet) to be charted in the geoChart document. There are two ways to enter Data Mode. Pasting a text scrap will automatically select Data Mode. If the document already contains data from a text scrap, you can enter Data Mode by using the command menu.

Method 1: Paste in a Text Scrap

While in Data Mode, paste the text scrap into the geoChart document in the same manner as you would paste a text scrap into any other GEOS application document.

To paste in a text scrap:

1: In the geoChart document, select **paste** from the **edit** menu (or press Commodore T).

2: A dialog box will warn you that "Pasting will destroy old data." Click on **OK** to continue or **Cancel** to reverse the operation.

NOTE If you click **OK**, the text scrap you paste into the document will overwrite any existing text scrap charting data.

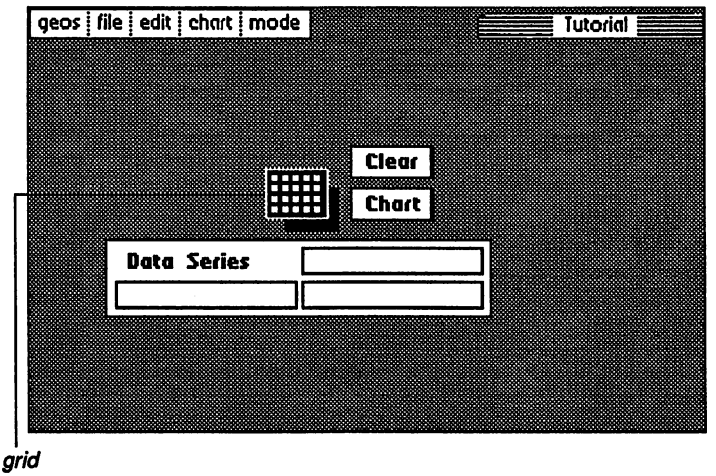
Method 2: Use the Command Menu

If the document already contains the text scrap data you need, you can enter Data Mode at any time.

To use the command menu:

- Select **data mode** from the **mode** menu.

The Data Mode screen will appear as follows:



Data Mode is simple to use. You can use it to chart data in a variety of ways. The components of the Data Mode screen are as follows:

- **grid** Each square in the grid represents a corresponding value in the text scrap. Highlight cells in the grid to select sections of data from the text scrap. The procedure for using the grid is described under "Selecting Data with the Data Mode Grid" on page 61.

- **Data Series** As you move the pointer over the grid, each value and its corresponding category name and series name will appear in the Data Series dialog box. If the pointer is not positioned over the grid, the Data Series dialog box will be empty, as in the illustration above.

- **Clear** Click on the **Clear** icon to undo grid cell selections.

- **Chart** Click on the **Chart** icon to translate your grid cell selections to a charting format. If you don't select any data to chart, the first four columns of 20 values will be charted. Clicking on **Chart** will exit Data Mode and activate Chart Mode.

What the Data Mode Grid Does

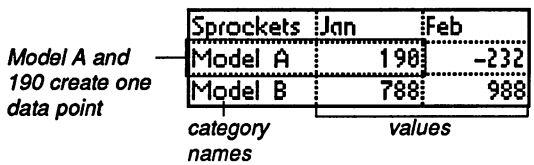
The grid enables you to select data series that you want to chart from the text scrap data. The grid represents the text scrap you pasted into the geoChart document. Its size will vary, depending on how large the text scrap is. The grid can be as large as 25 rows by 50 columns of cells. Each cell in the grid represents a value in the text scrap. Labels are not represented by actual cells in the grid, but they *are* included in the chart when you select values. They will also be displayed in the Data Series dialog box. When you position the pointer over a particular cell, the value, its category name, and its series name will appear in the Data Series dialog box below the grid.

The procedures for using the grid to select data series depend on whether you plan to chart your data in a non-scatter chart or a scatter chart. The main difference is that a data point, which is one value intersection in a data series, is interpreted differently by non-scatter and scatter charts. In a non-scatter chart, one row or column of grid cells will represent one data series. In a scatter chart, one data series will be represented by two rows or columns of grid cells.

The following sections, "The Grid and Non-Scatter Charts" and "The Grid and Scatter Charts" (page 59) describe how the placement of values and labels are determined by grid cell selections.

The Grid and Non-Scatter Charts

Non-scatter charts are area, bar, column, line, point, pie, and unibar charts. In a non-scatter chart one data point is represented by a category/value pair:

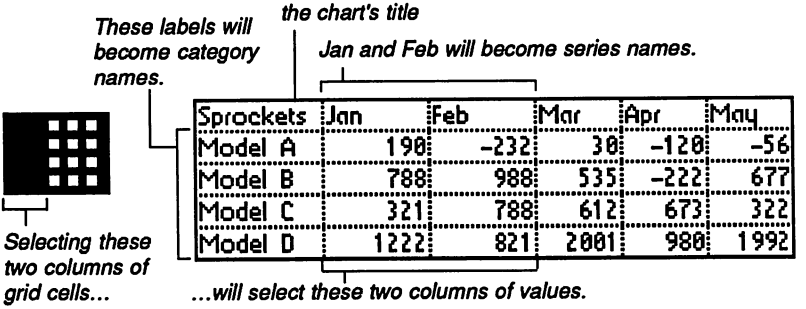


A non-scatter chart will use the category names as a basis of measurement for the values in the charted data series. In the chart, categories are placed on the X axis; values are placed on the Y axis.

One data series is represented by one row or column of highlighted grid cells. The direction of grid cells you select will determine the placement of labels in the chart.

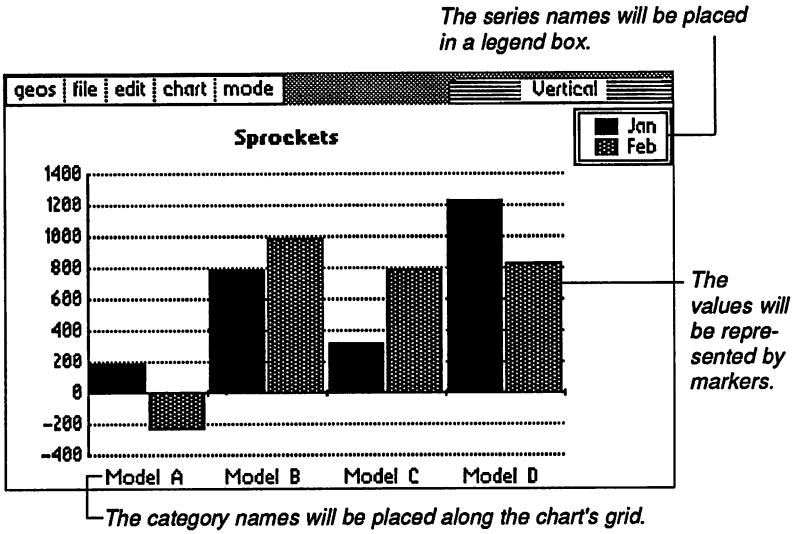
Vertical Selections in a Non-Scatter Chart

Here is what happens when you select cells vertically in a non-scatter chart::



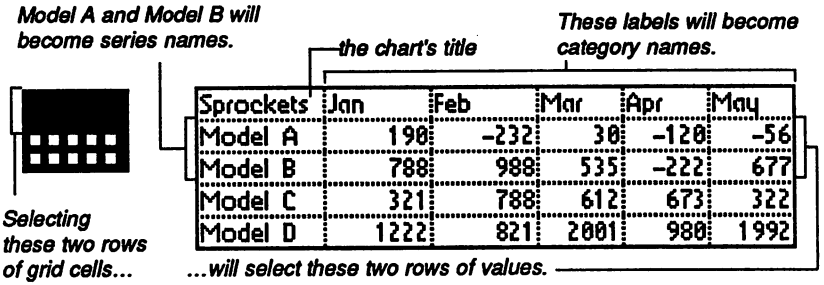
Sprockets	Jan	Feb	Mar	Apr	May
Model A	190	-232	30	-120	-56
Model B	788	988	535	-222	677
Model C	321	788	612	673	322
Model D	1222	821	2001	980	1992

The chart will appear as follows:



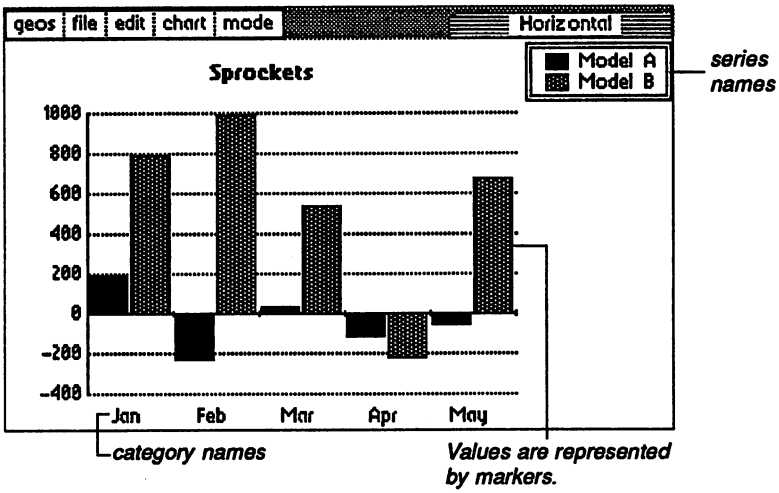
Horizontal Selections in a Non-Scatter Chart

Here is how your selections will appear if you select cells horizontally:



Sprockets	Jan	Feb	Mar	Apr	May
Model A	190	-232	30	-120	-56
Model B	788	988	535	-222	677
Model C	321	788	612	673	322
Model D	1222	821	2001	980	1992

The chart will appear as follows:

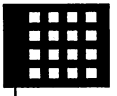


The Grid and Scatter Charts

A data point in a scatter chart is represented by an X, Y value pair rather than a category/value pair. A scatter chart contains no category labels; instead, these are replaced by a set of X values from the text scrap data. Here is how scatter charts differ from non-scatter charts:

Non-Scatter Charts

To select one data series for a non-scatter chart, you need to select one row or column of grid cells.



Y axis values

In a non-scatter chart, the category and Y value create one data point.

Model A	190

on X axis *on Y axis*

Scatter Charts

To select one data series for a scatter chart, you need to select two rows or columns.

Y axis values

X axis values

In a scatter chart, both X and Y create one data point

190	-232

on X axis *on Y axis*

As with non-scatter charts, the direction of grid cells you select (i.e., vertical or horizontal) will determine the placement of row and column labels in the chart.

Here is how two data series will be read in a scatter chart:

Jan will head the first data series. Feb will be deleted.

Mar will head the second data series. Apr will be deleted.

the chart's title

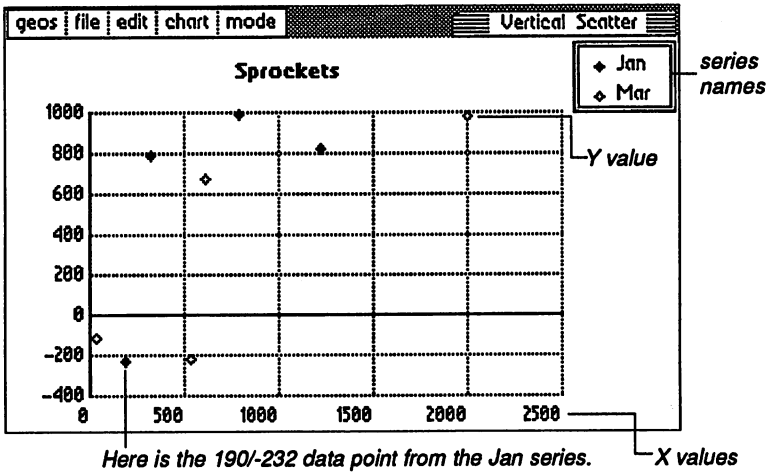
Sprockets	Jan	Feb	Mar	Apr	May
Model A	190	-232	30	-120	-56
Model B	788	988	535	-222	677
Model C	321	788	612	673	322
Model D	1222	821	2001	980	1992

X values *Y values* *X values* *Y values*

These category names will be deleted.

In the example above, there are X,Y value pairs for each month.

Here is how the chart will appear:



You will note that the category names Model A–Model D were deleted to make room for the X values from each of the two data series. The series names Feb and Apr were also deleted. Their corresponding values were combined with the values under Jan and Mar as the Y axis values.

Selecting Data with the Data Mode Grid

Once you know how Data Mode works, the actual grid cell selections are easy to make. The following procedures describe how to use the grid for non-scatter charts, the default grid cell selections resulting from a non-scatter chart, and how to use the grid for scatter charts.

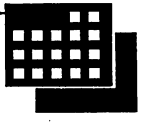
Using the Grid for Non-Scatter Charts

If you plan to select specific data series for area, bar, column, point, line, pie, or unibar charts, use the following procedure. Note that pie and unibar charts accept only one data series at a time.

To select grid cells for a non-scatter chart:

1: Move the pointer so that it is positioned over the first cell of the row or column you wish to select.

2: Click, and while holding the input device button down, drag the pointer either horizontally or vertically across the row or column of cells. The cells will become highlighted as you go along.

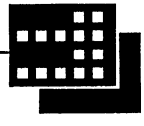


HINT If you accidentally move the pointer in the wrong direction, or if you move the pointer too quickly, just hold down the input device button and move the pointer back to the correct cell. Resume your selections. You can also undo your selections by clicking on the Clear icon.

3: Release the input device button when the cells you need are highlighted. You have just selected the first data series.

NOTE If desired, you now can chart the data series by clicking on the **Chart** icon or selecting **chart mode** from the **mode** menu. Go to Step 4 if you wish to select the next data series.

4: The next data series must be in the same cell formation as the first. To select the second data series, click anywhere on the row or column you plan to use.



geoChart will automatically select the proper cell formation.

5: To select the third and fourth series, click anywhere on the appropriate row or column.

6: To chart the data series you selected, click on the **Chart** icon or select **chart mode** from the **mode** menu. Your selections will be charted and Chart Mode will be activated. From there, you can change the chart's appearance, if desired.

The Default Grid Cell Selections

If no grid cells are selected, by default geoChart will chart the first four columns of 20 values in the grid as the chart's four data series. The chart will be a non-scatter chart. The source document's row labels will be designated as category names. The four column labels will be read as series names.

To select grid cells by default:

1: Make sure the grid has no cells highlighted.

NOTE You can deselect grid cells by clicking on the **Clear** icon.

2: Click on the **Chart** icon or select **chart mode** from the **mode** menu. The first four columns of 20 values will be charted. Chart Mode will be activated.

Using the Grid for Scatter Charts

In a scatter chart, one data series is represented by two rows or columns of grid cell selections. The following procedures describe how to create a scatter chart with two to four data series (and immediately place the data in a scatter chart) and how to create a scatter chart from Chart Mode. If you plan to chart only one data series, create the scatter chart from Chart Mode.

To create a scatter chart immediately from Data Mode:

1: Move the pointer so that it is positioned over the first cell of the row or column you wish to select.

X axis values

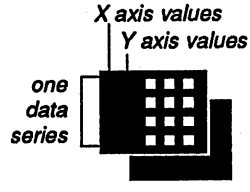
2: Click, and while holding the input device button down, drag the pointer either horizontally or vertically. The cells will be highlighted as you go along.

HINT If you accidentally move the pointer in the wrong direction, or if you move the pointer too quickly, just hold down the input device button and move the pointer back to the correct cell. Resume your selections. You can also cancel your selections by clicking on the **Clear** icon.

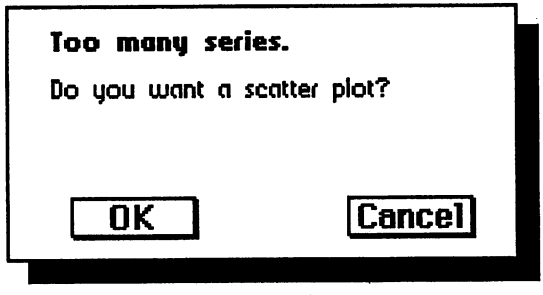
3: Release the input device button when the cells you need are highlighted. You have just selected the X axis values of the first data series.

4: To select the Y axis values, click on any cell in the appropriate rows or columns.

5: To select the next data series, click on any cell in the appropriate row or column.



6: Click on a fifth row or column, even if you only want two data series for the scatter chart. The following dialog box will appear:



7: Click **OK**. You will be returned to Data Mode.

8: If desired, resume your selections until eight rows or columns (i.e., four scatter chart data series) are selected.

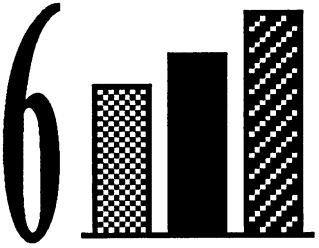
9: When finished, click on the **Chart** icon or select **chart mode** from the **mode** menu. The data will be immediately charted in a scatter chart when Chart Mode is activated.

To create a scatter chart from Chart Mode:

1: While in Data Mode, select the rows or columns of grid cells you wish to plot.

2: Exit Data Mode by clicking on the **Chart** icon or selecting **chart mode** from the **mode** menu. The data will be charted in a column chart.

3: Select **scatter point** or **scatter line** from the **chart** menu. The data series will be placed in a scatter chart.



Formatting Charts

There are a variety of ways you can change a chart's appearance. This chapter describes how you can select a chart type, edit text, change the patterns of markers, change the drawing modes in area charts, change the range of axis values, change the number formats, and change the background grid of a chart.

Unfamiliar terms are defined in Appendix A: Glossary (page 94). The command menu options are summarized in Appendix B: Menu Listing (98). Error messages are explained in Appendix D: Error Messages (106).

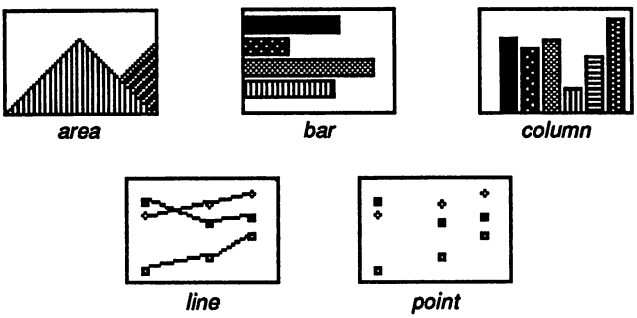
Selecting a Chart Type

The types of charts you can select are area, bar, column, pie, point, line, scatter (either point or line), and unibar. Select a chart type by clicking on its name listed in the **chart** menu. Once you open the **chart** menu, the currently selected chart type will appear with an asterisk (*) next to its name.

Selecting Area, Bar, Column, Point, and Line Charts

Use area, bar, column, point, and line charts to chart more than one series at a time and to display the category names in a chart.

The formats for these chart types are as follows:



NOTE For illustrations of actual charts, see Appendix C: Chart Samples, page 100.

To select among the area, bar, column, point, or line charts:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Open the **chart** menu and select from **area**, **bar**, **column**, **point**, or **line**. geoChart will convert the selected data series to the chart type you select.

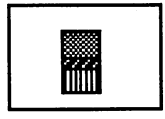
Selecting Pie and Unibar Charts

In pie and unibar charts, data values are represented as a fraction of the total value of a selected data series. Pie and unibar charts do not accept negative values.

With pie and unibar charts, you can chart only one data series at a time. (A dialog box will enable you to select which set.) However, you can set up the original charting data so that you can compare data series. To do so, see "Setting Up Charting Information to Compare Data Series in a Pie or Unibar Chart" on page 68.

The formats for pie and unibar charts are as follows:

pie



unibar

NOTE For illustrations of actual charts, see Appendix C: Chart Samples, page 100.

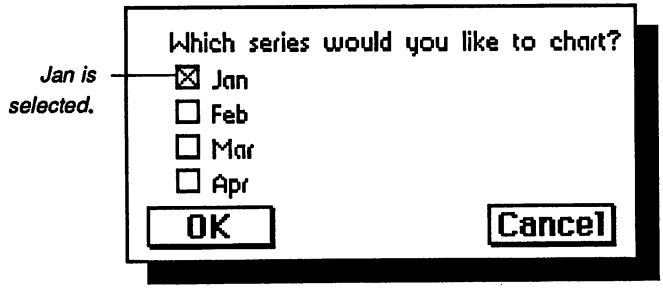
To select a pie or a unibar chart:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Open the **chart** menu and click on either **pie** or **unibar**.

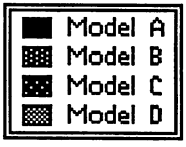
If the current charting data contains more than one series, a dialog box will enable you to specify which series you would like to chart, as in the following example:



To continue, click on the box representing the series you would like to chart, then click **OK**. **Cancel** will reverse the operation and return you to the main Chart Mode screen.

Category Names

If the text scrap data contains category names, they will appear in a legend box on the right side of the screen, as in the example at the right.



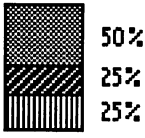
Percentage Values

Percentage values of the different categories are automatically included in the pie or unibar chart. Should you wish to remove them from the chart, you can do so by referring to "Changing Text for All Charts," page 71. You cannot have negative values in a pie or unibar chart.

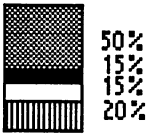
Unibar Charts with Many Percentages

Normally the percentages will line up with each corresponding marker. However, if the values are small, the markers will be too narrow for the corresponding percentages to line up exactly with each marker. Instead, they will be stacked in the order that the markers appear.

Here the markers are large enough to correspond with their percentages.



Here they are not.



Setting Up Charting Information to Compare Data Series in a Pie or Unibar Chart

You can only chart one data series at a time in a pie or unibar chart. You can, however, chart totals from the data series. All you need to do is include a Totals column (or row) in the original charting data.

For example, suppose the original charting data appears as follows:

Sales	Model A	Model B
Smith	1	1
Jones	2	2
Johnson	3	3

Add the Totals column as follows:

Sales	Model A	Model B	Totals
Smith	1	1	2
Jones	2	2	4
Johnson	3	3	6

You can also include a Totals row, if desired:

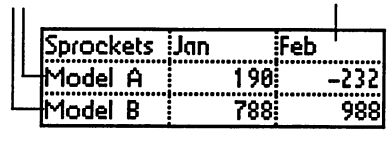
Sales	Model A	Model B	Totals A
Smith	1	1	2
Jones	2	2	4
Johnson	3	3	6
Totals B	6	6	

Copy the new text scrap into geoChart. When you use a pie or unibar chart, select either Totals A or Totals B as the data series.

Selecting Scatter Point and Scatter Line Charts

As explained in Chapter 5 under "The Grid and Scatter Charts," page 59, selecting a scatter chart will delete category names and half of the series names from the charted data.

A scatter chart will eliminate these labels.



To retrieve the lost labels (if you wish to use a different chart type, for example), you can enter Data Mode and reselect a new series (refer to "Selecting Data with the Data Mode Grid" on page 61). Another method of retrieving the labels is to paste the text scrap into the document when another chart type is displayed.

There are two ways to select a scatter chart. In Data Mode, if you select at least two data series you can immediately plot the data in a scatter chart. (The procedure for doing so is described under "Using the Grid for Scatter Charts" on page 62.) The other method, which enables you to place one data series in a scatter chart, is to select the **scatter chart** option from the **chart** menu. This procedure is described on the next page.

To select a scatter chart:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

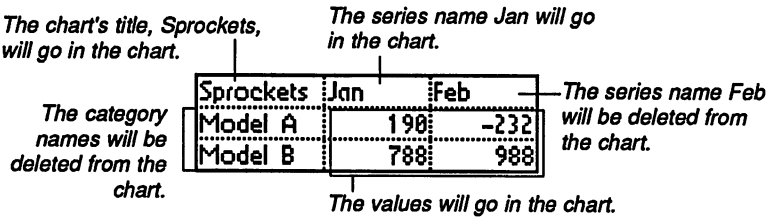
2: Select **scatter** from the **chart** menu. A submenu listing **point** and **line** will appear.

NOTE The **point** and **line** options refer to chart styles. For actual illustrations of charts, see Appendix C: Chart Samples (page 100).

3: Click on either **point** or **line**.

4: A dialog box saying "Scatter plot will destroy old labels" will appear. Click **OK** to continue or **Cancel** to reverse the operation.

NOTE The "Scatter plot will destroy old labels" dialog box refers to the category and series names in the current text scrap data. Here is how the chart's labels will be affected:



Editing Text

You can change the text in any type of chart in a variety of ways: font, point size, style, whether the text is displayed on the screen, and the contents of the text itself. The text you place in a chart will be placed into designated areas called text blocks. The text within each text block is referred to as a text string.

Maximum Characters Per Text String

The maximum number of characters for the chart's title is 39. All other text strings may contain up to 15 characters.

Maximum Point Size

The largest point size available is 24. Note that geoChart does not support megafonts.

Changing Text for All Charts

If you change the text style for a chart's labels, the same style will apply if you change to a different chart type. Note that adding more text to a chart will cause the actual plotting area (i.e., the grid and its markers) to decrease in size to accommodate the additional text.

To change text:

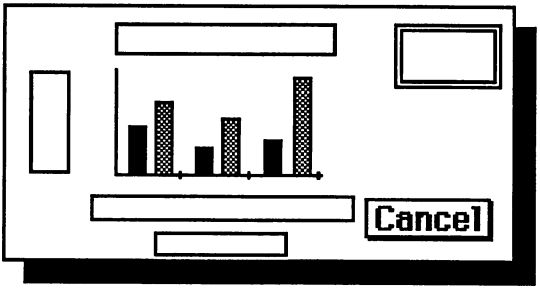
1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

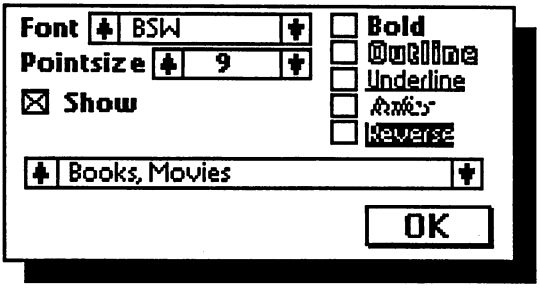
2: Select **change text** from the **edit** menu (or press [Ctrl] [L]).

3: A dialog box representing the chart type will appear. It will also contain rectangular regions representing areas where text can be added. For example, if the chart were a column chart, the dialog box would appear as follows:

The empty rectangles represent areas where you can add text.



4: Click on the rectangular region representing the text block you wish to change. Depending on the current chart and the particular text block you choose, the following dialog box will appear:



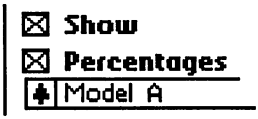
5: Click on the options in the dialog box to make the changes in text as needed:

- **Font** Click on the scrolling arrows on either side of the window to cycle through the list of font files you placed on the work disk. To select a particular font, make sure its name appears in the **Font** window.

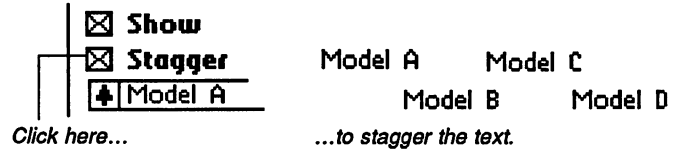
- **Pointsize** Click on the scrolling arrows on either side of the window to cycle through the list of point sizes for the font displayed in the **Font** window. To select a particular point size, make sure the correct size is displayed in the **Pointsize** window.

- **Show** Click on the **Show** option to display the text in the chart. (An X inside the **Show** box will display the text.)

- **Percentages** This option will appear if the chart is a pie or a unibar and if you had selected the legend text block. To remove the percentages displayed around the pie or unibar, click on this option to deselect the **Percentages** option (the X will be removed from the **Percentages** box).



- **Stagger** This option will appear if you selected category names in area, bar, column, point, or line charts. Clicking on this option will stagger text, as in the following example:



The text will be staggered there is an X inside the **Stagger** box.

- **Styles** The available styles are bold, outline, underline, italics, and reverse. Click on any combination you wish.

- **Text Window** The existing text is displayed in the lower window in the dialog box. If you have more than one line of text, display the next line by clicking on the scrolling arrows on either side of the window. To change text, press INST/DEL to backspace over the existing text, then type in the new text.

6: When you have selected from the options in Step 5, click **OK** or press RETURN. The screen will redraw itself and reflect your changes.

Adding Text to a Chart

Some charts initially will not display all possible text block areas. If you wish to add more text to a chart, you can do so easily.

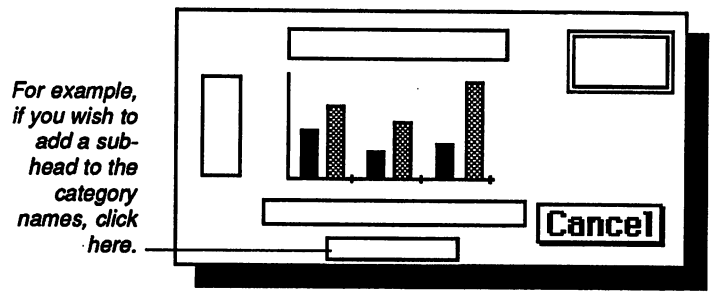
To add a text block to a chart:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change text** from the **edit** menu (or press [⌘][L]).

3: When the dialog box displaying a map of possible text blocks appears, click on the text block region where you wish to add text.

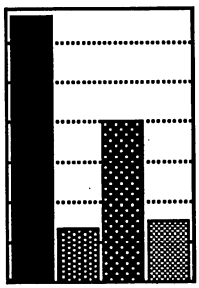


4: The next dialog box will display the options described under Step 5 of "Changing Text for All Charts" on page 71. Type in the text and click on the options you need. Make sure that the **Show** option is selected. (An X will appear inside the **Show** box.)

5: After you have completed the options in Step 4, click **OK** or press [RETURN]. The chart will redraw and the text you added will appear in the chart.

Changing the Patterns of Markers

markers in a column chart



The markers in a chart appear in a variety of patterns. You can change the pattern of a marker for any type of chart except the pie and unibar charts. If you wish to change the patterns of markers for area charts, refer to "Changing Drawing Modes in Area Charts," page 77.

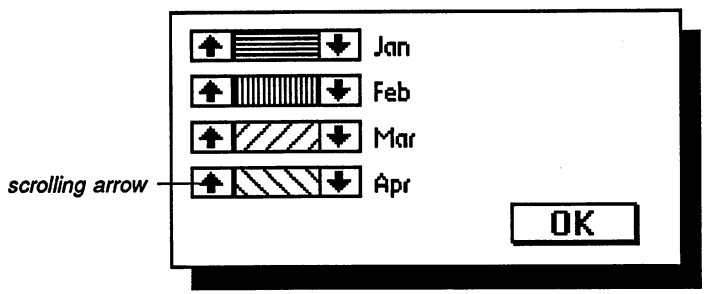
To change the pattern of markers in area, bar, and column charts:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change marker** from the **edit** menu (or select ⌘M).

3: A dialog box with windows representing the patterns in each marker will appear. The series name will appear next to each window:



To cycle through the available patterns for a marker, click on the scrolling arrows on either side of the marker's window. When you find a suitable pattern, make sure it is displayed in the window.

4: After you have made your pattern selections, click **OK**. The screen will redraw and the new patterns will appear in the markers.

Marker Patterns for Area, Bar, or Column Charts
The available patterns for markers are as follows:

Choose from 32 different patterns.

To change the type of markers in point, line, and scatter charts:

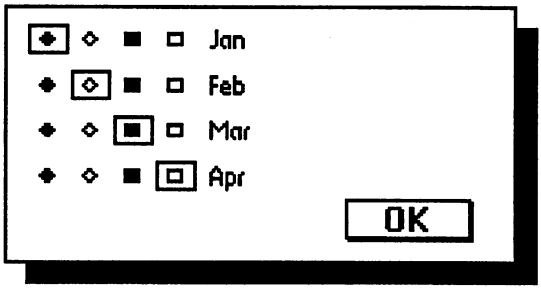
1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change marker** from the **edit** menu (or press [Alt] [M]).

3: A dialog box with possible marker types will appear for each series name:

Choose from 4 types of markers for point, line, or scatter charts.

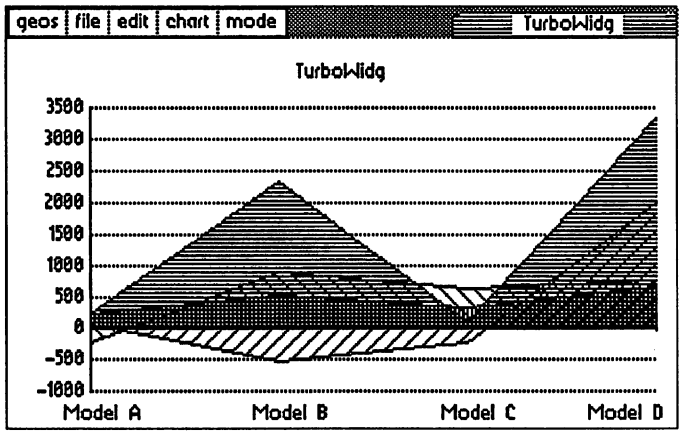


The currently selected marker type will have a box around it. To select a different marker type, click on the type you want. It will become enclosed in a box.

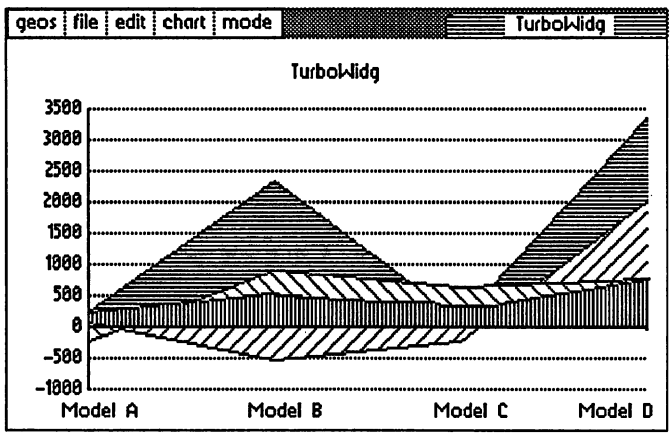
4: After you have made the selections you want, click **OK**. The screen will redraw and the new markers will appear on the grid.

Changing Drawing Modes in Area Charts

In area charts, the drawing mode is transparent by default. If desired, you can vary the drawing mode to either transparent or opaque. Here is an area chart drawn in transparent mode:



And here is an area chart drawn in opaque mode:



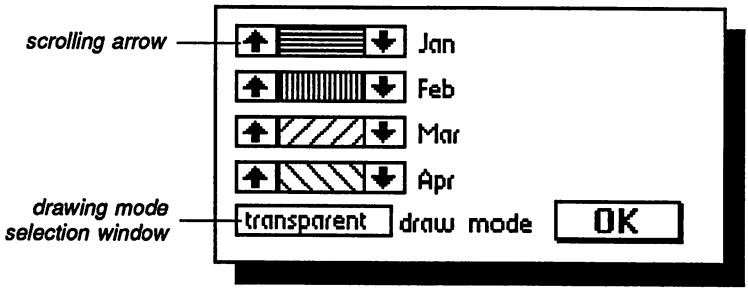
To change the drawing mode in an area chart:

1: Make sure you are in Chart Mode, and that the chart is an area chart.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu. The chart can be redrawn as an area chart by selecting **area** from the **chart** menu.

2: Select **change marker** from the **edit** menu (or press ⌘M).

3: The following dialog box will appear:



To change the drawing mode, click on the drawing mode selection window. The name will change to either **transparent** or **opaque.**

If desired, cycle through the available patterns by clicking on the scrolling arrows on either side of each pattern selection window.

4: After you have made the selections you need, click **OK.** The screen will be redrawn and reflect the changes you made.

Hidden Markers in an Opaque Area Chart

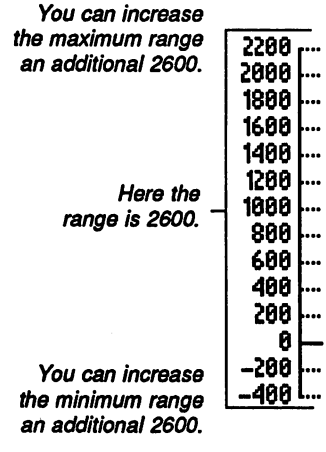
If an opaque marker hides another marker, you can bring the hidden marker to the foreground. All you need to do is use the grid in Data Mode to reselect the data series in a different order.

Whenever you select data series in the Data Mode grid, the first data series you select will be drawn first when you enter Chart Mode. In an opaque area chart, the first data series be drawn in the background. The next data series will be drawn on top of the first, and so on. To bring a hidden marker to the foreground, go to Data Mode and select the hidden marker's corresponding data series last.

Changing the Axis Range

The values listed next to the chart's grid are automatically calculated by geoChart. In other words, you need not enter these values in the original source document. The minimum and maximum values by which you can increase the range depend on how large the current range of values is.

The values you enter may be slightly different from the values that appear in the revised chart. This is because a change in range may necessitate a change in interval value.



If you change the Y axis range for area, column, point, or line charts, the change will be valid for all of those charts.

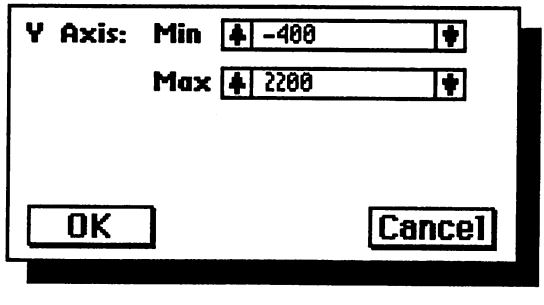
To change the values on the axes for all charts except scatter charts:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change range** from the **edit** menu (or press [Ctrl][R]).

3: The following dialog box will appear:



You can change the minimum and maximum values for the Y axis. To cycle through the available values, click on the scrolling arrows on either side of the **Min** and **Max** windows.

4: After you have made the necessary changes, click on **OK**. The screen will be redrawn and the new axis range will be displayed.

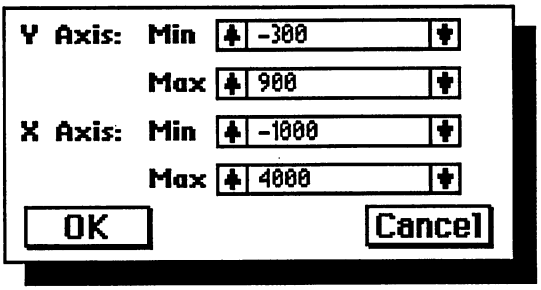
To change the values for scatter charts:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change range** from the **edit** menu (or press ⌘R).

3: The following dialog box will appear:



You can change the minimum and maximum values for both X and Y axes. To cycle through the available values, click on the scrolling arrows on either side of the **Min** and **Max** windows.

4: After you have made the necessary changes, click on **OK**. The screen will be redrawn and reflect the changes you made.

Changing Number Formats

You can use the following formats for the axis range values in your charts:

general
0
0.0
0.00
0.000
0.0000
#,##0
#,##0.00
$#,##0;($#,##0)
$#,##0.00;($#,##0.00)
0%
0.00%
0.00E+00
0.00000000000E+00

If desired, you can use one format for the X range of values and another format for the Y range of values in scatter charts.

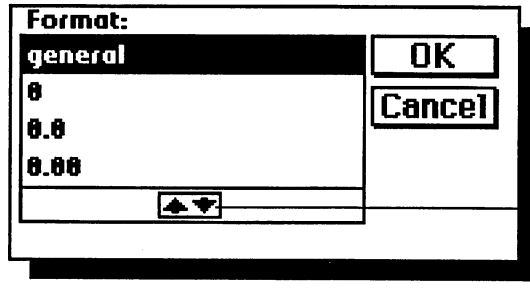
To change the number formats in area, bar, column, point, and line charts:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change format** from the **edit** menu (or press ⌘F).

3: The following dialog box will appear:



Click on the scrolling arrows until you find the format you wish to use.

4: Click on the format you need, then click **OK**. The screen will be redrawn and reflect the changes you made.

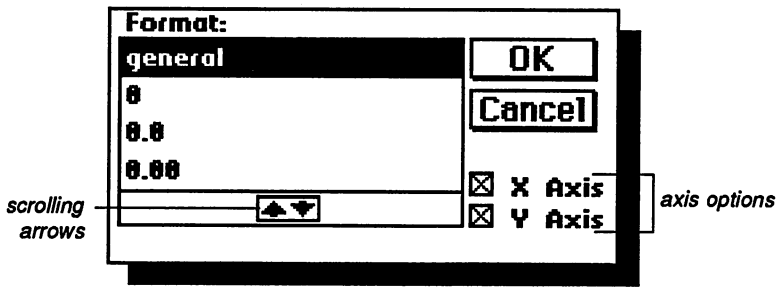
To change the number formats for scatter charts:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change format** from the **edit** menu (or press [⌘][F]).

3: The following dialog box will appear:



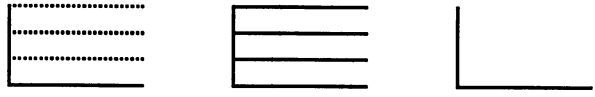
Click on the scrolling arrows until you find the format you wish to use.

4: Select either or both of the **X** and **Y Axis** options. An X inside the box will select the option. If the box is hollow, the format you select will not apply to its axis option. For example, if you wish to change the X axis but not the Y axis, make sure the **X Axis** box has an X inside it and the **Y Axis** box is hollow.

5: Once you select a format and decide whether to change one or both of the X and Y axes, click **OK**. The screen will be redrawn and reflect the changes you made.

Changing the Background Grid

You can change the background grid pattern to any of the following styles:



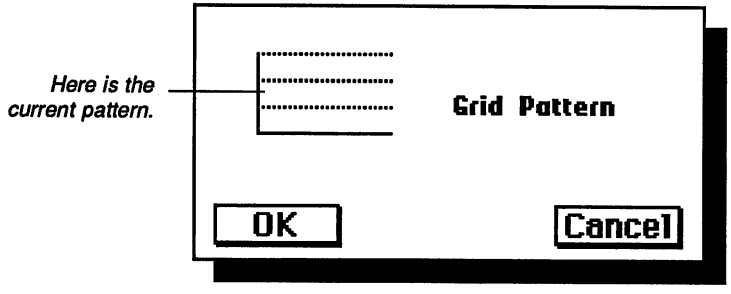
To change the background grid:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **change grid** from the **edit** menu (or press [Alt] [G]).

3: The following dialog box will appear:



The dialog box will display the current pattern. To view the other two pattern styles, click on the current pattern in the dialog box. The next pattern style will be displayed.

4: When you find a pattern you want, click **OK**. The screen will be redrawn and display the new grid pattern.

File Management

This chapter describes some basic file management features found in geoChart: how to copy a chart to another document, ways you can save or reverse the changes you make to a chart, how to rename a chart, how to print a chart, and how to exit geoChart.

Unfamiliar terms are defined in Appendix A: Glossary (page 94). The command menu options are summarized in Appendix B: Menu Listing (page 98). Error messages are explained in Appendix D: Error Messages (page 106).

Copying a geoChart Document Elsewhere

If desired, you can copy your chart to a photo scrap so that you can paste it in another GEOS application document. It is important to note that some GEOS applications only accept photo scraps of a certain size. In order to paste your chart into these applications, geoChart will condense the chart's dimensions. While still in geoChart, you will be able to view the condensed version of the chart, so that you can make any necessary formatting changes right away.

Even though the photo scraps you create in geoChart are for different types of applications, you cannot have more than one photo scrap per disk. For example, if you copy a chart into a photo scrap for use with geoPaint, then copy another chart into a photo scrap for use with geoWrite, the geoWrite version will overwrite the geoPaint photo scrap. If you wish to store more than one photo scrap on a work disk, you can do so by copying each photo scrap to a photo album. Photo albums are created by using the Photo Manager desk accessory. The Photo Manager is found in the GEOS, GEOS 128, and GEOS 2.0 packages.

To copy a chart into another document:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **copy** from the **edit** menu.

3: The **copy** command will display the following menu options: **full screen, to geoWrite,** and **to geoPaint.** Select one:

- **full screen** will save the chart to a regular, full sized photo scrap. Since the chart will not be condensed, it will be saved to a photo scrap right away in the normal manner that photo scraps are created. Select this option if you wish to paste the chart into a geoPublish document, for example.

- **to geoWrite** will condense the chart so that it will fit into a geoWrite document. A window containing the chart as it would appear in a geoWrite document will be displayed over the geoChart document. At this point, you can check the chart's appearance, making note of any changes you may need to make. For example, a condensed chart's labels may necessitate a change in the labels' point sizes. To exit the window and save the chart to a photo scrap, click **OK**. You will be returned to Chart Mode. If needed, you can make any changes to the chart.

- **to geoPaint** will condense the chart so that it will fit into a geoPaint document. A window containing the chart as it would appear in a geoPaint document will be displayed over the geoChart document. At this point, you can check the chart's appearance, making note of any changes you may need to make. For example, a condensed chart's labels may necessitate a change in the labels' point sizes. To exit the window and save the chart to a photo scrap, click **OK**. You will be returned to Chart Mode. If needed, you can make any changes to the chart.

4: Copy the photo scrap to the disk containing the destination document.

Bar Charts with Overlapping Labels

If a bar chart with labels is copied into a geoWrite or geoPaint document, the labels may overlap one another partially, particularly if you have a large number of markers in the chart. To avoid the problem, try using a smaller font and point size for the labels.

Saving or Reversing Changes

geoChart documents can be managed much the same way as other GEOS documents. This section describes how to save (update) your document to disk whenever you need, how to undo any changes made since the last time you saved the document to disk (recover), and how to rename a document.

Saving Your Work to Disk

It is recommended that you save your work to disk every ten minutes. Saving your work is a safeguard against an unexpected power outage.

To save your work to disk:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **update** from the **file** menu.

Recovering Your Document

If you need to reverse the changes you made since the last time your work was updated, you can do so easily.

To recover your work:

1: Make sure you are in Chart Mode.

NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **recover** from the **file** menu.

IMPORTANT You cannot reverse a **recover** procedure.

Renaming Your Document

You can rename a chart in either Data Mode or Chart Mode.

To rename a document:

1: Select **rename** from the **file** menu.

2: A dialog box will ask you to "Please enter new filename." Type in a new name and press RETURN.

NOTE To cancel the procedure, either press RETURN without changing the current name, or click **Cancel.**

Printing Your Document

Before you try to print a chart, make sure that your printer is properly connected, the correct printer driver is on the work disk containing the geoChart application, and the correct printer driver has been selected as the default (active) printer driver. To set up your printer, refer to pages 2-24 and 2-28 of the *GEOS User's Manual.* If you are using GEOS 2.0, refer to page 17 of the *GEOS 2.0 User's Manual.*

NOTE geoChart is not intended for use with the Paint Drivers application.

To print a chart:

1: Make sure you are in Chart Mode.

   NOTE To enter Chart Mode, select **chart mode** from the **mode** menu.

2: Select **print** from the **file** menu.

Exiting geoChart

Each time you exit a geoChart document, the changes you made in the current editing session will be saved to disk. When you exit a geoChart document, you have the option of opening another geoChart document, or exiting directly to the deskTop.

To go to another geoChart document:

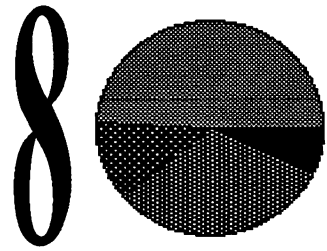
1: Select **close** from the **file** menu.

2: A dialog box will give you three options: **Create new document**, **Open existing document**, and **Quit to deskTop**. Select one.

NOTE If you select either **Create** or **Open**, you will have the option of creating or opening the document on a disk in the other disk drive.

To go directly to the deskTop:

- Select **quit** from the **file** menu.



Appendices

This chapter contains the following appendices:

- Appendix A: Glossary
- Appendix B: Menu Listing
- Appendix C: Chart Samples
- Appendix D: Error Messages
- Appendix E: GEOS Demo

Appendix A: Glossary

Terms in *italics* are defined elsewhere in this glossary.

axis values — In a geoChart document, the range of values that indicate units of measurement for the chart's values. Axis values are created automatically by geoChart and need not be entered in the source document (i.e., *geoCalc*, *geoWrite*, *geoFile*, or the *Note Pad*).

background grid — In *Chart Mode*, the guide lines in a chart that enable you to view the exact location of a *value* in relation to its corresponding *labels*. In geoChart, you can change the background grid to one of three styles.

category name — A name assigned to the head of a group of *values*. A category name represents the data that is compared with a group of values. By default, when first placed in a geoChart document, the category names will appear alongside the chart's grid. In pie or unibar charts, the category names are placed in a legend box. See also *chart title*, *data series*, *label*, *series name*, and *value*.

Chart Mode — The mode in geoChart that enables you to import a text scrap and change the appearance of a chart. See also *Data Mode*.

chart title — The name assigned to a chart. In *geoCalc*, *geoWrite*, *geoFile*, or the *Note Pad*, the chart title is entered in the upper left corner of the charting data region.

charting data — In *geoCalc*, *geoWrite*, *geoFile*, or the *Note Pad*, the data you create to be used in a geoChart document. Charting data is composed of *values*, *category names*, *series names*, and a *chart title*. If desired, you need not include the category

names, series names, or the chart title in the original document. See also *label*.

Data Mode — The mode in geoChart that enables you to select one to four *data series*. See also *Chart Mode*.

data point — One *value* in a set of values in the charting data. In a *non-scatter chart*, a data point is the intersection of a *category name* on the *X axis* and a value on the *Y axis*. In a *scatter chart*, a data point is the intersection of an X axis value and a Y axis value. A data point is one point in a *data series*.

data series — A set of data containing the *series name(s)*, *category name(s)*, and *values*. A data series is selected in Data Mode.

font — Typeface used to create text. (The typeface on this page is Times Roman.)

geoCalc — A GEOS application that enables you to perform advanced calculations using a spreadsheet.

geoFile — A GEOS application that enables you to design and store data in a database.

geoWrite — A GEOS application that is used to create word processing documents.

grid — In *Data Mode*, the icon resembling a rectangle composed of small squares. The grid represents the charting data in the current text scrap. Its size is determined by the size of its corresponding text scrap. It is used to select one to four *data series*.

label — A *chart title*, *category name*, or *series name*. In *geoCalc*, *geoWrite*, *geoFile*, or the *Note Pad*, the labels are always entered as non-numeric text. If desired, labels can be changed to numeric text

after the text scrap has been placed in a geoChart document. It is not necessary to include labels in the original *source document.*

legend — In a chart, the box listing each series name and its corresponding *marker.*

marker — In a chart, the segments that represent the *values* in a *data series.* Markers can appear as points, lines, or pattern-filled shapes.

non-scatter chart — Any chart used to plot data in value-category pairs. See also *scatter chart.* Area, bar, column, line, point, pie, and unibar charts are non-scatter charts.

Note Pad — A desk accessory for creating charting data to be imported into a geoChart document. The Note Pad is also used to create memos.

photo scrap — In geoChart, a file containing a copy of a chart. A photo scrap is used to transport data from one document to another, even if the documents were created with different applications. A photo scrap is also used to transport a graphic from a geoPaint document. See also *text scrap.*

plot — A chart. "Plot" also refers to the action of placing data into a chart.

scatter chart — A chart used to plot data in X, Y value pairs, rather than category-value pairs. A scatter chart will replace the *category names* with X values. Use a scatter chart if you wish to plot values only (i.e., with no category names). Scatter charts are ideal for scientific and financial charts since you can compare values only, rather than values with categories. See also *non-scatter chart.*

series — See *data series.*

series name — A name assigned to the head of a series of *values*. By default, when first placed into a geoChart document, the series names will appear in a legend. See also *category name*, *data series*, *label*, and *value*.

source document — The document from which you import charting data into a geoChart document. Source documents are *geoCalc*, *geoWrite*, *geoFile* and the *Note Pad* desk accessory.

text block — In a chart, an area reserved for text.

text scrap — A file containing text copied or moved from *geoCalc*, *geoWrite*, *geoFile*, or the *Note Pad*. A text scrap is used to transport text from one document to another, even if the documents were created with different applications. For example, a text scrap is used to import charting data from the *source document* into a geoChart document. See also *photo scrap*.

text string — In a chart, the text in a *text block*.

tick mark — In a chart's grid, the small mark resembling a horizontal line next to each axis value.

value — Numerical data used in a chart for comparisons. In geoChart, values are represented by *markers*. See also *category name*, *data series*, and *series name*.

X axis — The horizontal direction of data.

Y axis — The vertical direction of data.

Appendix B: Menu Listing

The following menu listing includes keyboard shortcuts.

geos menu

geoChart info Displays copyright information and author of geoChart. (To exit, press the input device button.)
photo mgr, text mgr, note pad, and other desk accessories, depending on the desk accessories you have copied onto your application work disk.

file menu

close Closes a document and enables you to create or open another geoChart document.
update Saves changes to disk. Option is inactive while in Data Mode.
recover Reverses changes from last time a document was saved to disk. Option is inactive while in Data Mode.
rename Enables you to change the name of a document.
print Prints a document. Option is inactive while in Data Mode.
quit Closes a document and returns you to the deskTop.

edit menu

copy Copies a chart to a photo scrap. Displays the items **full screen, to geoWrite,** and **to geoPaint.** Option is inactive while in Data Mode.
paste (Ctrl T) Pastes a text scrap into the current chart, then opens Data Mode. Option is inactive while in Data Mode.
change range (Ctrl R) Enables you to change the axis values of a chart. Option is inactive while in Data Mode and when a pie or unibar chart is displayed.
change marker (Ctrl M) Enables you to change the pattern or style used for the markers on the currently displayed chart. Option is inactive in Data Mode, and for pie and unibar charts.
change text (Ctrl L) Enables you to add, change, or modify text in a chart. Option is inactive while in Data Mode.
change grid (Ctrl G) Enables you to change the display of the background grid in a chart. Option is inactive while in Data Mode and when a pie or unibar chart is displayed.
change format (Ctrl F) Enables you to change the number format. Option is inactive while in Data Mode and when a pie or unibar chart is displayed.

chart menu

NOTE Refer to Appendix C: Chart Samples (page 100) for illustrations of the chart styles.

area Displays text scrap data in an area chart. Option is inactive while in Data Mode.

bar Displays text scrap data in a bar chart. Option is inactive while in Data Mode.

column Displays text scrap data in a column chart. Option is inactive while in Data Mode.

pie Displays text scrap data in a pie chart. Option is inactive while in Data Mode.

point Displays text scrap data in a point chart. Option is inactive while in Data Mode.

line Displays text scrap data in a line chart. Option is inactive while in Data Mode.

scatter Displays the items **point** and **line**. Enables you to place text scrap data in either scatter point or scatter line chart. Option is inactive while in Data Mode.

unibar Displays text scrap data in unibar chart. Option is inactive while in Data Mode.

mode menu

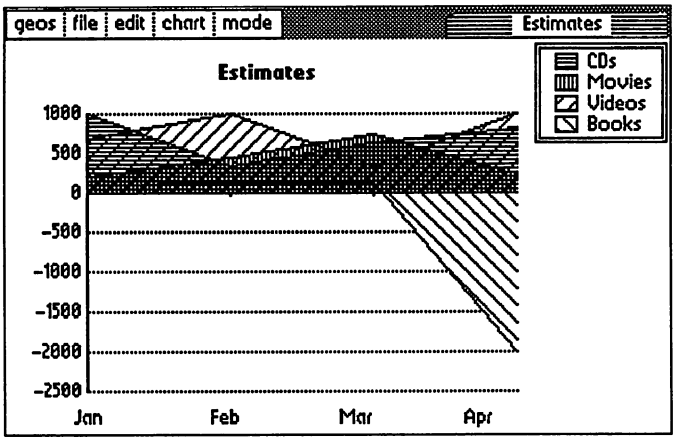
chart mode Reads the selected data series in the Data Mode grid and opens Chart Mode. Option is inactive while in Chart Mode.

data mode Opens Data Mode. Option is inactive while in Data Mode.

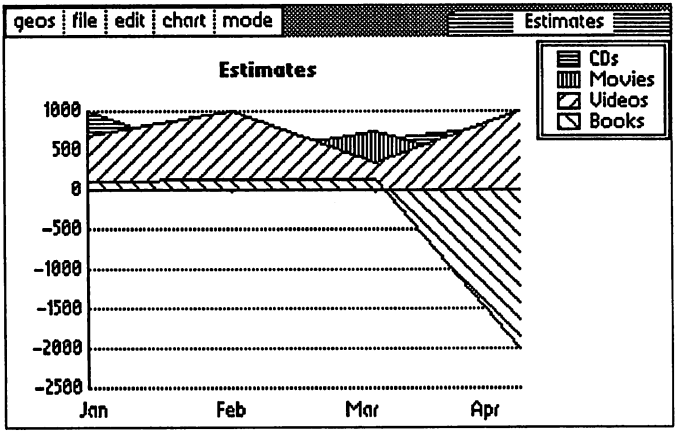
Appendix C: Chart Samples

Area Charts

Area charts will plot all four data series. These charts can be created on one of two modes: transparent or opaque. Here is an area chart in transparent mode:

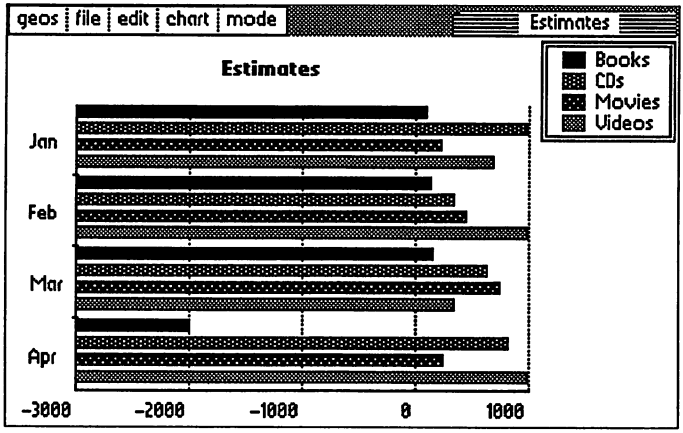


Here is the same area chart in opaque mode:



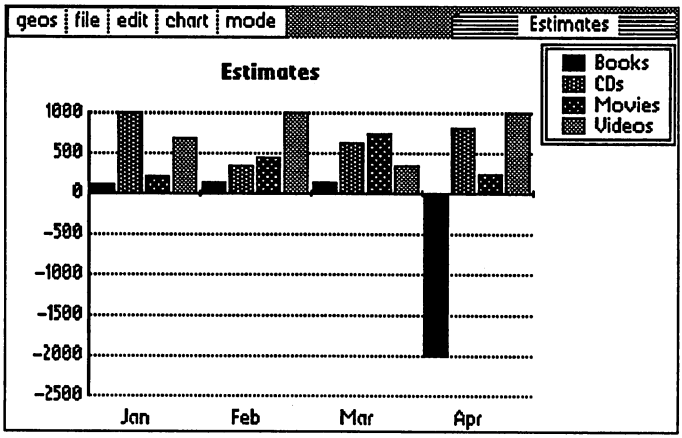
Bar Chart

Bar charts will plot all four data series.



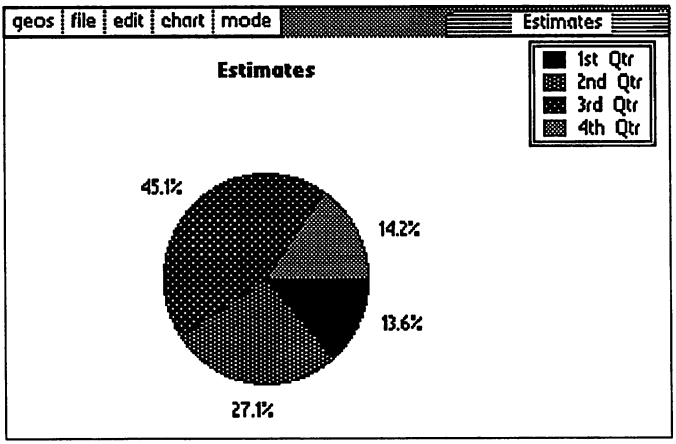
Column Chart

Column charts will plot all four series in a data series selection.



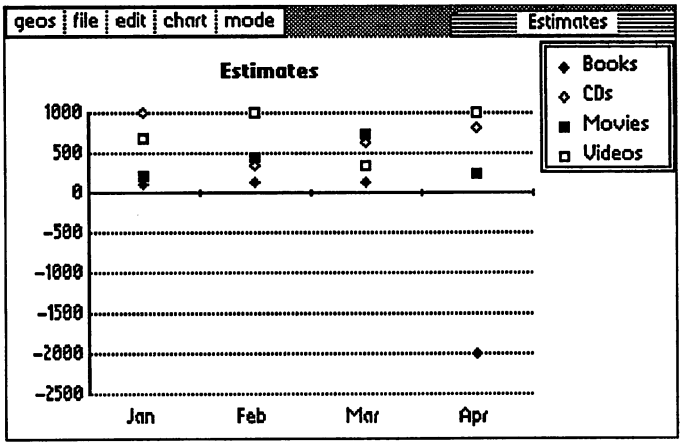
Pie Chart

Use a pie chart to plot only one data series. A dialog box will enable you to select which data series you would like to plot. Pie charts do not accept negative values.



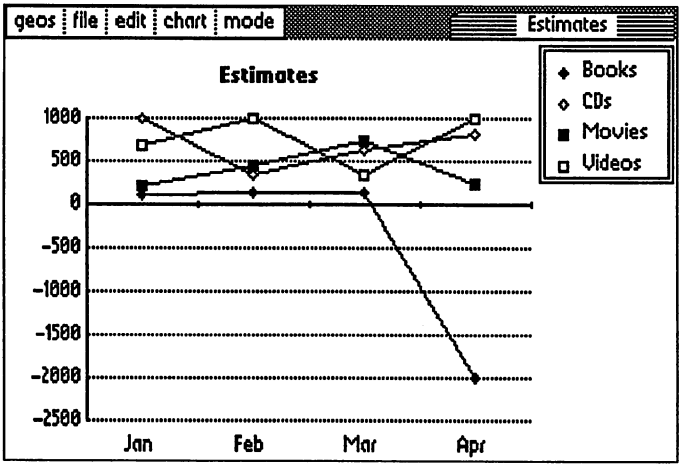
Point Chart

Point charts will enable you to plot all four data series.



Line Chart

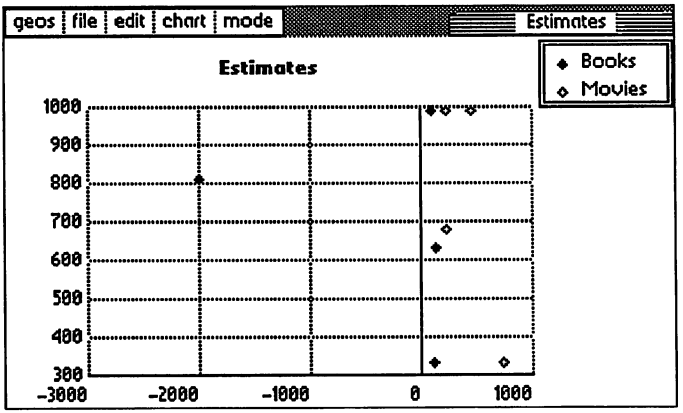
Line charts will enable you to plot all four data series.



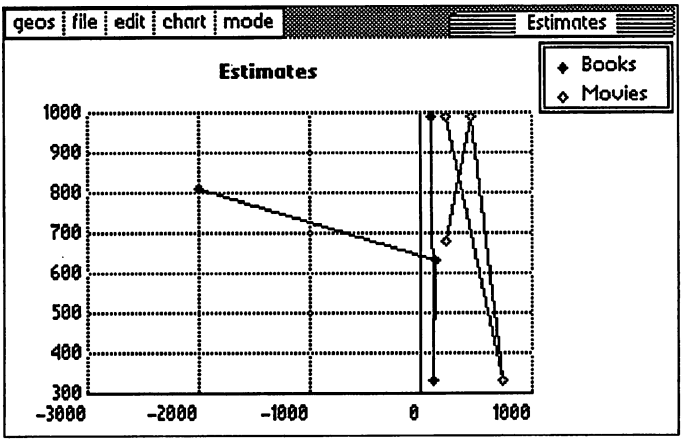
Scatter Charts

A scatter chart will eliminate the category labels (e.g., Jan, Feb, Mar, and Apr in the line chart above) and replace these with the text scrap data's X axis values. Note that the legend, which displays the chart's series labels, will also be affected. In the scatter chart on the next page, the CDs series has been combined with the Books series, and the Videos series has been combined with the Movies series.

Scatter charts have two styles: point and line. Here is a scatter line chart:

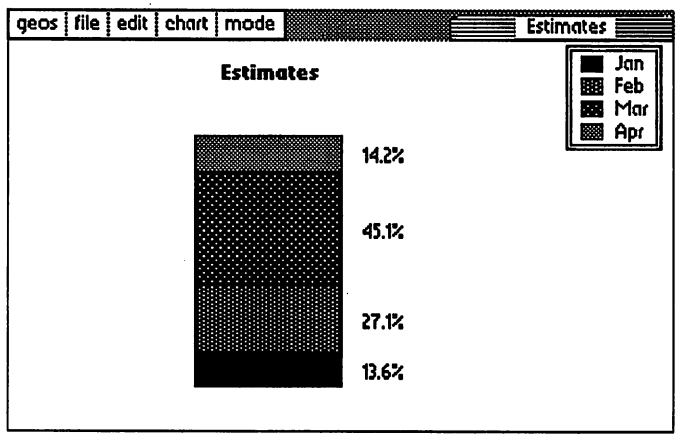


Here is a scatter line chart:



Unibar Chart

As with pie charts, a unibar chart will plot one data series at a time. A dialog box will enable you to select the series you would like to chart. A unibar chart will not accept negative values.



Appendix D: Error Messages

All values are zero.

- The data series values you are trying to place in a unibar or pie chart are all zeros. Try using a different chart type if you wish to chart a data series containing zero values only.

Bad format found in text scrap.

- geoChart is unable to recognize the text scrap's format. The charting data you copied into the text scrap may have been incorrectly prepared. You will need to exit geoChart and edit the charting data in the original source document.

  NOTE Refer to Chapter 3, "Preparing a Text Scrap" (page 25) for how to set up the charting data.

Cannot have negative values in unibar or pie charts.

- The data series you tried to chart in a unibar or pie chart contains a negative value. Try using a different chart type if you wish to chart negative values.

Cannot install geoChart to this disk.

- You tried to install geoChart on a work disk. As with all GEOS applications, you can only install geoChart from its original application disk. Close the current disk and install geoChart from its application disk. After you have installed geoChart, copy the geoChart file to your work disks.

Can't find printer driver.
Printer is inaccessible.

- There is no printer driver on the work disk. If there is a printer driver on the work disk, make sure that is has been selected as the default printer driver. To select a printer driver, go to the deskTop and choose **select printer** from the **geos** menu. A dialog box will display the names of all the printer drivers on the disk. Click on the appropriate printer driver, then click **OK**.

  NOTE If you are using GEOS 1.3, refer to "Choosing a Printer Driver & Printing," page 2-24, and "Selecting Your Printer as the Default

Printer," page 2-28, of the *GEOS User's Manual*. If you are using GEOS 2.0, see "Setting Up Your Printer," page 17, of the *GEOS 2.0 User's Manual*.

Disk error reading text scrap.

- There is a problem with the disk in that geoChart cannot read the text scrap, or that the work disk does not contain a text scrap. Exit geoChart and make sure the text scrap has been copied to the work disk containing the geoChart application.

Invalid label in text scrap.

- The charting data in the text scrap contains a label in the region reserved for values. You will need to exit geoChart and edit the charting data you tried to import into geoChart.

  NOTE Refer to Chapter 3, "Preparing a Text Scrap" (page 25) for how to set up the charting data.

Need at least 2 series for a scatter plot.

- You tried to select a scatter chart when the current chart contains only one series charted (i.e., one grid row or column in Data Mode). Click **OK** to return to Chart Mode. Go to Data Mode and in the grid, select at least two rows or columns of grid cells. A scatter chart will interpret two grid row or column cell selections as one data series. After at least two rows or columns of grid cells have been selected and charted, you can use a scatter chart.

Not enough free space on disk for desk accessory.

- Desk accessories require at least 10K bytes of memory on the current work disk. If you wish to use the desk accessory, you will need to delete files to make room.

Not enough space for chart.

- The number of characters and the point size of a text string are too large and leave no room for the chart area. Either edit the text string so that it contains fewer characters, or use a smaller point size. You can change the text in a chart by using the **change text** option in the **edit** menu.

Not enough values for area chart.

- Area charts require at least two data points in a data series. In Data Mode, you will need to select more than one grid cell (since each cell represents a data point value) if you wish to use an area chart.

Operation canceled due to disk error: missing or unformatted disk.

- If the disk you are trying to open is formatted, then you may have improperly inserted the disk into the disk drive. Click **OK** and re-insert the disk, then try opening the disk again.

Pasting will destroy old data.

- The text scrap you are about to paste into the geoChart document will overwrite any data currently in the chart, including the generic chart that appears when you first create a geoChart document. Click **OK** to paste the text scrap's charting data into the document, or click **Cancel** to stop the operation and retain the current charting data.

Please insert a disk with deskTop V(#) or higher.

- You tried to exit a document when there is no DESKTOP file on the work disk. Remove the current disk from the disk drive and insert the System disk, which contains the DESKTOP file. (If you are using GEOS 2.0, make sure you insert the System disk you booted with.) Click **OK**. You will be returned to the System deskTop. If you wish to avoid this procedure in the future, copy the DESKTOP file to your application work disks.

Printer is inaccessible.

- See the instructions for the "Can't find printer driver" error message.

Range is too large.

- The range of values you tried to chart is too big. The difference between the largest value and the smallest value must be less than $10e^{63}$. You will need to exit geoChart and edit the charting data you tried to import into geoChart.

  NOTE Refer to Chapter 3, "Preparing a Text Scrap" (page 25) for how to set up the charting data.

Text scrap too big.

- The charting data in the text scrap contains too many rows and columns. You will need to exit geoChart and edit the charting data you tried to import into geoChart.

NOTE Refer to Chapter 3, "Preparing a Text Scrap" (page 25) for how to set up the charting data.

The file (name) is write protected and can't be deleted.

- You can easily change a file's write protect status. In the dialog box, click **OK** to return to the deskTop. Highlight the file's icon, then select **info** from the **file** menu. A dialog box displaying basic information about the file will appear. Look for the **Write Protect** option (it's below the author's name). Click on the filled box next to **Write Protect**. The box will become hollow, indicating that the file's write protection has been removed. To exit the **file info** dialog box, click on the **close** button in the top right corner. Now you can delete the file.

Too many columns in scrap.

- The text scrap contains more than 50 columns of values. You will need to exit geoChart and edit the charting data your tried to import into geoChart.

  NOTE Refer to Chapter 3, "Preparing a Text Scrap" (page 25) for how to set up the charting data.

Too many rows in scrap.

- The text scrap contains more than 25 rows of values. You will need to exit geoChart and edit the charting data you tried to import into geoChart.

  NOTE Refer to Chapter 3, "Preparing a Text Scrap" (page 25) for how to set up the charting data.

Too many series. Do you want a scatter plot?

- In Data Mode, you tried to select more than four rows or columns of grid cells. For a non-scatter chart, one row or column of selected grid cells represents one data series. A scatter chart requires the selection of two, not one, rows or columns of grid cells in order to specify one data series. Therefore, you can select up to eight rows or columns of grid cells (which represent four data series) to chart data for a scatter chart. If you wish to use a scatter chart, click **OK**. You will be returned to Data Mode so that you can resume your grid cell selections. When you exit Data Mode, the data will be placed in a scatter chart. If you do not wish to use a scatter chart, click **Cancel**. You will be returned to Data Mode.

NOTE For more information on scatter charts, refer to "The Grid and Scatter Charts," page 59, "Using the Grid for Scatter Charts," page 62, and "Selecting Scatter Point and Scatter Line Charts," page 69.

Too many values for bar chart.

- You have tried to place a text scrap containing too many values for a bar chart to display. This is because the screen is smaller vertically than it is horizontally. Therefore, charting data that fits in a column chart may not necessarily fit in a bar chart. Try using another chart type.

You have not pasted any data.

- You have tried to enter Data Mode without having pasted any data into the document. If a correctly prepared text scrap is on the current work disk, you can paste the text scrap into the geoChart document by selecting **paste** from geoChart's **edit** menu (or pressing [C=] [T]).

  NOTE Refer to Chapter 3, "Preparing a Text Scrap" (page 25) for how to set up the charting data in a text scrap.

You will have to re-select data.

- You have tried to select a desk accessory while in Data Mode. You will be able to use the desk accessory; however, the selections you made in the grid will be cleared. If you wish to go ahead and use the desk accessory, click **OK**. When you exit the desk accessory, you will need to re-select data in the grid. If you wish to keep the current grid cell selections intact, click **Cancel** to return to Data Mode without using the desk accessory.

Appendix E: Demo Program

The GEOS demonstration program is provided on Side 2 of your geoChart program disk. Use this demonstration program to get an introduction to some of Berkeley Softworks' most popular programs, including GEOS 2.0.

Once you open the GEOS demonstration program, it will continue until it completes its performance, then it will return you to the deskTop afterwards. You can interrupt the program at any time.

If you wish to:	*Do the following:*
Move to the next dialog box	Press the space bar.
Stop a screen	Hold down C= and press S.
Continue after stopping	Hold down C= and press C.
Exit to the deskTop	Hold down C= and press Z.

To open the demonstration program:

1: Boot GEOS.

NOTE If you are using a Commodore 128, boot GEOS in 64 mode.

2: Remove the System disk from the disk drive.

3: Insert Side 2 of the geoChart program disk into the disk drive. Activate the disk by clicking on its disk drive icon.

4: When the Demo deskTop appears, look for the GEOS DEMO file icon.

the GEOS DEMO file icon

5: Double-click on the GEOS DEMO file icon to open it.

NOTE Another method is to click once on the file icon so that it is highlighted, then select **open** from the **file** menu.

The GEOS demonstration program will begin. Enjoy!

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geoChart Registration Card

Please complete this card to register for product support and new product information.

Your Name _____
Company Name _____
Address _____
City _____ State ____ Zip _____
Purchase Date _____ Phone _____

Dealer's Name _____
Address _____
City _____ State ____ Zip _____
Phone _____

To assist us in serving you better, please take a moment to answer the following questions.

1. Computer system: ☐ Commodore 64 ☐ 64c ☐ 128
   Additional hardware: ☐ monitor ☐ printer _____
   ☐ joystick ☐ mouse ☐ Koala Pad ☐ Inkwell light pen
   disk drives: ☐ 1541 ☐ 1571 ☐ 1581 ☐ 1750 REU ☐ 1764 REU

2. What do you use your computer for? (Check all that apply. Circle primary use.) ☐ home ☐ work ☐ school ☐ other _____

3. Primary user's age: ☐ under 18 ☐ 18–24 ☐ 25–34 ☐ 35–49 ☐ over 50
   Primary user's sex: ☐ male ☐ female

4. Please indicate your level of computer expertise:
   ☐ novice ☐ beginning ☐ intermediate ☐ advanced

5. Please rate your initial impressions with geoChart on a scale of 1 to 5 (5 being the highest):

   ____ ease of use ____ quality of printed output ____ performance
   ____ quality of user's manual ____ overall satisfaction

6. How do you find out about new software products?
   ☐ magazines ☐ work ☐ TV ☐ newspapers ☐ friends
   ☐ user group/computer club ☐ computer/other retail store

7. Please check all GEOS-based application products that you own:

   ☐ GEOS 2.0
   ☐ GEOS
   ☐ geoWrite Workshop*
   ☐ geoFile
   ☐ geoCalc
   ☐ DeskPack1
   ☐ FontPack1
   ☐ geoPublish
   ☐ geoDex

   ☐ GEOS 128 2.0
   ☐ GEOS 128
   ☐ geoWrite Workshop 128
   ☐ geoFile 128
   ☐ geoCalc 128
   ☐ DeskPack *Plus*
   ☐ FontPack *Plus*
   ☐ geoProgrammer 2.0
   ☐ geoProgrammer

   * formerly Writer's Workshop

8. Which magazines do you read?
   ☐ Commodore Magazine
   ☐ Ahoy!
   ☐ Compute!'s Gazette
   ☐ Family & Home Office Computing
   ☐ Run
   ☐ Info
   ☐ Compute!
   ☐ BYTE

9. Additional comments/suggested improvements: _____

Part No.: 14-0303-0110

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