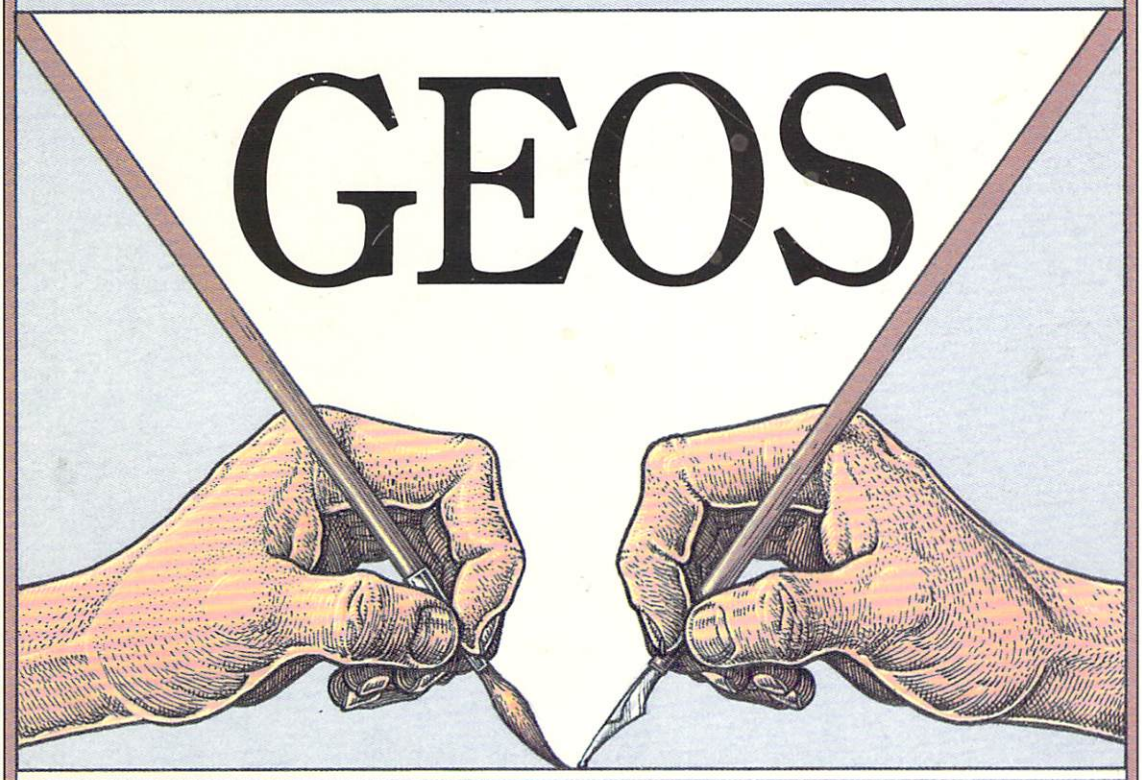
COMPUTE!'s

USER'S GUIDE TO

GEOS



GEOPAINT & GEOWRITE

Neil J. Salkind

An extensively illustrated, complete guide to creating your own graphics, word processing, and desktop publishing applications with *GEOS*, the exciting new graphics environment for the Commodore 64.

COMPUTE! LIBRARY SELECTION

COMPUTE!'s USER'S GUIDE TO GEOS

GEOPAINT & GEOWRITE

Neil J. Salkind

COMPUTE! Publications, Inc.
Part of ABC Consumer Magazines, Inc.
One of the ABC Publishing Companies
Greensboro, North Carolina

For my sister, Phyllis, and her family.

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

ISBN 0-87455-080-7

COMPUTE! Publications, Inc., Post Office Box 5406, Greensboro, NC 27403, (919) 275-9809, is part of ABC Consumer Magazines, Inc., one of the ABC Publishing Companies, and is not associated with any manufacturer of personal computers. Commodore 64, 64C, and Commodore 128 are trademarks of Commodore Electronics Ltd; deskTop, *diskTurbo*, *geoPaint*, *GEOS*, and *geoWrite* are trademarks of Berkeley Softworks.

Contents

Foreword

The new *GEOS* system, which includes *geoPaint* and *geoWrite*, has moved Commodore home computers into an exciting new world. Commodore owners now can access their machines through user-interface tools—pull-down menus, windows, and icons—by using a joystick or mouse to control screen input. *COMPUTE!'s User's Guide to GEOS* is your key to learning to take advantage of these tools quickly and easily.

With *GEOS*'s word processing component, *geoWrite*, you'll be able to do all your text-writing jobs, from simple letters to complete manuscripts. And you'll learn how to move material back and forth between *geoPaint* and *geoWrite*. The possibilities of desktop publishing, where you can actually produce and control your own publications, are truly exciting.

Along the way, you'll learn to use the special *GEOS* desk accessories like the calculator, the note pad, the text album, and the scrap book, which will help you get organized. These devices will make your computing life easier, whether it's jotting down notes to yourself or calculating figures while you're actually working on a document.

COMPUTE!'s User's Guide to GEOS is a complete tutorial and sourcebook, with detailed information and handy tips on using the techniques available to you. You'll be guided by illustrations that will show you exactly how to create different effects and that will spark your imagination for interesting projects to try.

In the appendices you'll find a quick reference to the hierarchy of the pull-down menus that occur throughout *GEOS*, plus a glossary that defines unfamiliar terms.

In short, *COMPUTE!'s User's Guide to GEOS* is all you need to master the *GEOS* system. You'll discover that the potential applications are both easy to accomplish and powerful.

Acknowledgments

In writing and having *COMPUTE!'s User's Guide to GEOS: geoPaint and geoWrite* reach your hands, I have several people to thank.

Bill Gladstone, my agent, made the initial contacts that were necessary to see this project come to light and showed the excitement for the idea that helped speed it on its way.

Stephen Levy, editor at COMPUTE! Books went out of his way to find time to return calls, answer the most mundane questions day after day, and provide the encouragement that is essential to completing such a project. Some editors seem to think their job ends when the contract is signed; to all his authors' benefit, he believes that's when it begins.

Along with Stephen, I want to thank other editorial and production people at COMPUTE!, especially Ann Davies, who checked and double-checked the manuscript for consistency and accuracy. Any success this book sees, is to a large extent, due to her attention and commitment to quality.

Finally, I would like to thank Leni, a full-time parent and professional who stayed on into the wee hours and was always available to check ideas, outlines, and the general appearance of things.

Micah, a two-year-old with two speeds—fast and stop—was fascinated by the images on the screen, and Sara, his ten-year-old sister, was excited about the project from the beginning.

For all their energy and enthusiasm for life, I owe them thanks, and for their patience and understanding.

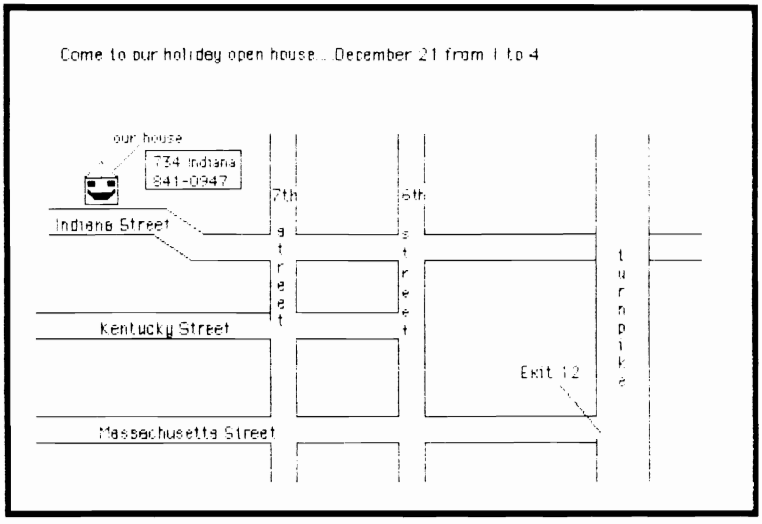
Chapter 1

Welcome to *GEOS*

Welcome to *GEOS*

The Williams family have just finished making plans for their annual holiday open house. This year, they used *GEOS* to prepare a combination map and invitation. Figure 1-1 is what they'll be sending.

Figure 1-1. Open House Invitation



The family down the block have sold their house and they will be having their final yard sale. Rachael's teddy bear, a chair, a dresser, and other things will be up for sale. The for-sale sign in Figure 1-2 was done with *GEOS*.

Finally, for his upcoming newsletter about children, Bill needs some eye-catching pictures. His friend got him started with the clown you see in Figure 1-3. It was created with *geoPaint*, the graphics part of *GEOS*.

All these people used *GEOS*, a new tool for your Commodore 64 or 128 in 64 mode that offers the advantages of a desktop environment and frees your creative energy and ideas. *GEOS* is not just another software

Figure 1-2. Yard Sale

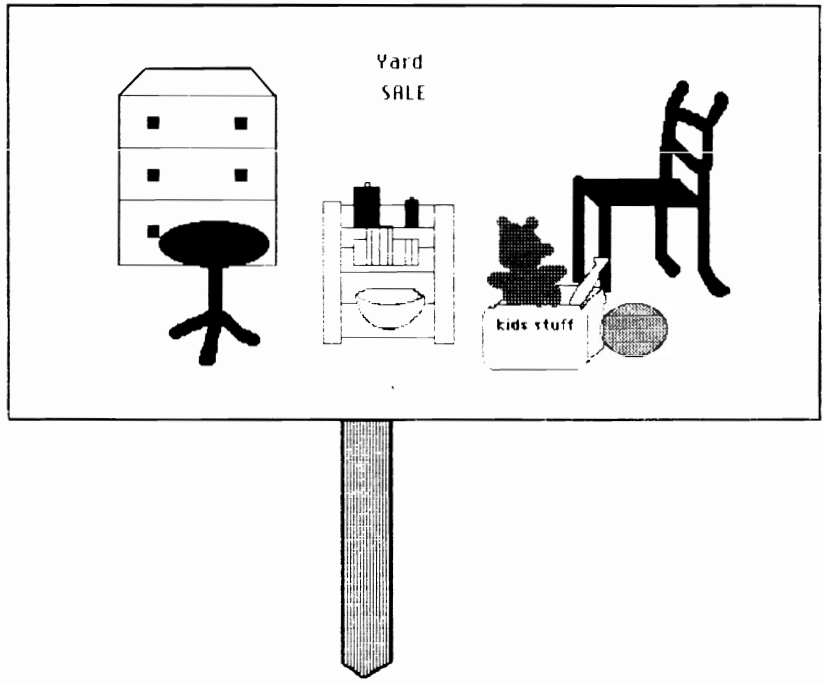
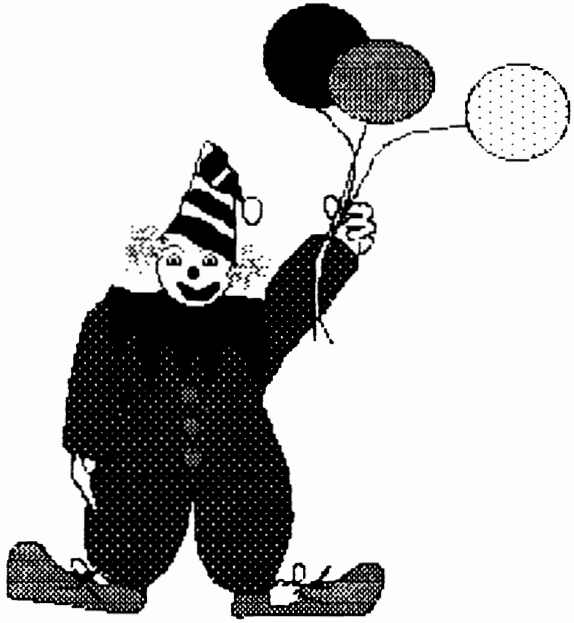


Figure 1-3. Clown



program. It's a completely new operating system that allows you to interact directly with your computer in a way that no other product designed for the Commodore ever has before. It may also be the software that will give you the most fun and satisfaction with your Commodore.

The letters in *GEOS* stand for Graphics Environment Operating System. *GEOS* offers you a set of tools and timesavers that until now have been available only on far more expensive computer systems.

Using *GEOS*, you'll learn how to write form letters and personalize each one of them, design and print out elaborate signs, draw graphics in color, and even have *GEOS* help calculate your bills, keep track of time, and remind you of important appointments. Best of all, you can combine many of *GEOS*'s special features, such as drawing and text, as you have seen in Figures 1-1 and 1-2.

You'll find that using *GEOS* is as simple as choosing an item from a restaurant menu. You use a joystick to select an *item* from a *menu* by moving the pointer and pressing the fire button. No need to type lengthy filenames or commands. By selecting with the joystick pointer and pressing the fire button, you control the drawing of figures, editing of text, selecting of files, and other important operations.

Using This Book

If this is your first experience with a Commodore home computer, read the setup section in your owner's manual. Before you begin using *GEOS*, be sure the computer, printer, disk drive, and joystick are all connected properly.

To begin learning and enjoying *GEOS*, browse through this book to become familiar with what material is covered and how the book is organized. Knowing what's where will be a great help later when you begin to combine different *GEOS* applications, such as *geoWrite* (the word processor) and *geoPaint* (the graphics-design tool).

Appendix A is a summary of all the *GEOS* pull-down menus and menu items. Refer to it if you get stuck and can't remember what sequence of commands is needed to perform a certain operation, such as selecting or deleting a file.

While you're browsing is also a good time to become familiar with some of the new terms. Although you will learn the definitions and use of these terms as you work through *COMPUTE!'s User's Guide to GEOS*, by seeing them first you will get a head start on understanding what they mean and where they fit in. They're defined in the glossary (Appendix B).

Use the index to find the location of specific information you want to know more about. The same *GEOS* feature might be mentioned in several places throughout the book.

Use your time well. Don't try to master *GEOS* in one or two sittings. Give yourself plenty of time to read each section carefully. Instead of working for a few long sessions, you'll be much better off working in small chunks of time with less effort than in one marathon sitting that can leave you exhausted and frustrated. Even though the *GEOS* system is simple and straightforward, it takes time to master any good program. Learning *GEOS* should be as enjoyable as using it.

While you're learning *GEOS*, you will be acquiring some new basic skills. These will become the foundation upon which you will base your own *GEOS* creations. When you see that figures are used to illustrate points, try these hands-on exercises yourself. For example, one of the first steps in learning to use *GEOS* properly is making a backup disk. Don't just read about it, do it. Follow the step-by-step directions. If you are unsuccessful, reread the section and try again.

Once you have completed these exercises, you'll find that what you have learned fits together with the other parts of *GEOS* that you have already mastered. Soon, you'll have the whole system under control. Then the real fun of knowing *GEOS* and applying it will begin.

An Overview

GEOS's desktop environment offers several features. Here's a brief description of what each is and what it does.

First, there's the *GEOS* **deskTop.** This is the *GEOS* operating system and is the heart of everything that *GEOS* can do. The deskTop allows you to work with the *GEOS* disk system. It provides a bridge between your commands and the execution of those commands by *GEOS*. So when you move the pointer and click the fire button, it's the deskTop system that instructs your Commodore where to go and what to do once it gets there.

GEOS's word processor, ***geoWrite,*** allows you to enter text, edit it as you see fit, save it, and print it. You can then return to it later when you might want to print it out again or continue revising it. You can even move one section of a document to another part of the same (or another) document, or you can change from one font (shape of letter) to another—either before or after you have finished typing.

With *geoWrite* you can turn your Commodore 64 into an electronic typewriter that can store up to 64 pages of text in any one file. Word processing is the number-one use for personal computers like the Commodore. Learning to use *geoWrite* will provide you with a valuable timesaving skill.

For example, you might want to use *geoWrite* to write a short report, save the document as a text file, and, when you have more time, revise it before submitting the final copy to the boss. What about the

PTA treasurer's report that you had to type over seven times before getting it right? Or the records for the lodge anniversary celebration that should be updated?

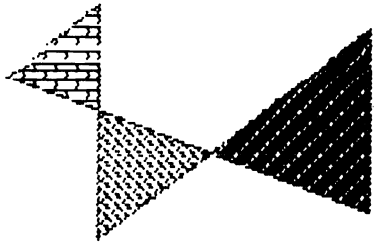
With *geoWrite* you can use different fonts like California bold or Roma bold to give your letters and notes an extra professional touch (Figure 1-4).

Figure 1-4. California and Roma Fonts

This is an example of California font (12 point)

This is an example of Roma font (18 point)

Figure 1-5. Three-Pattern Design



The *GEOS* graphics editor is called ***geoPaint.*** This feature provides a toolbox of 14 tools with which you can draw pictures, figures, and diagrams. You can then save them, print them, revise them, and even combine them with other *geoPaint* images.

You can use one of the 32 predesigned patterns to achieve texture in your images, change patterns when you wish, color them, save them, and then change the color. You even have 32 different brush patterns to choose from as well. The possibilities seem endless...and perhaps they are.

Figure 1-5 is a simple design that was completed by using *GEOS* and three of the 32 patterns that *geoPaint* makes available for filling spaces.

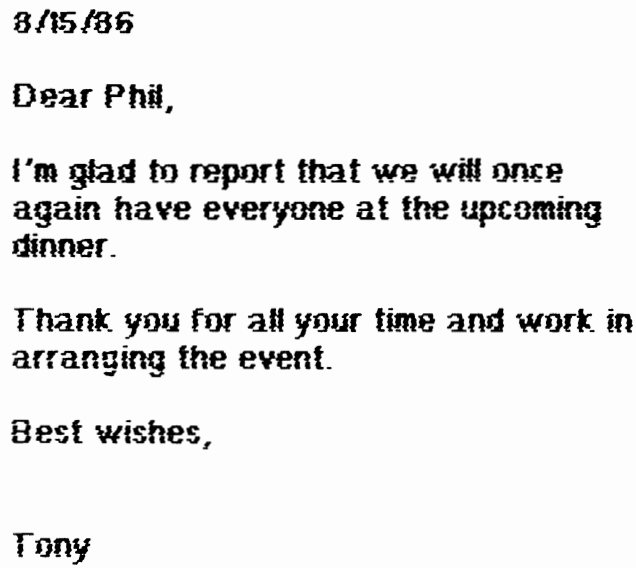
The **desk accessories** file contains six useful aids that you can call at any time:

- An *alarm clock,* which lets you set the time and date and actually rings (very handy in reminding you it's time to check the soup or make that phone call).
- A *calculator* that you can use just like a hand-held calculator to do everything from adding numbers to finding square roots.
- A *note pad* for jotting down notes and ideas (especially useful when you are working in *geoPaint* or *geoWrite* and have an idea that just can't wait).
- A *photo manager* for organizing graphics and drawings, enabling you to construct photo albums (sets of different graphic images).

- A *text manager* that helps you manage different blocks or sections of text and construct text albums.
- A *preference manager* for controlling certain features of *GEOS* such as the screen background and foreground colors and the speed with which your pointer moves.

What's especially useful about the desk accessories is that they are available to you even during the operation of other *GEOS* applications. For example, in Figure 1-6, you can see part of a memo sent to the vice president of a running club about the upcoming banquet. The calculator can be used to compute the cost of the dinner for the entire group. It will appear right on the screen. When the computation is finished, the calculator will be removed, and the note printed.

Figure 1-6. Memo



As you work through each of the main *GEOS* application programs, you will see examples of how the desk accessories can be used.

The three main applications features of *GEOS* are *geoWrite, geoPaint,* and the desk accessories. These are the applications that you will probably use most of the time. Other GEOS files and features, such as GEOS Kernal or GEOS Boot, are necessary only for starting GEOS and managing files and disks.

GEOS has one other special feature that you should know about before you continue reading: a *diskTurbo* feature that makes the 1541

disk drive operate as much as seven times faster than normal. This becomes especially handy as your files grow large in size and in number.

What You Need to Use *GEOS*

You need four components in your computer system to operate *GEOS:*

- Commodore 64 or 128 (in 64 mode) computer
- At least one 1541 or 1571 disk drive
- Monitor (either monochrome or color) or television
- Joystick or Commodore 1350 mouse to control the pointer on your *GEOS* screen

While a printer is not necessary, it is recommended. It allows you to make hardcopies of your work, usually something that everyone wants to or needs to do sooner or later.

You should connect each of these separate components as described in the manual that comes with your computer. If you have trouble starting *GEOS,* the first thing to check is that the connections between the different components of your system are correct and tight. If you still have trouble, refer to the trouble-shooting chapter (Chapter 7) in the *GEOS User's Guide.*

How to Use *GEOS*

GEOS is easy to learn and use because of two significant features. First, it uses windows. Windows are separate sections of the monitor screen that can include everything from a directory of what's on a disk to an entirely different application, or they can simply display a message telling you to place a different disk in the disk drive.

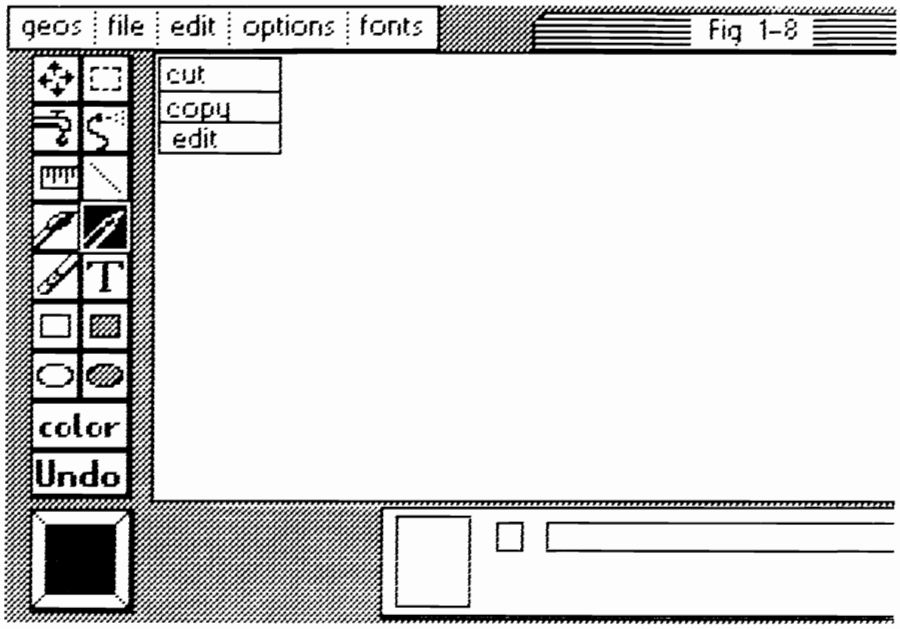
Figure 1-7 illustrates a screen with several different windows. If it

Figure 1-7. Sample Windows

looks a bit confusing, don't be concerned. Each window has a separate function and operates independently. You'll learn about each one as you read and work through *COMPUTE!'s User's Guide to GEOS.*

The second major feature is that *GEOS* uses pull-down menus (Figure 1-8). You know what a menu is—a list of things from which you can choose. The menus that *GEOS* uses are accessible through clicking on the main window menu located in the upper left corner of the screen. These menus are called pull-down menus because you virtually pull them down by moving the pointer over them, clicking, and then selecting one of the items on the menu.

Figure 1-8. Pull-Down Menus



In Appendix A, you will find a complete list of all the window menus and the pull-down menus that go with them, plus an explanation for what each of them does.

When you see a main menu in a window, you will know that clicking on one of the pull-down menus will cause another pull-down menu to appear. There may even be multiple levels of pull-down menus. For example, when you choose a font, another window will pop up asking what size you want.

The *GEOS* Source Disk and Backups

Before you begin doing anything with *GEOS*, you should make a back-up of the master disk, or *source* disk. The source disk is the original disk that came in your *GEOS* package. This is the disk that you will need when you create work disks, and it serves as a backup should anything happen to your original source disk.

When you have finished this section of the book, you should have one backup disk that will be stored for safekeeping and several (at least two) other backup disks that will become work disks. You will use work disks for storing your personal files.

Making Backup Disks

A backup disk is essential for two reasons. First, you may accidentally erase an important *GEOS* file from the source disk, or your disk may be physically damaged. If you manage to lose an important file or damage any of your work disks, you can use the backup to rebuild or restore the file you need by simply copying it from the source disk onto a work disk.

Second, your source disk does not have enough space on it to store all the new files that you will be creating while you're learning and using *GEOS*. A work disk will eventually have more room on it, since unnecessary files (such as GEOS Kernal) can safely be removed.

In other words, any additional information, such as files created with *geoWrite* and *geoPaint*, can't fit on the original or on an exact copy of the *GEOS* source disk. To use any of the *GEOS* applications and pull-down menus and also have enough room to save the new files that you have created, you must remove some unneeded files from the copied *GEOS* disk.

Helpful Hints

If you own a Commodore 64C, two work disks have already been prepared for you and are enclosed in your *GEOS* package. You'll want one of them to be a backup and the other to be your first work disk. You will no doubt need more than one work disk, so don't ignore this section on preparing disks.

GEOS work disks are especially important since you never work directly on the *GEOS* disk, but always on a work disk. The *GEOS* source disk is used only to boot your *GEOS* program and get it running. You will soon learn to transfer all the important *GEOS* files over to a work disk.

By creating your first work disk, you will also have an opportunity to become familiar with the way in which *GEOS* actually works, including the use of window menus, pull-down menus, and icons.

Backing Up the Source Disk

To make a backup copy of your *GEOS* source disk and then create your first work disk, follow these steps.

1. Turn on your computer and your disk drive. Connect your joystick to port 1 on the right side of the computer. Port 1 is the one that is closest to you.
2. Place the master *GEOS* disk (the one with the white *GEOS* label) in the disk drive and close the door. During the backup procedure, this disk will be called the source disk. Make sure that the disk label is facing up when you insert it.
3. Type the following command:

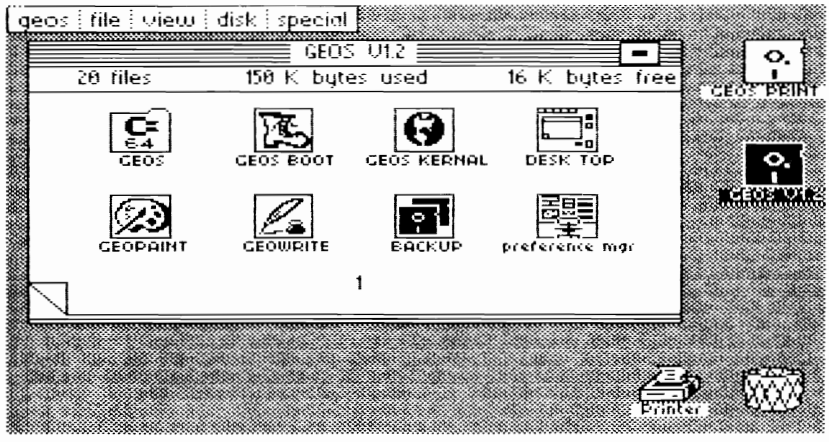
   LOAD "GEOS,"8,1 <RETURN>

   The <RETURN> means press the RETURN key. Remember that there are no spaces between the commas, the 8, and the 1. If you make a typing mistake before you press RETURN, use the INST/DEL key to back up and make corrections.

As soon as you press the RETURN key, the disk drive will begin spinning, and a message will soon appear on the monitor indicating that *GEOS* is being booted, or loaded, into your Commodore 64 system.

A moment later, you should see the opening *GEOS* screen (Figure 1-9), which is called the *GEOS* deskTop.

Figure 1-9. *GEOS* DeskTop



You can see that there are several different parts to the *GEOS* opening screen. The *command bar,* located at the top left corner, contains a number of items to choose from: *geos, file, view, disk,* and *special.* This command bar is also called the *window menu.*

On the screen, you will also find several different icons, or pictures, that stand for different files or tasks that *GEOS* can perform. In the lower right corner there's a trash can icon that you'll use to throw out unwanted files. Next to it is a convenient printer icon. You'll use it to print out the contents of a file.

You'll notice a dog-eared corner at the bottom left of the screen. If you click once on the dog-ear, you'll flip the page and be able to see more *GEOS* files, both those you have created and those that are part of the *GEOS* package. You can keep turning the page until you finally are returned to page 1 when you have run through all the files.

One of the icons on the main part of the screen is titled Backup. This is the next thing that you'll learn to do. You will select and use Backup to make at least two copies of the master *GEOS* disk. One backup will be stored for safekeeping; the other will be used to create your first work disk. After that, you can use this procedure to create as many work disks as you need.

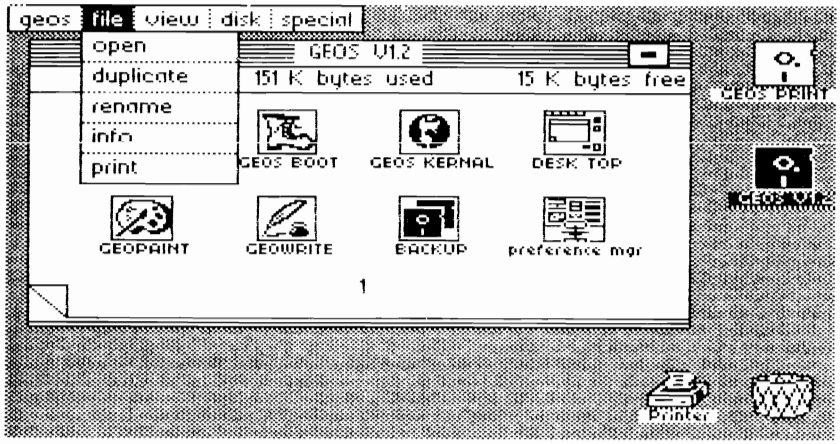
To get started making a backup, select the Backup icon on the deskTop screen. Using the joystick, move the pointer over the Backup icon and press the joystick fire button just once. The color pattern will reverse (the black will become white, and the white will become black), indicating that the Backup icon has been selected. This change in colors is called *reverse video.* It is used throughout *GEOS* to indicate that an icon has been selected or is active.

Next, move the pointer to the window menu to select the *file* pull-down menu. Click the fire button once again. Here is the first demonstration of how *GEOS* offers pull-down menus so that you can select the one you need from several different items. The *GEOS* system assumes that you want to open the file, and the pointer arrow automatically points to that item in the pull-down menu (Figure 1-10).

Now click the fire button a third time to open the file called Backup. The red light on the disk drive will come on, and the next screen you see will contain a message asking whether you want to format a disk.

Before proceeding, remove your *GEOS* disk and place a blank work disk in the disk drive.

Figure 1-10. Opening a File



Helpful Hints

There is another way to select any *GEOS* file, which is much quicker and doesn't use the open-file procedure that was just described. You can open any *GEOS* file by placing the pointer over the icon and giving two clicks of the fire button in rapid succession. This procedure, which will automatically open a file, is called *double-clicking.*

Formatting a Disk

You can now either press the F key to format the new disk, or you can enter Q to quit. Since you are making a backup and first have to format a blank disk, you should press the F key and then the RETURN key. A message will soon appear on the monitor screen indicating that the disk is being formatted. Formatting a disk divides it into separate sections so that the Commodore and *GEOS* operating systems can read and write information quickly and accurately. The formatting process takes a few minutes to complete.

After the formatting process has been completed, the next message on the monitor will be

INSERT SOURCE DISK, AND ENTER 'C' TO COPY (C)?

This message lets you know that *GEOS* is ready to copy from the source disk to the blank disk (which *GEOS* now calls the *destination disk).*

Your blank destination disk has been formatted, so it is now time to return the *GEOS* source disk to the disk drive. The *GEOS* Backup file

not only formats your disk, but it also copies files from the source disk onto the blank formatted disk. Insert the source disk and press the C key and the RETURN key.

GEOS immediately gives you the message

READING SOURCE DISK....

By reading the source disk (and storing it in your computer's memory), *GEOS* can then write it back onto the blank destination disk when it is inserted into the drive.

Finally, you will now see a series of messages, telling you to swap disks. The way *GEOS* works is that it reads as much information from the source disk as it has room to store in the Commodore's memory. Once the disks have been swapped, *GEOS* writes this same information onto the backup disk and clears its memory for the next batch of material.

GEOS will continue to give you swapping instructions until the entire disk has been copied. You will have to swap three times; then you will get the following *GEOS* message telling you that the backup is complete:

BACKUP COMPLETE!
INSERT GEOS BOOT DISK AND PRESS RESTORE

If you run into trouble, you can always begin again by reloading the original *GEOS* source disk.

While you have not yet created a work disk, you have completed the steps for making a backup copy of your *GEOS* disk. Now remove the backup disk and place the *GEOS* source disk back into the disk drive. Press the RESTORE key, and you will be returned to the *GEOS* opening screen.

Repeat these directions from the beginning of the backup section to create another backup. You will use that backup disk for your first work disk. When you are finished, you should have two backup disks, and the original *GEOS* deskTop screen (see Figure 1-9) will be displayed on your monitor.

Label one of these disks GEOS BACKUP, and put it in a safe place to be used if you have to restore any lost or damaged files. Label the other disk Working Disk 1. Both disks are exact duplicates of the *GEOS* source disk. One will remain a backup, and the other will become a work disk.

Helpful Hints

GEOS is designed so that only the source disk can be used to boot up the program. You cannot boot up the program with either a backup or a work disk.

Preparing a Work Disk

Closing a disk. In *GEOS*, as in many other software programs, when you are finished with a disk, you must close the disk. It's like closing the cover of a book before putting it back on the shelf. Closing a disk, like closing a book cover, helps keep the contents in order and safe from damage.

After you've rebooted *GEOS*, you must close the *GEOS* source disk. Do this by moving the pointer to the *disk* pull-down menu on the window menu and clicking. Then move the pointer in the *disk* pull-down menu to close and click again. This will close the *GEOS* disk.

When the disk has been closed, the *GEOS* drawing window will be blank, and the disk icon on the right side of the screen will show a question mark. This means that no active disk is in disk drive A and that *GEOS* is waiting for a new disk to be opened.

Helpful Hints

Another way to close a disk is by clicking the pointer on the close icon, the small black rectangle in the upper right corner of the opening screen. Clicking this square will automatically close whatever file you are in.

Opening a disk. Now that the *GEOS* source disk has been closed, open the door of the disk drive and remove it. Then replace it with the other backup disk that you have just made. Close the disk drive door.

Just as you have to close a disk when you have finished using it, you must open a disk before it can be used for any *GEOS* procedure. To open a disk, move the pointer to the *disk* menu on the window menu, click, and click again on *open.*

The disk drive should start spinning, and before long you should see the *GEOS* opening screen. Notice how the disk icon (on the right-hand side of the screen) reads GEOS V1.2, even though this is not the *GEOS* master disk. This is because it is a copy of the original source disk, and you have yet to change the actual name as it is recorded on the disk.

Renaming a disk. After the disk has been opened, you must rename it so that it will not become confused with other disks. From the window menu select *disk* and then from that pull-down menu, *rename.*

When you do this, you will be presented with your first dialogue box (Figure 1-11), where *GEOS* shows the current disk name and also asks you to enter a new disk name. *GEOS* uses dialogue boxes to get information it needs from you to continue operating.

Figure 1-11. *Rename* Dialogue Box

In order to rename a disk, you must first erase the old name. Backspace by using the INST/DEL key located in the upper right corner of the keyboard. Once you've erased the old name, type in the new name (Work Disk 1) and press the RETURN key. If you make an error in your typing, you can begin again by pressing the INST/DEL key.

You'll notice that *GEOS* renames the disk, and that the disk icon on the *GEOS* screen is now labeled Work Disk 1 instead of GEOS V1.2, as it was originally named.

You now have a work disk named Work Disk 1 and are ready to prepare it for *GEOS* applications by creating some room for applications files. You will do this by erasing some of the files that you don't need to use on a work disk.

Helpful Hints

It will probably save you much time and effort if you use separate work disks for different applications. In other words, you might have one work disk just for *geoWrite* files and a separate work disk for *geoPaint* files. Finally, as you will see later, you might also want a disk for files that use both *geoWrite* and *geoPaint*. In this way you can keep all your files organized under general headings, and you'll be able to retrieve them quickly. Later, when you begin to use both *geoPaint* and *geoWrite* files in the same file, you will have to borrow one file and copy it to another disk to use it there.

Deleting write-protected files. Some original *GEOS* files must be erased or deleted to make room on the work disk for your new files. Two in particular that can be erased from the work disk are the GEOS

Boot and the GEOS Kernal files. You should see an icon that represents each of these on the *GEOS* opening screen (Figure 1-9).

These two files are necessary only for loading and starting *GEOS*, so you can delete them without causing any effect on your work. Remember that you never start *GEOS* from a work disk, so you don't need to keep these on any work disk.

Helpful Hints

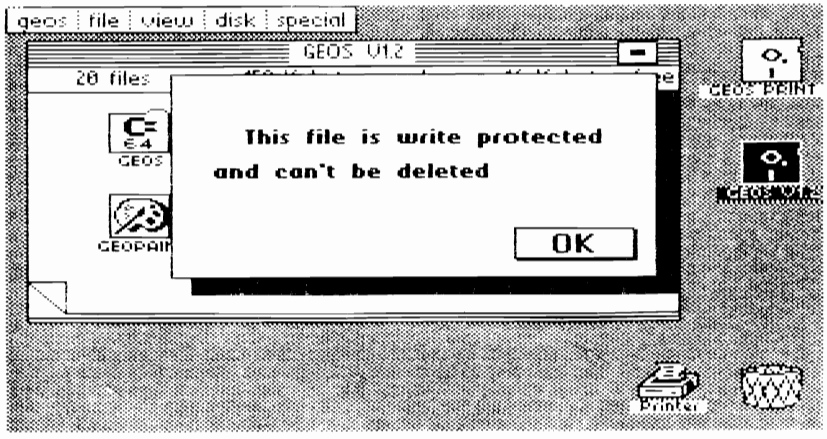
The GEOS Boot and GEOS Kernal files must remain on your source disk for you to be able to use *GEOS*. In no circumstances should you erase them or should you ever use the *GEOS* source disk as a work disk.

Deleting a file is just like throwing it away. *GEOS* provides you with a trash can for that very purpose. Some files are so important to keeping *GEOS* running, however, that special safeguards are built in to prevent accidental deletion. These files must first have their *write-protect* status changed.

Watch what happens if you try to delete one of these essential files. Move the pointer to the GEOS Boot icon and click it once; pause and click it once again. You will see a ghost of that icon. Move the joystick around, and you can see how the ghost icon moves as well. Now move the icon to the lower right corner of the screen, over the trash can, and click again.

A file that is not write-protected would have been deleted, and the icon would have disappeared from the screen. But, as you can see, with this file a *GEOS* dialogue box (Figure 1-12) tells you that the file is write-protected and cannot be deleted.

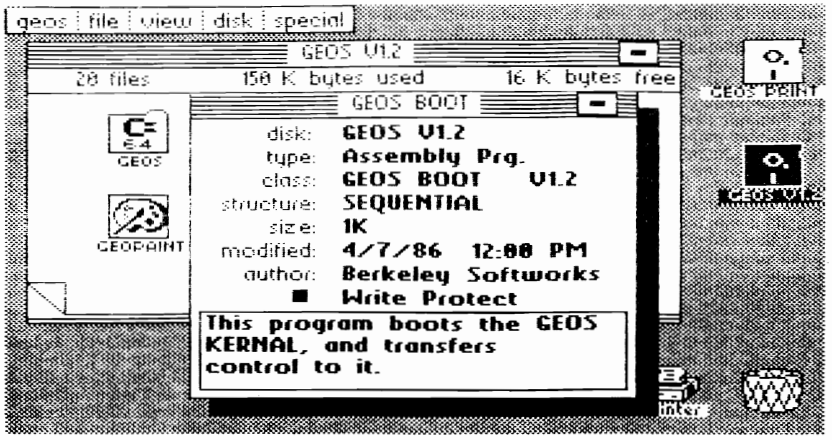
Figure 1-12. Write-Protected Dialogue Box



Before you can delete that file, you must change its write-protect status. First, return to the deskTop by clicking OK on the dialogue box, indicating that you are aware of the write-protect status of the file. Now select the GEOS Boot icon (one click), move the pointer to the *file* pull-down menu, and click. Then move to the pull-down menu item *info* and click again.

You now have a dialogue box (Figure 1-13) providing you with a substantial amount of information about the file. For now the most important piece of information is the write-protect status. When the small square to the left of the write-protect status message is solid, the file is protected. When it is hollow, it is not. As you can see in Figure 1-13, GEOS Boot is protected.

Figure 1-13. Protected File



To unprotect a file, move the pointer onto that square and click. When you do this, you'll see the square become hollow, indicating that the file is no longer protected. Finally, close the file by clicking the close file icon in the upper right corner of the dialogue box (not the close icon on the original *GEOS* deskTop screen). You should be returned to the opening *GEOS* screen.

Helpful Hints

There are sometimes two close icons on the screen. One will probably be on the deskTop screen, and one on a dialogue box. The rule is to use the close icon that is on the *last* dialogue box or screen that has appeared. For example, when you are closing a file that is write-protected, use the close icon on the dialogue box that gives you information about the file. When closing a disk, use the close icon that is located on the main, or deskTop, screen.

The GEOS Boot file is now unprotected. Since it is active, it will remain in reverse video. Move the pointer and click the GEOS Boot icon; then drag the ghost icon to the trash can and click again. You will soon see the ghost icon and the GEOS Boot icon disappear. The space on your work disk taken up by the Boot file is empty and available for your use.

You can also tell that the file has gone by noting that the amount of space, or number of free kilobytes (K), has increased as well. This is indicated on the *GEOS* screen.

Now repeat these steps to delete the GEOS Kernal file: Select the file, click *file*, click *info*, click off write-protection, click the close icon, and then delete the file by dragging it to the trash can.

Your last step in preparing a work disk is to close the work-disk file by clicking the close icon on the opening *GEOS* screen.

Helpful Hints

When you're creating work disks, the only two files that you should erase are the GEOS Boot and the GEOS Kernal files. As we go along, you will find other files that are not necessary for your particular needs, and you can delete them to make more room. But for now don't delete any files other than these two.

You have now created a work disk that has plenty of room for your application files. You might want to create several different work disks and save them for specific purposes. For example, you might want to use one work disk only for names and addresses and another for charts and signs. Don't be concerned about having files you want to combine together on the same disk. *GEOS* allows you to work with files from different disks and even transfer them back and forth.

Now let's move on to the first *GEOS* application, *geoPaint*.

Chapter 2

geoPaint

geoPaint:
The Artist in You

Ever wonder how other computer users make those wonderful drawings, complete with shaded areas that look as if a professional graphics artist has been hired? Or how they combine graphic images with text to make signs, invitations, and announcements?

With *geoPaint* you can accomplish these same things and more. *geoPaint* is a graphics editor. It allows you to create drawings, figures, graphs, and other images on the screen (and of course print them on paper). You can work with them until you are satisfied that they look exactly the way you want.

For example, Figure 2-1 was drawn with *geoPaint*'s pencil-drawing feature. With a little help from *geoPaint*'s more than 30 patterns, shade and color areas were used for the dog's nose and tongue.

Figure 2-1. Cocker Spaniel

The text part of this figure was created by using a special text feature of *geoPaint*. While not as flexible as *GEOS*'s word processor *geoWrite*, *geoPaint* gives you several options for adding text information to your *geoPaint* drawings and files. Further along in this book, you'll even learn how to use *geoWrite* and *geoPaint* together to control the most powerful features that *GEOS* has to offer.

Starting *geoPaint*

If you have not already done so, load your original *GEOS* disk into the disk drive and boot *GEOS*. When you see the *GEOS* opening screen, replace the source disk with one of your work disks.

Helpful Hints

Always remember to close a disk when you have finished using it (or whenever you remove it from the disk drive) and to open a disk every time you begin using it (or whenever you place it into the disk drive and close the door).

The Opening Screen

You should now be at the opening *GEOS* screen, ready to select an icon. Just as you have been selecting all along, move the pointer to the *geoPaint* icon which, appropriately enough, looks like a palette and a paintbrush. Double-click (two clicks in rapid succession) on the *geoPaint* icon, and the disk drive should begin to turn while *GEOS* looks for the main *geoPaint* file.

The first thing that you'll notice on the *geoPaint* opening screen is a dialogue box (Figure 2-2) asking what you want to do. Here, you have three choices.

The first choice is to create a new document. Use this option when you are using *geoPaint* to create a new document that is not yet a part of the *GEOS* system. It will be a new file, and a new icon will be created to represent that file.

The second choice is to open an existing document. Use it when you want to revise or work on a *geoPaint* document that you have already created and stored as a file. For example, let's say you are working on a new house plan and have already used *geoPaint* to enter the first draft of the drawing. Two weeks later, after an unexpected salary raise, you can afford more space and want to change the plan.

In this case you are opening a file that already exists. The possibility of being able to save a drawing and come back to work on it again later depends, of course, on how you label and assign names to your

Figure 2-2. Selecting an Option

files. You'll need to keep the names of your files in good housekeeping order, a topic which will be covered shortly.

When you do go back to work on a previously saved document, you will be asked to choose among all those that have been stored on the disk. Simply use your joystick to move the pointer to the file you want to work with, click on the filename to highlight it, and then click on the word *open*.

The third option offered in the dialogue box is to quit *geoPaint* and return to the deskTop, or opening *GEOS* screen. This is the option you will choose when you have finished working on a document or have just finished working for that session. Choosing this option automatically closes (and saves to the disk) the file that you are working on.

Since this is your first outing with any *GEOS* application, you'll start by creating a new document.

Opening and Naming Files

Let's return to the dialogue box in Figure 2-2 and mention some hints about naming files. *GEOS* allows you to use filenames up to 16 characters long ranging from aaaaaaaaaaaaaaaa to 1234567887654321, but you'll make it easier on yourself if you use meaningful names.

You might want to organize your files in a way that helps you keep track of the files that can be stored on a 1541 or 1571 disk. It's possible to have as many as 144 files, though it's doubtful that you'd have such small files that all 144 could fit. One method of keeping track of files is by naming the file something related to the content, and then using what's called an *extension* to represent the general class of documents.

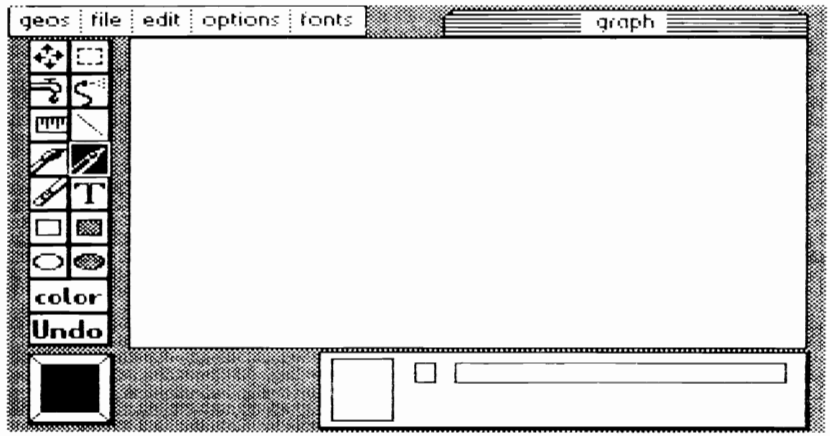
For example, if you are working on house plans, you might want the extension to be *plan* so that the file containing the general plan might be called *general.plan.* Here are some categories and extensions that you might want to use as a basis for organizing your *geoPaint* files:

Extension	Category
.inv	invitations
.graph	graphics
.busdraw	business drawings
.plans	general plans

So a file that contains an invitation to a holiday party might be called *holiday.inv.*

When you name a new file, you are provided with a kind of blank slate, which is really the *geoPaint* opening screen (Figure 2-3).

Figure 2-3. Opening Screen



You can see several different areas on the *geoPaint* screen, many of which are separate from one another. First, there's the window menu located in the upper left corner of the screen. It contains a series of the pull-down menus that you learned about in Chapter 1.

Next, there's the active filename (or document name) located in the upper right corner, looking as if it were on the edge of a file folder. The filename in Figure 2-3 is "graph." As you might expect, when you rename a file, the filename will change as well.

The large white area in the center of the screen is the drawing window, where you will actually do your drawing with the *geoPaint* tools. Even though the drawing window looks large on the monitor, it really represents only about 1/14, or 7 percent, of the full size that a

geoPaint document can be. You will learn later how to move the window around so that you can work on different parts of a drawing.

So what you see on the *geoPaint* screen is only part of what you can get, especially if you want an image to be larger than the actual drawing window. What you see on the screen works out to be about 3.3 × 1.8 inches in area when the image in the drawing window is printed.

The Toolbox

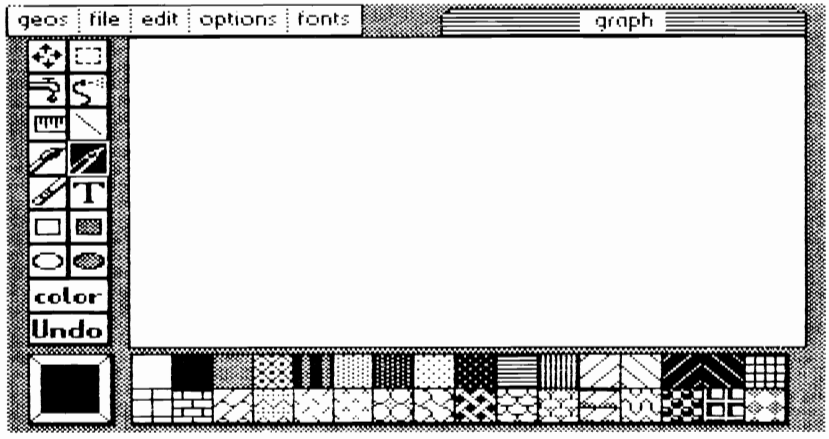
To the left of the drawing window, you'll see the set of 14 individual drawing icons running down the side of the screen. They correspond to the different graphics operations that you can perform, such as filling and shading areas with certain patterns, erasing areas of a picture, and adding text. In addition, there are icons for drawing squares and circles, either hollow or filled.

This set of icons is called the *toolbox*, and we'll spend a good deal of time working with each of these tools and providing examples of how they can be used.

In the lower left corner is the *current pattern indicator*. It tells you what type of pattern is currently active when you select one of the drawing icons that use a pattern such as the fill or the brush.

Move the pointer to the current pattern indicator and click. You'll instantly see on the bottom of the screen some 32 different patterns (Figure 2-4). The default (the one automatically active) is gray.

Figure 2-4. Patterns



You'll experiment with these patterns later and will see how the pattern option may be one of *geoPaint*'s most fun and potentially creative tools.

Finally, the white box that stretches across the bottom of the *GEOS* screen is called the *status box*. The contents of this box will change, depending upon what you are doing with *geoPaint*.

The status box in the opening screen contains three different items. On the left is the *page map*, which lets you know the relative position of the *geoPaint* drawing window. In other words, this page map is like a reduced full sheet of paper. If the little square within it is in the upper left corner, your current work space is located in that position on the page as well. This feature can become very useful as you need to move around the entire page to create large *geoPaint* documents.

You can also use this map to move quickly to other parts of the page by moving the pointer to the position you want and double-clicking.

Another part of the opening *geoPaint* screen is the *card paint color indicator*, showing which one of the 16 colors allowed by *GEOS* (and your Commodore) is currently active. Directly to the right of this indicator is the *paint color bar*, which displays all of the colors from which you can choose.

If you have a monochrome (black-and-white, amber, or green screen) monitor, you can ignore these color features. The images on the screen will appear as shades of gray. If you have a color monitor, you'll be able to take advantage of some of the features that set *GEOS* apart from other icon- and menu-based drawing programs which don't use color as GEOS does.

Finally, underneath the *geoPaint* toolbox, you'll find the *color* and *Undo* boxes. The color box allows you to add color to a black-and-white drawing (if you have a color monitor, of course). The Undo feature, as you shall see later, allows the computer to ignore the last action you entered.

Okay, so that's the *geoPaint* opening screen. Now it's your turn to take your joystick for a spin and begin drawing everything from invitations to plans for designing a new house and yard.

Creating a Simple Design

The first thing to learn about *geoPaint* is how to use the basic tools, and there is no better way than by just using them in a variety of applications. Creating simple designs will provide you with the experience you need and the skills that are necessary to build later skills.

In Figures 2-5 and 2-6 are two designs that were drawn by using *geoPaint*. No plans were followed, nor was there any specific idea in mind when they were started. For the simple design in Figure 2-5, the pointer was first moved to the freehand-pencil icon on the *geoPaint*

toolbox. This icon was selected by one click on the joystick. As you can see when you click on an icon, the fields in that icon's square will reverse colors so that black is white and white is black.

Helpful Hints

Whenever you see an icon in what is called *reverse video,* it means that this tool (or file) is active. Whatever you do now with the joystick and pointer will involve this icon's function.

Figure 2-5. Design I

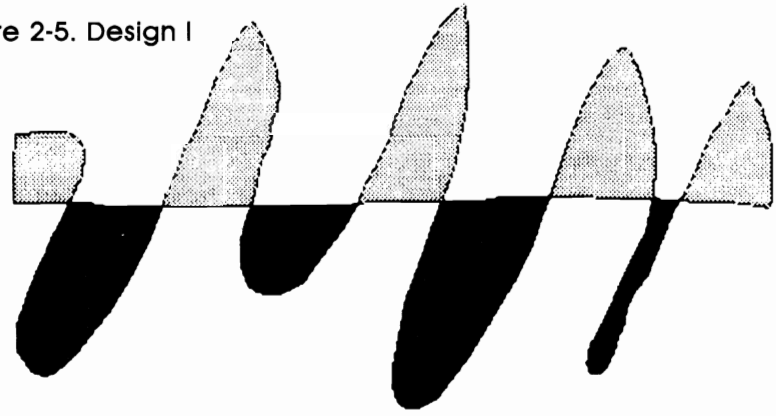
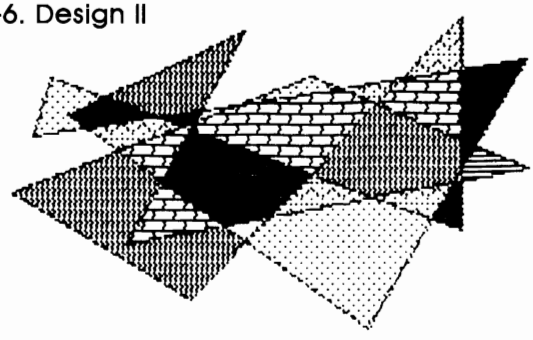


Figure 2-6. Design II



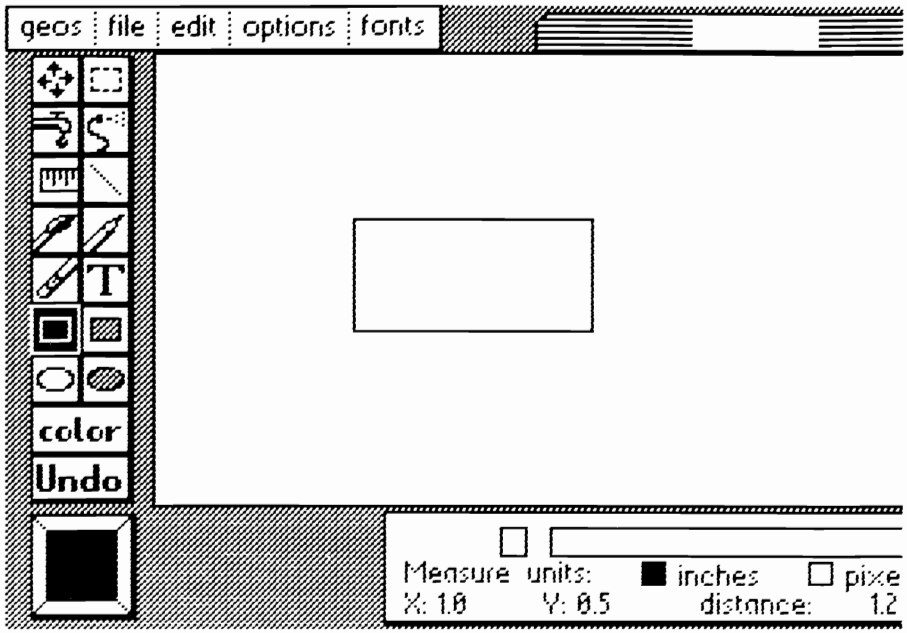
Using Squares in Designs

The hollow square/rectangle tool is very useful for making these geometric figures. As you move the pointer into the drawing window, the arrow-shaped pointer will become a crosshairs which moves as you move the joystick. Move the crosshairs over to the drawing window, and press the joystick button where the upper left corner of the first square shape is to be located. Then *drag* the pointer diagonally across

the drawing screen to create the shape. Move the pointer around in your own *geoPaint* screen to see how the shape and size of the figure changes.

When you are satisfied that the square or rectangle is the desired size and in the proper location, click the fire button, and you will see your first *geoPaint* rectangle fall into place (Figure 2-7).

Figure 2-7. Making a Rectangle



You'll also see in the status box in Figure 2-7 that *geoPaint* calculates the size of the square as you work in either inches or pixels (picture elements). Unless you tell it otherwise, *geoPaint* has been set to give you the measurement in pixels.

If you want the measurement in pixels, move the pointer to the square next to *pixels* and click. If you want the sides of the square measured in inches, move to the *inches* box and click.

In Figure 2-7, the x (horizontal) sides of the hollow box are 80 pixels, and the y (vertical) sides are 40 pixels. If you were to measure it in inches, $x = 1$ inch and $y = 0.5$ inch. You can draw a box in either pixels or inches. For that reason it's good to know that 80 pixels equal one inch.

You can elaborate on the simple square by using the solid square/rectangle icon, which is beside the hollow square/rectangle in the toolbox. Used the same way as the hollow square, it will produce solid squares and rectangles.

Using Circles in Designs

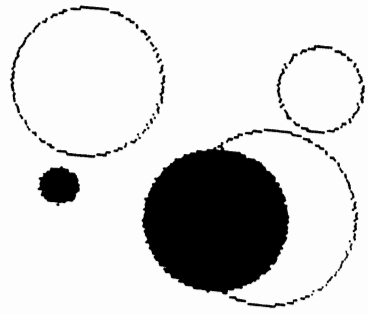
To create a hollow circle, follow the same steps as you just used with the hollow and solid square shapes. First, move the pointer to the hollow-circle icon and click. (The circle tools are found under the square/rectangle tools.) Just as before, the icon appears in reverse video, indicating that it is active. The solid circle works similarly.

When you move the pointer into the drawing window, you'll see the crosshairs. Move it to a place where you would like the top (or bottom) of a circle to appear (depending on how you move the joystick).

Now click and move the joystick around. You can see how easily circles of different sizes can be formed, and that they all rotate around the same point where the crosshairs has first been placed. As you move the crosshairs away from the click point, the circle will increase in size.

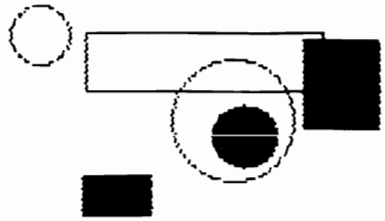
When the circle is the size that you want, click again, and you will see how it may appear (along with a combination of other hollow and filled circles) on the screen as shown in Figure 2-8.

Figure 2-8. Circles



Experiment and try different techniques like overlapping shapes and shapes within shapes (Figure 2-9). By using even these simple *GEOS* tools, you can create interesting effects.

Figure 2-9. Experimenting with Shapes



Helpful Hints

GEOS offers you several ways to get out of trouble. If you'd like to begin your drawing all over with a clean screen, move the pointer to the eraser icon (it's an extension of the pencil in the toolbox) and click twice in rapid succession. This action will erase whatever appears on the screen. Just for practice, you may want to try erasing what's currently on the screen and begin over again.

Drawing a More Complex Design

The design in Figure 2-6 was produced by using a different set of tools. First, an outline of all the shapes was created by clicking on the straight-line icon from the toolbox. After you select this tool, move the pointer to the drawing window. Once in the drawing window, wherever you drag the pointer, a straight line will follow.

You might also notice that when you select the straight-line icon, the status box at the bottom of the screen changes. Just as the *x* and *y* measurements are used for drawing boxes, that same feature is available here. You can measure the length of your straight line both horizontally and vertically in either pixels or inches.

Helpful Hints

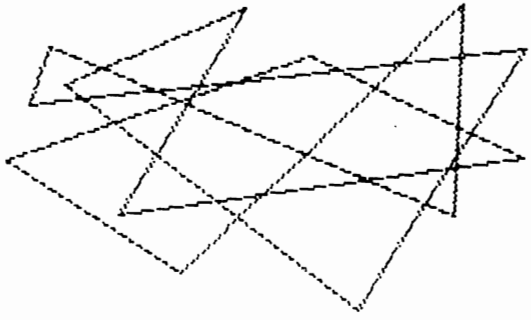
There will be times in your *geoPaint* drawings when you may need to draw a line at an angle, and you will need an exact measurement. Drawing a line at a specified angle is easy. One way to do this is to hold a protractor up against the screen. A more accurate way is to remember a little geometry.

A 45-degree angle means that the *x* axis increases as fast as the *y* axis. Such a line would begin at X = 0 and Y = 0, and it would end at X = 60 and Y = 60, or any two equal distances from its origin. For any angle, the number of *x* and *y* units relative to each other defines the size of the angle.

If you want to draw another line or begin at the end of the first one you drew, you'll have to click again. Remember, click to begin a line and click to end it. You cannot click to end and then begin another line.

The outline (Figure 2-10) for the design shown in Figure 2-6 has been created by drawing several straight lines that intersect each other, forming triangles, parallelograms, and irregular shapes. Lines can be drawn vertically, horizontally, or diagonally.

Figure 2-10. Design Outline



Try different combinations of lines and spaces to see what you can do with your own file named "design."

Designs That Stand Out: Using Pattern

After you've completed the outline of a design, the only thing left to do is to fill in the spaces with one or more of the different patterns that are available in *geoPaint.* The 32 different patterns are displayed by clicking the pointer on the pattern indicator box at the bottom left corner of the screen. You can choose whatever pattern you would like by moving the pointer to the desired pattern and clicking. When you've done this, be sure that the current pattern indicator changes to the pattern that you have chosen.

Once you have chosen a pattern, you can fill in the design. Move the pointer to the faucet icon and click. Each time you move to an area of the design and click, the selected area will be filled with the pattern shown by the pattern indicator.

Open the file that you have created and named "design." Use the straight-line tool to draw some shapes and practice filling them with different types of patterns. Find out what happens when you superimpose one pattern onto another, or when you try to fill a space that

hasn't been fully enclosed. What about if you place a lighter pattern over a darker one? Experiment and have fun with the fill feature; it's a powerful *geoPaint* tool and one that can greatly enhance ordinary drawings.

Helpful Hints

Sometimes, when you fill an area, everything including the area around the space will become filled as well. Your mistake? The space that you were trying to fill was probably not completely closed, so some of the pattern leaked into the surrounding area. If this happens, just go to the Undo feature or double-click on the eraser and begin over. The cure for leaky spaces will be discussed again later.

Creating a Simple Picture

You've just seen how to create two types of designs by using a variety of *geoPaint* tools. Now let's turn to some examples of how you can use *geoPaint*'s features in drawing both simple and more complex documents.

Using the Pencil Tool

Figure 2-11 is a simple landscape done with the freehand-pencil tool, the hollow-circle tool, and the fill tool.

Figure 2-11. Landscape

The first step in constructing this landscape is to draw the outline of all the areas that will be filled in later. The circle icon creates what will become the moon in the upper left corner. Everything else is drawn with the pencil tool, selected by clicking the pencil icon.

Using the pencil tool is like freehand drawing. After you click the icon, move to the drawing window and click again. To use the pencil, move the pointer to the drawing window and click at the point where you want to begin drawing. Once the pencil is activated, the pointer changes from a dark arrow to a light arrow and acts much as if you are actually holding a pencil. As long as you keep the fire button depressed, a line will be drawn everywhere that you move the pencil. Click again, and the pencil will be deactivated.

After the outlines of the figures have been drawn, the various areas are filled. The night sky is created by filling with black. The mountaintops and fence posts are filled with gray. This is a simple picture to complete, and you might want to try something similar to get experience using the pencil tool.

Don't be concerned if some of your lines overlap or if your edges are not perfect. As with any project, editing and correcting errors are important aspects of becoming a good *geoPaint* user.

Helpful Hints

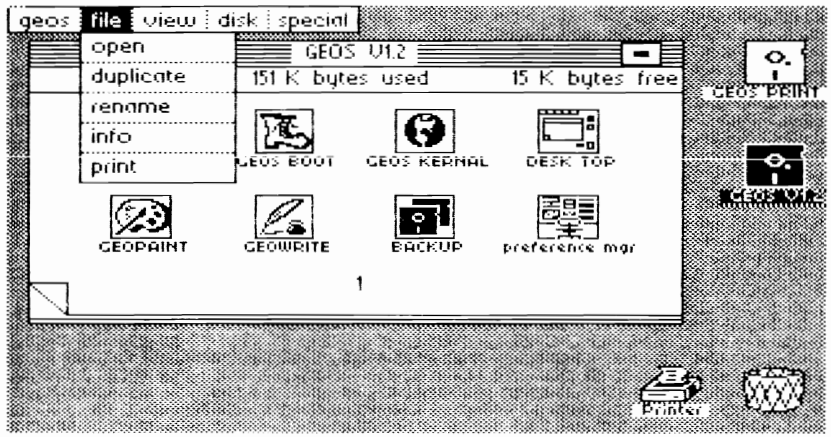
With *GEOS* you can create almost any picture, no matter how complicated. It just takes practice and patience. Some *GEOS* users copy pictures they see in magazines and books. If you have seen designs that you would like to work with in *geoPaint,* now is the time to start collecting them. A simple way to copy material is to make a transparency of the original and paste it onto your monitor screen. You can then copy it by using the various *GEOS* tools.

Saving Your Work

One of the great features of any software program is that it can save your work for you. When you save a file in *geoPaint,* an icon with the file's name under it will appear on the opening deskTop screen.

You have several choices of ways to save the document you are working on in *geoPaint.* They all begin with the *file* pull-down menu on the window menu (Figure 2-12).

Figure 2-12. DeskTop



Closing a File

As you learned earlier, it is critical that any file that is opened be closed when you've finished work on it, even if it is only one session's worth of work. When you choose to close a file, the file is automatically saved to a disk under the name that you have assigned. After the file is closed, you will be returned to the dialogue box in Figure 2-2.

When you choose *Quit* on the pull-down menu, you go straight back to the deskTop.

Updating a File

When a file is updated, it is saved, but you are returned to the active *geoPaint* screen as soon as the update operation has been completed. Using the update option insures that the latest onscreen version of your file has been saved. Update is an extremely valuable tool and should be used often as insurance against accidental losses, misuse of the Undo tool, and other unforeseen events.

How often you update is an important decision. You must be able to answer the question, "How good is the work I've done on this file up to now, and do I want to save it?" In the beginning, use the update feature based on what you've done, not on the time you've spent on a particular drawing. When you get an especially tricky part of a drawing done, update and continue to do so until you are very comfortable with the system. Then you might want to update every 15 minutes or so.

Recovering a File

The recover option is even better than the update function. Let's say that you have added some new material to a drawing, and you accidentally used too much of one thing or you filled the entire screen with a pattern you don't like. What can you do?

Undo might work (if you've pressed only one key), but recover is your best choice. The recover feature of *geoPaint* will recall your file as it was after the last save. You may lose some work, but the majority of it will probably be preserved.

So, if this tragic mistake has not been saved, you're in good shape, since you can always recover what was there before the big error.

Oops—Editing with *geoPaint*

Even though *geoPaint* is very easy to learn and use, you are bound to make a mistake now and then. And as your drawings and designs become more complex, you are likely to want to change things that you have already incorporated into a drawing.

It's for this reason that *geoPaint* offers several different ways to edit or change parts of your entire *geoPaint* file. These range from erasing completely what you have entered and starting all over to magnifying a section of a drawing and working on it pixel by pixel.

Pixels for Drawing and Editing

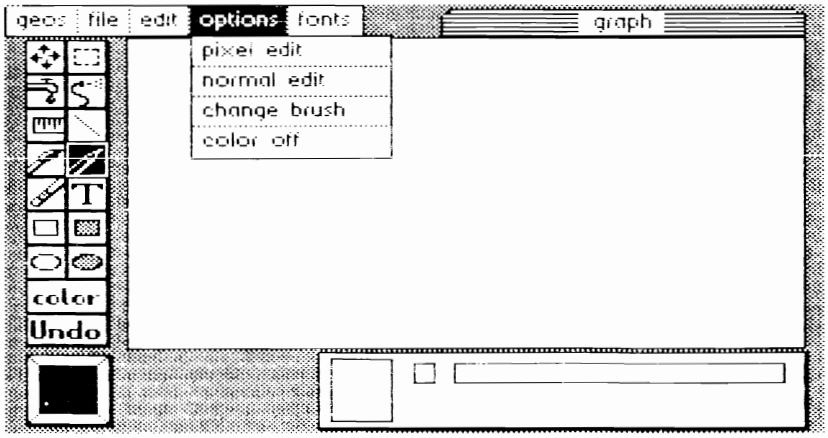
One of the most enjoyable and useful features of *GEOS* comes from being able to draw and edit at the pixel level. The word *pixel* stands for picture element. Your monitor screen is actually composed of thousands of individual pixels, and the pattern of how these are filled creates the image you see on the screen.

If you look very closely at a newspaper page (and perhaps use a magnifying glass), you can see separate dots that are filled in with different shades of black and white. These are similar to pixels, since thousands of black or gray dots together form an image. Individually, a pixel is only a dot, but when many are combined, the result is a picture.

geoPaint offers pixel editing, since, in certain cases, using the pointer alone does not give you sufficient control to do detailed drawings or editing. This was the case with the clown picture (Figure 1-3).

In Figure 2-13, the artist will choose the *pixel edit* item from the *options* pull-down menu.

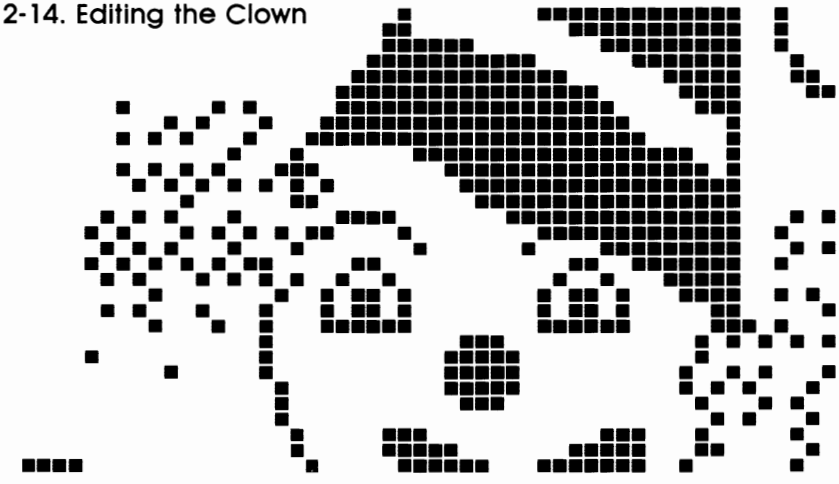
Figure 2-13. Pixel Edit Option



When *pixel edit* is selected, *geoPaint* provides an enlarged four-cornered region, which can be moved with your joystick to the area that you want to see in pixel-by-pixel detail.

In Figure 2-14, the clown's head and hat are being edited in the pixel mode. The head and hat are enlarged in great detail. As you might also have noticed, there is a reduced version of the drawing window located to the left of the status box. It allows you to see how the changes you make in the pixel-edit mode will look when the drawing is returned to its regular size.

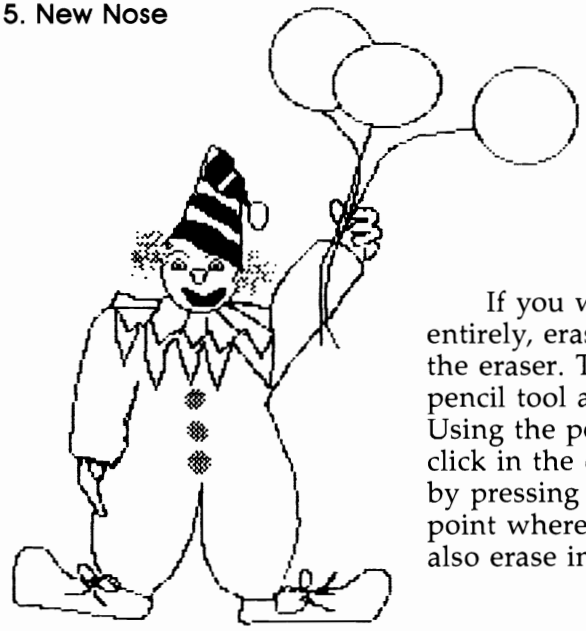
Figure 2-14. Editing the Clown



You can see the detail that *GEOS* can contribute to a figure or to any other type of drawing. The pixel-edit feature is also very useful since you can work with several other *geoPaint* tools in that mode to increase the precision of your drawing.

For example, you can change the shape of the clown's nose by first going into the pixel-edit mode, then moving over the clown's nose, selecting the eraser, and then using it to erase a part of the nose. The clown's new nose is shown in Figure 2-15. You should also note the change in the nose in the viewing screen next to the pattern indicator; the user gets a good idea of what something will look like before it is actually completed.

Figure 2-15. New Nose



If you want to change the nose entirely, erase the whole thing with the eraser. Then click the freehand-pencil tool and draw in a new nose. Using the pencil tool, you can easily click in the design at the pixel level by pressing the fire button at each point where you want a dot. You can also erase in the same way.

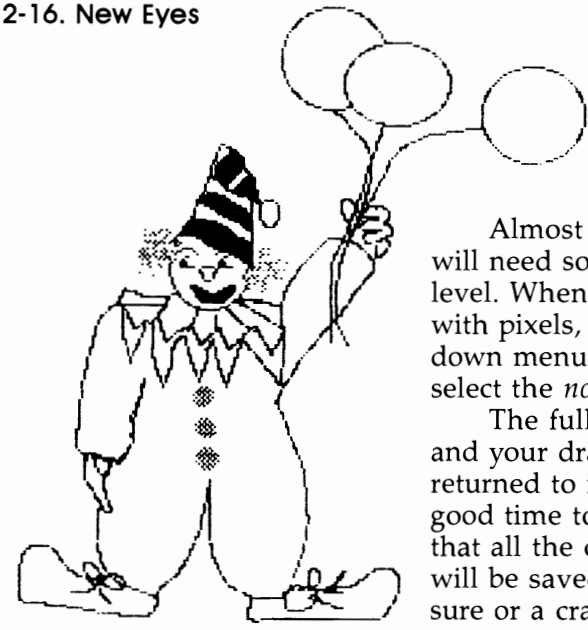
Helpful Hints

There are several ways to use the pencil in the pixel-edit mode. You can add a single pixel point by clicking once and then clicking again. To draw a straight line of pixels, do just as you did when selecting that tool: Click, drag the pointer, and click again. Finally, to erase a pixel point, select the pencil tool, click on the point, and it will disappear.

All of the other tools in the toolbox are available in the pixel mode, except for the hollow- and solid-circle tools and the text tool (which you'll learn about shortly). For example, if you want to use a pattern for the clown's eyes, you can use the pixel-edit feature to erase the eyes, use the pencil to draw two new shapes, and then fill them with a pattern of your choice.

The clown's face in Figure 2-16 has two new eyes filled with a *geoPaint* pattern. You would not have been able to do this in the normal edit mode since the fill crosshairs could not be accurately placed inside the eye region to fill it.

Figure 2-16. New Eyes



Almost every detailed drawing will need some work at the pixel-edit level. When you have finished working with pixels, return to the *options* pull-down menu on the window menu and select the *normal edit* item.

The full screen will soon appear, and your drawing will immediately be returned to its regular size. Now's a good time to update your drawing so that all the changes you have made will be saved in case of accidental erasure or a crash of your computer system.

Using the Trash Can

Another, more permanent way to erase any *GEOS* file is by throwing it in the trash can. There are many situations where you'll want to delete a file from a disk. This is a drastic editing step, but sometimes necessary. You might be finished with a particular file and want to create more space on a work disk, or you might not have any interest in keeping that file available.

Deleting a file demonstrates the ease and power of *GEOS*. On the *GEOS* deskTop, click on the icon that represents the file you want to delete. You may need to turn the page (click on the dog-ear page at the bottom left corner) to find the file you want to delete. Then click

and drag the ghost over to the trash can icon in the lower right corner of the screen and click again. The file icon will disappear.

Note: You won't have a second chance to change your mind once you click that last time, so be sure that you want to delete that file before you begin your sequence of clicks.

Erasing Part of a Drawing

It would be inconvenient if you had to erase an entire drawing when only one part of it was in trouble. *GEOS* offers you another way to use the eraser tool to erase selected parts of a drawing. This is done by selecting the eraser icon (as you did above), but using only one click.

Helpful Hints

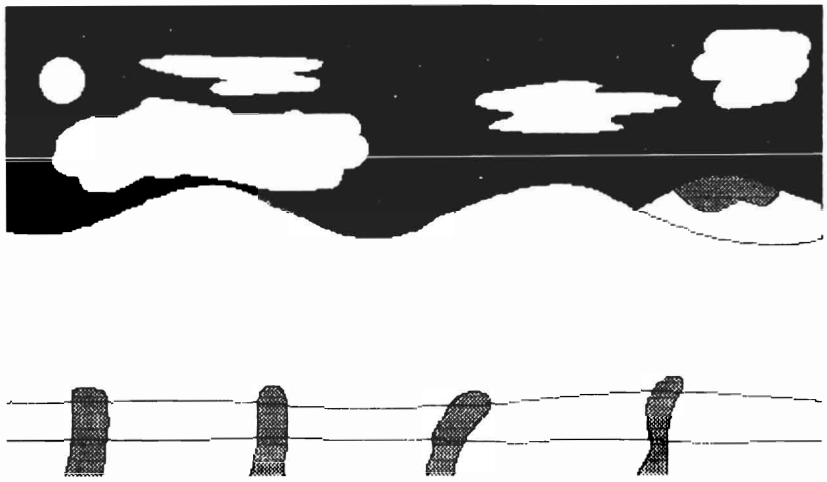
You can always erase what is on your screen by clicking on the eraser icon in the toolbox, which is the eraser end of the pencil. A double-click will erase what is on the screen. Remember that even though the screen is empty, the file is still active. If you were to select *recover* from the window menu, the most recently saved version would appear in the drawing window.

Bring up a *geoPaint* drawing on your screen. To use the eraser for selected editing, move the pointer to the eraser icon and click once. When you move the pointer over to the drawing area, you will see that there is a small square that moves on the screen as you move the pointer. This is the eraser tool. The general rule is that when the outline of the eraser is light, it is in the erase mode. When it is dark, it is not. Click once, and you will see the square lighten. If you move it over any part of your drawing, you will see that it leaves a blank space in its path. This is because it is using white and erasing everything it is moved over.

Figure 2-17 is a duplicate of Figure 2-11, but one of the mountains has been erased and part of the sky has been removed. You'll notice that when the black (part of the night sky) is erased, it leaves a white space—the color of the original screen.

Practice using the eraser, keeping in mind that when the eraser is off, moving the eraser icon will not have any effect on your drawing. When it is on, however, anything that is touched will be erased.

Figure 2-17. Landscape Revised



Using the Edit Box to Erase

The final way that you can erase is by defining a region of your drawing by using the edit icon found in the upper right corner of the tool box.

To use this feature, select the edit icon with your pointer and move to the area of the drawing that you want to erase. After you click once, you will find that moving the pointer creates a box that grows larger as you move the pointer in a diagonal direction, just as if you were using one of the rectangle icons and drawing a box. Now click again, and the area will be defined. The only difference is that the sides of the box are dotted and are not solid lines as when you drew a box.

Once you've defined the area that you want to erase, click and move to the *edit* pull-down menu on the window menu. When you click on the *edit* pull-down menu, you can *cut* (erase) the region defined, or you can *copy* or *paste* it somewhere else. (You'll learn about the second and third options later.)

For example, Figure 2-18 is the basic layout for a house and a garage. To erase the entire garage and the driveway, first define the region as you see in Figure 2-18, and then erase it by using the *cut* item in the *edit* option. Figure 2-19 is the redrawn plan (using the straight-line tool to fill in any lines broken when cutting out the garage and driveway.

Once you select *cut*, the region that you have identified will disappear. Incidentally, you will later learn how to use this same edit feature to select a region that you can move to another spot on the drawing, or you can even create a mirror image of the region that you have identified.

More Ado About Undo

Often when you are completing a drawing, you will accidentally do something that you will want to undo. *GEOS*'s Undo feature allows you to erase your last operation so that it appears as if it never took place.

Helpful Hints

When you use Undo, remember that only the last keystroke or pointer operation that has been entered can be undone. If you are unsure of what and where you want things to go in your drawing, it is best to work slowly rather than completing two commands in rapid succession. Otherwise, you might not be able to go back and undo the change you want to make.

For example, look again at Figure 2-18, which includes the house and attached garage, a front porch, a front walk, and the driveway and street areas. To complete this drawing you need to fill in different areas with different patterns to indicate grass, driveway, and walk. As you can see in the finished drawing (Figure 2-20), this is exactly what has been done.

Now look at Figure 2-21, where the basic house plan has been drawn with a slight change. Notice that there is a spot that has not been filled on one of the house walls. The left wall and back wall do not quite meet. When the grass texture pattern is used to fill what should be lawn, it accidentally leaks into the house.

One way to get rid of this pattern is very carefully to erase the entire area with the eraser and then to go back and fix the broken line. Another way is simply to use the Undo feature. After the grass pattern has filled the house area, you can move the pointer to the Undo pull-down menu at the bottom of the toolbox and click once. This will erase any changes that were made in the last operation.

Undo is very convenient when it is used properly. Remember, however, that even pressing the space bar counts as an operation, so if you want to undo something, you'll have to take particular care to do it immediately following the error that was made rather than waiting until it becomes impossible to undo.

Figure 2-18. House and Garage

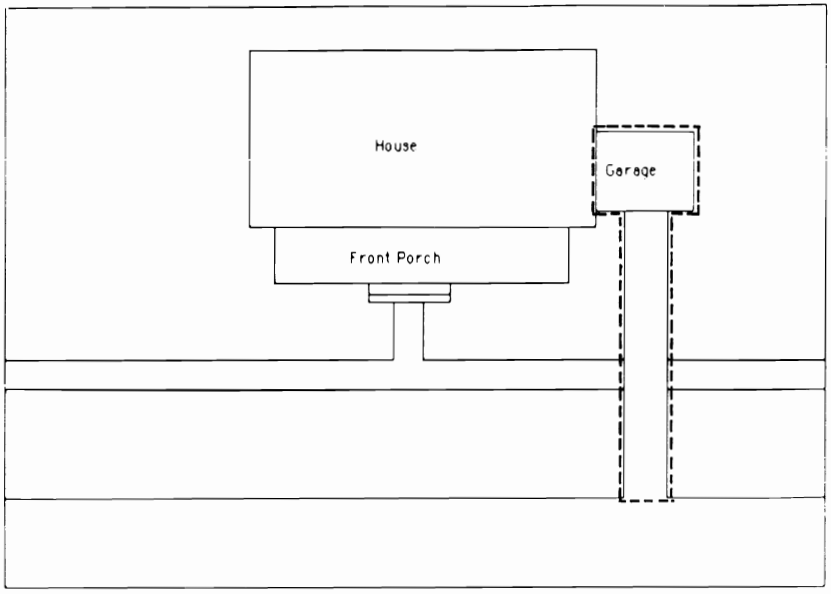


Figure 2-19. Modified House and Garage

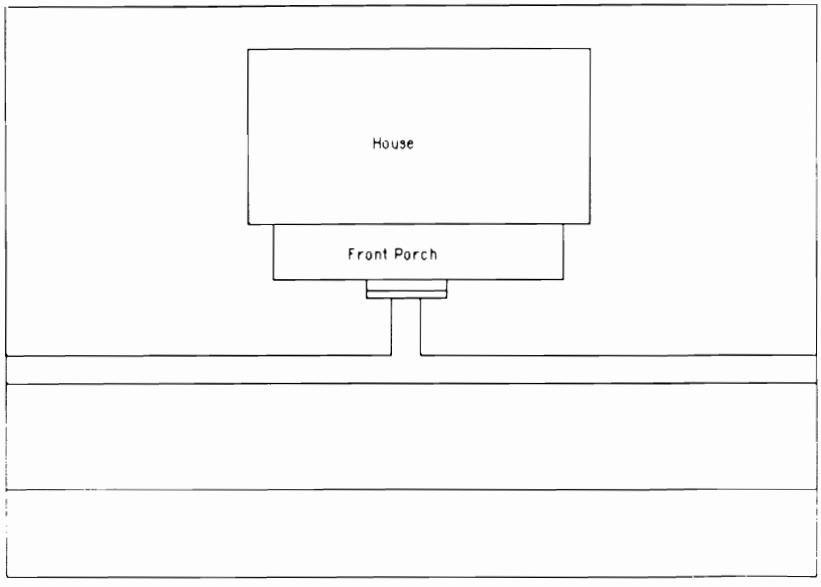


Figure 2-20. Completed House Plan

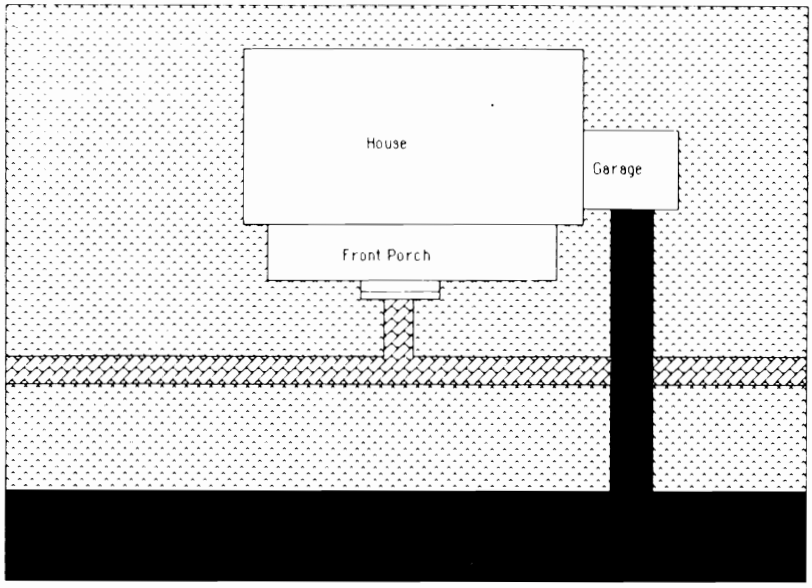
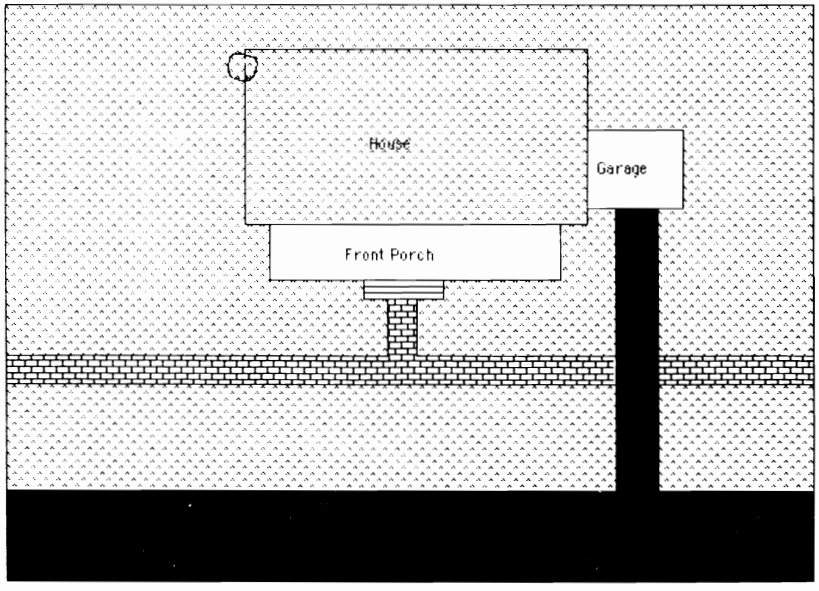


Figure 2-21. Pattern Leaks



Code

Driveway/Road
Walk
Grass

Helpful Hints

Any changes that you make on any *GEOS* file are only temporary until they have been saved to a particular file by using a feature such as update or by closing a particular file.

Until this point, any changes that are made can be ignored by using the *recover* feature which automatically returns you to the previously saved version of your drawing. It's for this reason that you should always update your drawing regularly so that you can at least partially recover a file when an otherwise irreparable mistake has occurred.

Printing a File

One of the thrills of working with *geoPaint* comes when you are ready to print your first hardcopy of a *geoPaint* document. It's easy to print a *geoPaint* file. Simply click twice (with a pause in between) on the *geoPaint* file icon of the file you want printed; then drag the ghost icon over to the printer. Click, and you'll soon have a copy of the contents of the entire file.

Remember that printing can take considerable time, especially when an image is detailed and there are large spaces to fill. Also, you must have the correct printer driver on your work disk and you must select that printer each time you begin working—unless you did so when you booted up with the master *GEOS* disk.

Special Features

There are several *geoPaint* features that make your drawings more complete and more professional-looking.

Working in Color

If you have a color monitor, you're in for a real treat: *geoPaint* can draw in any one of 16 colors. To use any one of *geoPaint*'s tools with color, simply select the color that you want in the status box by moving the pointer to that place on the color bar and clicking.

Each time you click on a different color, everything that you create afterward (including solid figures, fills, and so on) will be in that color. When you choose a new color, a little arrow over the color bar shows which color is active. The little square to the left of the color bar shows you what color is active as you move the pointer around the drawing screen.

Adding Color to Black and White

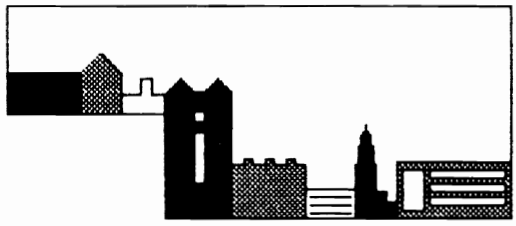
Sometimes you might want to concentrate on the details of a drawing before you move on to any consideration of colors. But what happens when you finish and want to add color? In *geoPaint* there's a special icon for that located right above the Undo square on the toolbox.

When you click this color square, you can select a paint color and a canvas color. If you want to return to painting in black and white, click the *options* pull-down menu and the *color off* menu item. The screen will be returned to the way it was before any color was added.

Adding Text

Drawings can stand alone, but frequently text is needed to complete them. Look at the company logo in Figure 2-22.

Figure 2-22. Logo

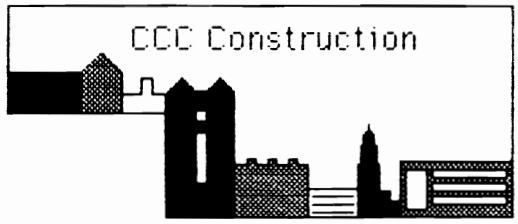


This business logo was drawn by first using two rectangles that overlap corners. Then the parts that overlapped (the upper left corner of the lower rectangle and the lower right corner of the upper rectangle) were erased.

Next, in the pixel mode, the outline of the buildings was drawn, and the detail for the building tops added. Then the fill feature was used (still in the pixel mode) to provide some contrast between the buildings. The basic *geoPaint* tools were used to produce what looks like a professionally designed logo.

Now for adding text to a *geoPaint* file. One of the *geoPaint* tools that you have not yet explored is represented by the uppercase letter *T* icon on the toolbox. Once you've clicked this icon and the tool is active, several steps are necessary to add text to a drawing. In Figure 2-23 the finished logo is shown with the text "CCC Construction" added.

Figure 2-23. CCC Construction Logo



Helpful Hints

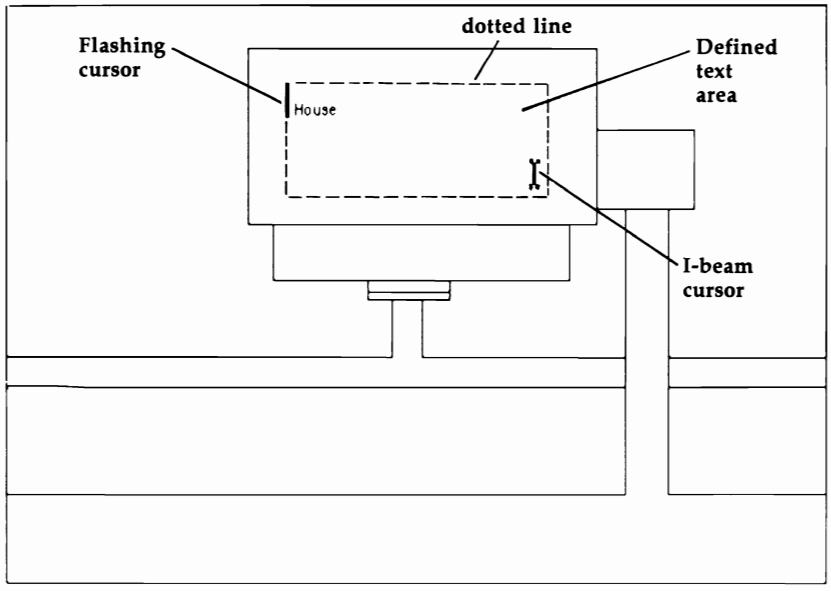
You can add text to a drawing anytime you want, but it is probably best to begin adding text after the drawing has been completed. Then you won't interfere with any details of the drawing itself. In addition, *geoPaint* has enough features so that you can fit text in and around different spaces in a drawing to make your graphics as useful as possible.

Adding text to a drawing, whether it is finished or not, can be done in several different ways. Open any of your *geoPaint* drawings and prepare to add text. The first step is to define a text region. Select the text icon, and, as you enter the drawing window, you will see that the joystick controls a set of crosshairs.

You define a text region in the same way that you learned to draw a box. Click once and drag your pointer in a diagonal direction to define the space where text will be placed. When you click again, several things will happen. Look at Figure 2-24, which is the house plan with text being added. When you click the second time, you will define the text region and the pointer will be replaced by an *I-beam*. Also, a flashing cursor will appear at the upper left corner of the text region. This is where your text will be placed when you begin typing.

The first text region defined in the drawing is the house. When that region is defined, the next step is to enter text by typing from the keyboard. The word *House* is entered, and the pointer is moved back to the text icon and clicked. The outline of the text region will disappear, and the word *House* will become part of the drawing where the text region has been placed. Similarly, the labels for the garage, front porch, driveway, and so forth can be added.

Figure 2-24. House Plan—Adding Text



Choosing a Font

You can add text in any of the fonts that are available (refer to Appendix A for fonts and styles). When you are choosing a type of font to use in placing text in a defined region, remember that some large fonts may not fit into the text region you have defined.

The pull-down *fonts* menu is on the window menu of the opening *geoPaint* screen. Fonts come in different sizes and are measured in points. (One point is 1/72 inch.) For example, 24-point Cory (or 24/72 inch), is 1/3 inch high. Refer to the *fonts* pull-down menu in Appendix A to get some idea of how much room different styles and sizes of fonts will take up. Try to plan beforehand what type of font you want to use and its size so that the text region you create will be large enough.

Changing Fonts

You can change fonts (from the default BSW 9-point) at any time—before or after you have defined the text region. If you want to change fonts after the text has been entered, you must do so before the final click on the text icon. Simply click on the *fonts* pull-down menu and choose another font. All the text in the selected region will automatically be rewritten in the selected font.

Remember, once you've clicked the text icon again and have defined the text region (the dotted line will disappear), nothing can be changed.

Lining Up Text

In *geoPaint* there is no mechanism for making text appear in columns or in lines, so you'll have to devise a method for making things look right. One way is to draw a line by using the straight-line tool and then aligning the first letter of the word along that guide. This technique takes a little practice, but it produces professional-looking results when done properly.

Editing Text in a Text Region

You can edit text in *geoPaint,* but it must be done before you make the final click and return to the text icon. Once you have clicked for the final time on the text icon, and the square which represents the actual text region has disappeared, you cannot change the text.

To change text that has already been entered, use the I-beam and the pointer to move to the place where a correction is needed and click. The I-beam will move, and you can then insert or delete as needed.

You can also add new text by creating a new text region adjacent to the old one. For example, you might want to add the word *Main* to the word *House* in Figure 2-24. You would do this by creating a new region, typing in the word *Main,* and then moving the new region (instructions about moving will follow).

While this takes some experimenting, you can always change the position of the new text until you click for the final time. Unfortunately, *geoPaint* will not allow you to undo your final click on the text icon. Instead, it will erase your text. *Important:* Don't try to undo the final click, or you will lose what you have written.

Changing Text Position

Sometimes it may be difficult to line up your text exactly where you want it to appear, and you may want to change the position of the text from where you originally have placed it. This may happen when your original placement is inaccurate, or when you want to add new things to a drawing, and the amount of space that you thought would be available is now insufficient.

When you originally added text, it was by creating a text region. You determined the size of this region by using the pointer. You can

use this same technique to move the text, but you must do so before beginning to define another text region.

Move the pointer to a place outside the original text region that you have created. Click to define one of the corners of the new region. As soon as you click, all of the text that was in the original region will be moved. In addition, *GEOS* will automatically reformat the text to fit the size of the new region.

Keep in mind that if the region that you define is different in size from the original text region, *geoPaint* will have to adjust the format of the text to fit into the new region. It's for this reason that you should experiment with the size of the region before you click your button for the last time.

For example, in the construction logo (Figure 2-23), the text could be moved slightly to the right or to the left simply by redefining the original text area. If there's not enough room for the text, you might get what you see in Figure 2-25, which is not the desired effect.

Figure 2-25. Running Out of Room

Helpful Hints

Once you move from the text icon to another icon, you can no longer go back and change the location of the original text region. You should not click for the final time unless you have experimented and are satisfied with the location and content of the text.

Changing Styles of Text

Not only can you change the size and type of font, but you can change the style as well and even work in reverse video. You can see in the text status box that there are six styles available in *geoPaint:* plain text, bold, italics, underline, outline, and reverse. The use of these can give you unusually sharp and effective text in your productions.

For example, Figure 2-26 is a for-sale sign for a sailboat. California 12-point outline type was used for the FOR SALE part of the sign, and the rest was written in University 10-point bold. Choosing a new type style is as simple as clicking the blank square next to the selected style on the bottom of your *geoPaint* screen.

Figure 2-26. Sailboat Ad

Not only can you choose any style, but after you have typed it into the text region, you can change it, too. Open a text region on a *geoPaint* screen and enter some text in any font and style you choose. Now select another style. You will see that *geoPaint* changes the text format and presentation to fit the style you have selected. But you must remember that if your text region is not large enough, *geoPaint* will be able to show only a part of it (as you saw in Figure 2-25).

Helpful Hints

Since you can use a combination of styles (such as outline and bold), you will need to deactivate a font if you don't want it. For example, if you want the text in bold, click *bold*. If you want to change to outline, you will produce text in bold outline unless you deactivate bold by clicking *bold* again. Combinations are fun to explore and can be very interesting.

Moving the Drawing Window

The *geoPaint* program allows you to create full-page drawings. Since the size of your monitor screen is too small to show the entire drawing, *geoPaint* offers you two ways to move the drawing window so that you can work on separate parts of a drawing that are too large to be viewed on your monitor at any one time.

In order to complete a whole drawing, you must select the scrolling arrows icon from the toolbox. This icon, located in the upper left corner of the toolbox, is represented by four arrows pointing in opposite directions. These arrows indicate the directions in which the screen can be moved.

To move the drawing window, click and activate the icon and move the pointer into the drawing region; then click once more. As you move the pointer, you will see that the drawing on the screen is actually moved around.

Working on one large drawing in separate parts can become confusing unless you can get some idea of how everything fits together. That's when the preview-page option becomes so helpful. To use this *GEOS* feature, click on the *preview* item on the *file* menu. You will see the entire page reproduced in a greatly reduced form. While this feature does not provide you with a great deal of detail, it does allow you to see what part of a drawing is finished and what part is not.

When you have finished previewing a page, *geoPaint* asks you to okay the preview. When you click OK, you will be returned to the normal page size. The page-preview feature is very handy. Every time you work on a drawing that is larger than your monitor screen, you can see the whole screen at once. You should use this feature to be sure that your drawing is being completed as you intended.

Helpful Hints

You can preview a page even when you are in the pixel-edit mode. This allows you even more control over how the final product will look when it is finished.

As you use the scrolling arrows to move around, the page map located at the bottom of the *geoPaint* screen will show you where the current work area is. As this happens, the small rectangle on the page map, which represents the location of the drawing window, will change position as well. Keeping your eye on the page map can be very helpful when you're working on large drawings.

Now that you are back in the regular-page-size mode of *geoPaint*, there is a second way to move to a different section of a drawing. The page map not only shows you the location of the drawing window relative to the entire page, but it also allows you to move very quickly to any position that you might want.

For example, let's say you want to move to the center of a drawing. Move the pointer on to the page map and move it to the area of the drawing window that you want to see or where you want to work. Once you have the pointer in the position you want, click twice. The portion of the drawing window that matches the position on the page map will appear.

This is a quick and efficient way to move around a drawing to see whether things are as complete as you might think. It's also a very

nice tool to use in conjunction with the page-preview feature. Previewing the entire page allows you to discover and move quickly to an area that needs attention.

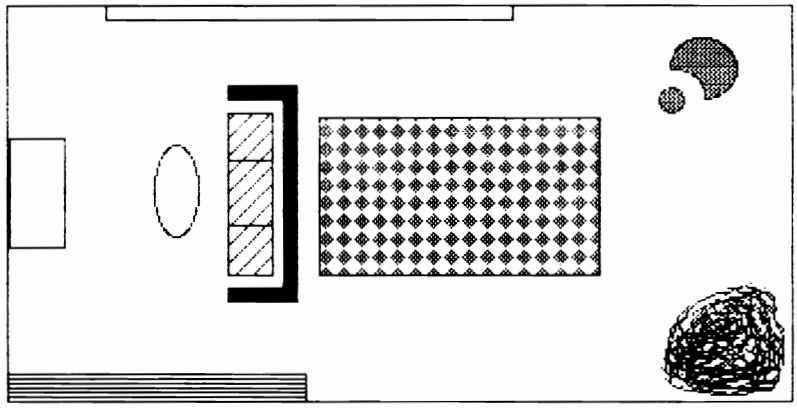
Seasoned *geoPaint* users find the combination of page preview, the ability to move with the use of the page map, and the pixel-edit feature one that can't be beat for making large-scale drawings that contain a high degree of detail.

You have just spent considerable time in learning to create and edit drawings. You'll find that the more you practice, the easier it will be to take full advantage of all that *geoPaint* offers.

There will also be times when you'll need to use one of *geoPaint*'s special features after a drawing has been created—for example, when you're moving a section of a drawing from one place to another or creating mirror images of part of a drawing. These features can be especially useful when you want to try out the way something might look—for example, the arrangement of furniture in a room.

Figure 2-27 illustrates a living room. It includes a couch, an oval-shaped coffee table, a rug, a chair and ottoman, a bookcase and cupboards, some house plants in a corner, and a television.

Figure 2-27. Living Room



You can see how some decorating ideas were worked into the drawing with different fill patterns in the rugs and the cushions of the couch. The moon-shaped chair in the upper right corner was created by drawing two overlapping circles; then the pixel-edit tool was used to erase the second half of one of the circles. The ottoman was drawn and filled with the gray pattern.

You can rearrange the furniture with the *move* feature.

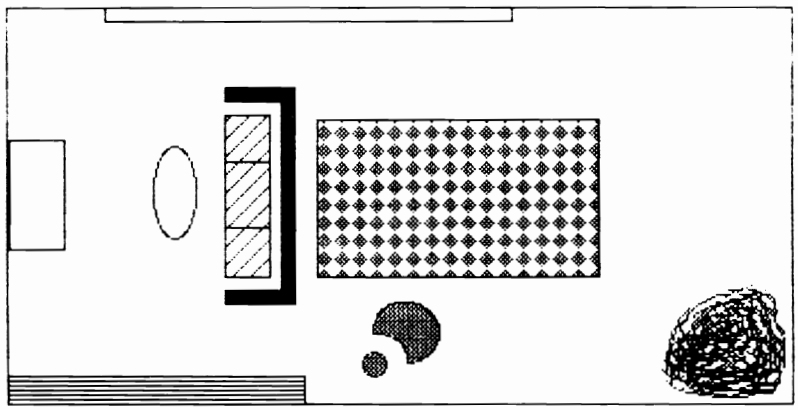
Moving Parts of a Drawing

In order to move a part of a drawing, you must first identify the region that is to be moved by using the edit tool (at the upper right corner of the toolbox). When you select the edit tool, the bottom of your *geoPaint* screen will show the options that are available. You can move, copy, invert, rotate, mirror, or clear the region you have defined. Most of these options were used in the rearrangement of the living room we are working on.

Select the edit icon and draw a box around the area you want to move; then click. Move the crosshairs pointer into the box you created and click. The pointer will become very faint. Now, move the crosshairs to the place in the drawing where you want the region (and what's in it) to appear. As you move, the region will follow the pointer. You need not click at all, but a final click will lock everything into position. Another click outside the region (or on the edit icon) will erase the dotted lines around the region.

As a first step in rearranging the furniture, try moving the chair and ottoman in the upper right corner to another part of the room. This region will be defined by dotted straight lines, and everything within the region will be moved. Figure 2-28 shows the change.

Figure 2-28. Area Moved



Once you have defined an area by using the *move* option, you can perform several operations without having to redefine the area. For example, you can move a region, rotate it, and then move it again to another location.

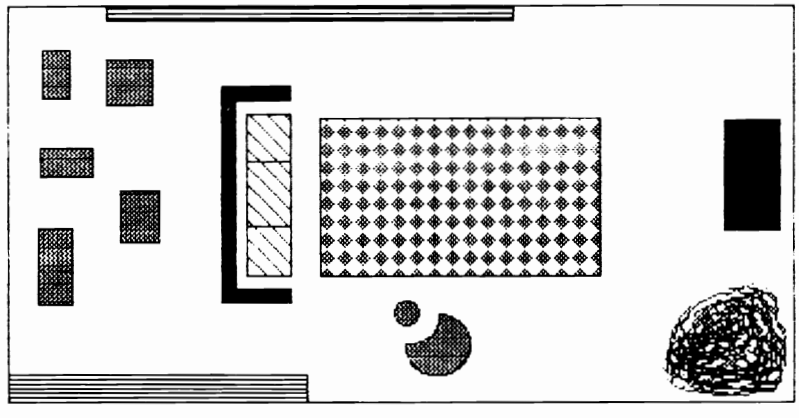
Helpful Hints

It's very important, when you use the edit tool, that you define only the areas that you want to move. Otherwise, unwanted details may be moved as well. A common mistake when using the edit option comes from defining too large a region. Here's what happens: The part of the drawing that you want moved goes along with the pointer, but other parts are moved, too.

For example, if the television is against the wall and you want to move it, you will probably move part of the wall as well. The best way to prevent this is by drawing your objects so they don't touch or by patching walls and other things after they have been moved. When you use the edit tool, be sure to use the update and recover features as you work to prevent very costly errors.

The chair has been moved. Now the *rotate* option is clicked so that the chair faces the couch, and the area is moved again to be closer to the couch (Figure 2-29). The *rotate* option rotates a defined area 90 degrees. Finally, the couch is moved so that it faces the inside of the room. One way to do this is by rotating and moving it several times. A much easier way is by defining an area to include the couch and then using the *mirror x* option.

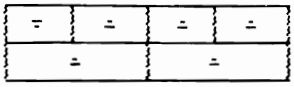
Figure 2-29. Another Move



The *mirror x* box is clicked instead of the *mirror y* box, since the *mirror x* box changes things horizontally rather than vertically.

Another use of the *mirror* option is in drawing symmetrical objects—those that consist of two identical halves. For example, the left half of the dresser in Figure 2-30 was drawn by using the box and straight-line tools.

Figure 2-30. Dresser



A copy of this half was made (using the *copy* option). The second half was then mirrored and moved next to the original half to produce the dresser. The handles were added by using the brush feature, which will be discussed in the next section.

To return to rearranging the room: You might want to see what the room would look like if another chair were purchased and placed next to the one that is already there or how the room would look if the rug pattern were changed. You can copy, rotate, and move the chair to try out different arrangements.

Finally, you can see how the rug would look if the color pattern were reversed by using the *invert* option in the status box. You would first identify the rug by using the edit tool and pointer; then you would move the pointer to click on the *invert* option.

Keep in mind that when an area is reversed, the entire area marked by the box will be reversed—including the area of the defining box. If the box you define is larger than the object or area you want to invert, you will be reversing more than you want. Be sure to use as small and well-fitting a definition area as possible.

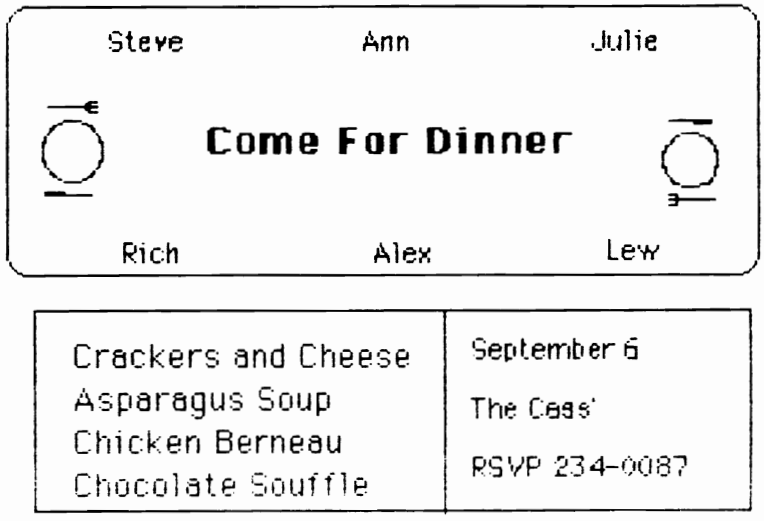
The *invert* option is especially useful when you have already filled in areas with patterns and want to see what the reverse pattern would look like.

Helpful Hints

Remember, a defined edit area can be worked with as long as it is defined. In other words, it can be moved, inverted, or rotated in three separate steps, without your having to redefine it every time you want to do something. After the region has been defined, however, as soon as you click, you can no longer operate on it. You must open the area for edit again if you want to change something.

Look at Figure 2-31, a dinner invitation, for another example of how you can combine some of these options. Here, half the dinner table and one place setting (which was drawn in pixel-edit mode) were drawn first; they were then copied and rotated to form the entire table. The table's rounded corners were produced by drawing a rectangle and then using the pixel-edit mode to round off the corners. With text added, the finished invitation is ready to go.

Figure 2-31. Invitation to Dinner



Using Brushes

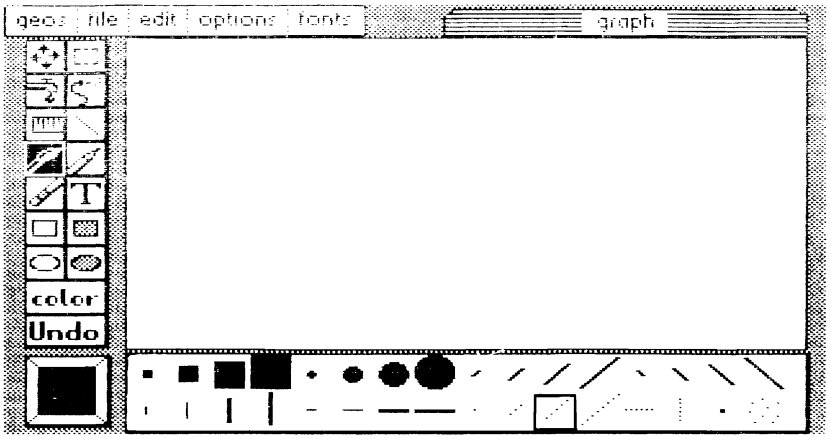
You've already practiced drawing with the pencil, filling with the faucet, and producing both hollow and solid squares and circles. The two remaining drawing tools are the paintbrush and the airbrush, both very powerful tools for achieving certain effects that are difficult to accomplish with other *geoPaint* features.

Drawing with the Paintbrush

The *geoPaint* paintbrush allows you to choose from one of 32 different brushes to paint an area. Choosing (and using) a paintbrush shape is as easy as clicking the brush icon on the toolbox. Once you've done this, the paintbrush is active. In order to see the selection of possible brushes on the monitor screen, call up the *options* menu and select *change brush*. Then the 32 shapes will appear on your screen, and you can choose one of them by moving the cursor to that shape and clicking.

When you do this, the status box shows the 32 brush shapes illustrated in Figure 2-32. The brush that is active has a solid box around it. In this case, it is one of the diagonals. This means that when the pointer is moved back into the drawing area, all drawing tools will use that thickness of line at that angle.

Figure 2-32. Screen with Brushes



The brush draws in whatever pattern is active. You can also combine brushes with a selected pattern and accomplish a variety of effects.

For example, in Figure 2-33, the large-dot brush was used in conjunction with the diagonal-brush/gray-pattern combination to draw the bow. Then text was added to create this "tie up a deal" invitation.

Figure 2-33. Tying Up a Deal

In Figure 2-34, the round solid shape and the solid black pattern were chosen to identify sprinkler heads for a sprinkler system.

Figure 2-34. A Sprinkler System

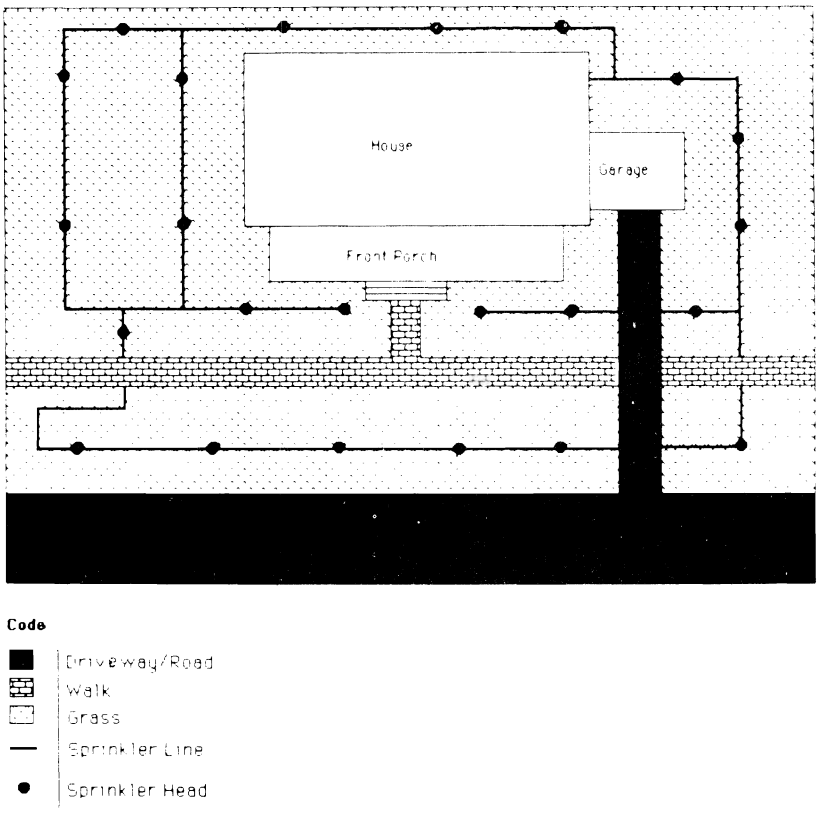
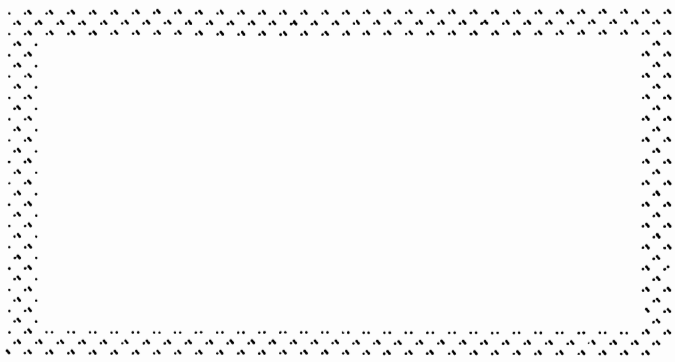


Figure 2-35 is another example where a frame or an outline has been constructed by using a diagonal brush combined with a triangle/dot pattern.

You might want to use a combination of a brush and a particular pattern more creatively. For example, the handles on the dresser in Figure 2-30 were created by using the middle-sized circle brush with the horizontal-line pattern. Wherever a handle was to be placed, the pointer (which was in the shape of a round brush) was moved and clicked twice.

Don't underestimate the utility of brushes. Combined with other features, they can create some very special effects indeed.

Figure 2-35. Frame

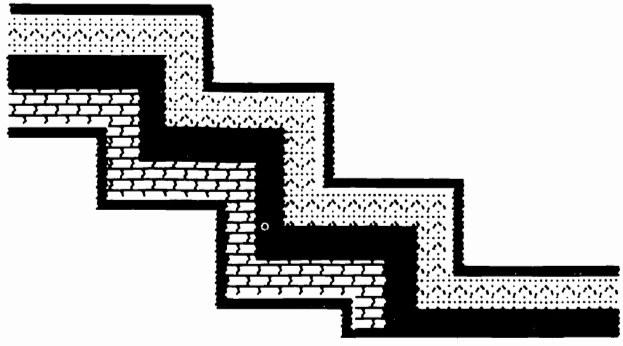


Drawing with the Airbrush

Drawing with the airbrush is like using the brush, only the effect is more freehand and you have the opportunity of using the brush where you want instead of being limited by the shape of a brush head. Choose the airbrush the same way you did with the paintbrush, using the window menu and the *change brush* item on the *options* menu.

The airbrush tool is used mostly with selected patterns so that special effects, like those in Figure 2-36, can be quickly and easily drawn. Here, several combinations of brushes and patterns have been combined in a freehand manner.

Figure 2-36. Various Brushes



Just remember, though, once the airbrush is active, anything that you draw will be in a brush pattern.

Advanced Techniques

geoPaint is a full-featured graphics program. Even though it may be everything you need now, there may come a time when another technique or trick will be exactly what you're looking for. Here are some new applications of *geoPaint* that you may find useful and fun to experiment with.

Creating Scale Drawings

At times you'll need more precision than either *geoPaint*'s freehand-pencil tool or even the straight-line tool can allow. This is when the ruler option will become very useful. For example, if you wanted to draw the house plan we created earlier to scale (let's say 1/4 inch = 10 feet), it would be convenient to have some way to measure these distances and be sure of their accuracy.

You could use transparent tape and mark off quarter inches on the tape before you paste it onto the monitor screen. This may be suitable for some applications, but it means moving the tape around to measure different lines in the drawing.

A far easier and more accurate tool is already provided by *geoPaint:* the ruler option in the toolbox, which enables you to measure the distance of a line in either inches or by number of pixels.

To illustrate how this works, Figure 2-37 shows the addition of a deck and a sandbox to the original house plan. The requirements call for the deck to be 25 feet long, which translates into 1-1/4 inches (using a scale of 1/4 inch = 5 feet). You can use the ruler and check your drawings after they have been completed to see how closely they meet the requirements.

In this example the ruler icon is selected. The pointer is then moved to the top right corner of the proposed deck, where the pointer is clicked. Moving the pointer now results in a straight line, and the distance along the x (horizontal) and the y (vertical) axes appears in the status box at the bottom of the page.

You cannot use the ruler to produce a line of a certain distance. Use it like a tape measure to let you measure lines that already exist.

In another example (Figure 2-38) a kitchen has been planned by using the ruler tool. Here, the scale is 1 inch = 5 feet, with counters and windows scaled the same. This drawing can be printed, and the copy can be used as an actual plan in the construction phase.

Figure 2-37. House Addition

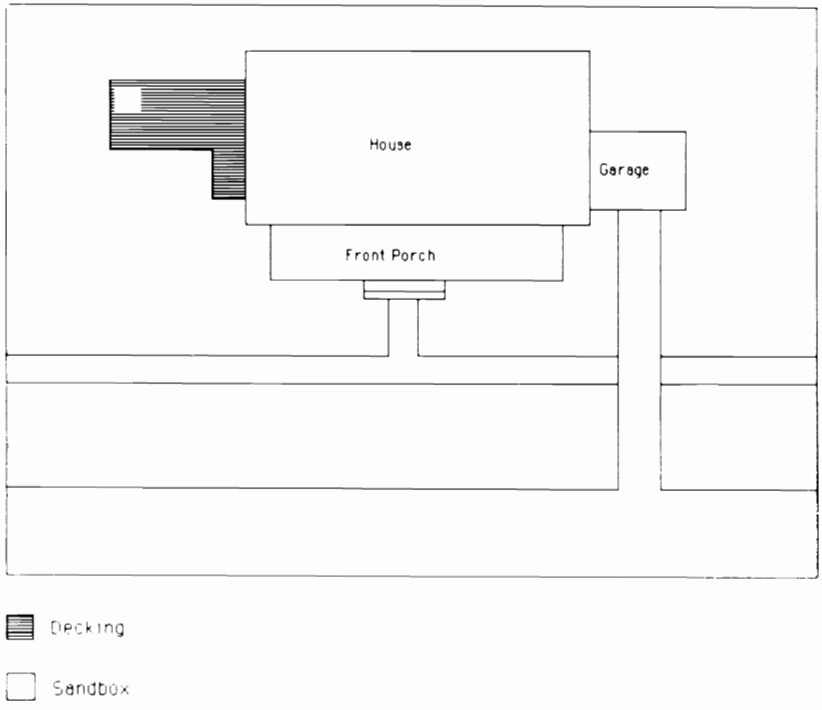
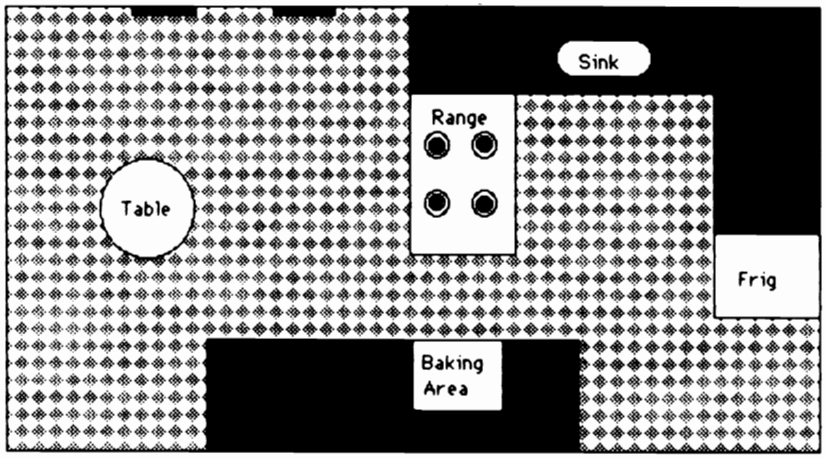
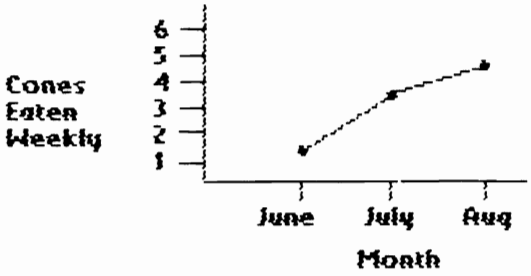


Figure 2-38. Kitchen Plan



Another useful application of the ruler is in designing and producing charts. Frequently, distances must be accurate, as is the case with Figure 2-39, where the amount of ice cream consumed is being plotted against the months in the summer. Accuracy is necessary to make sure that the points along the *x* and *y* scales are equally placed. In addition, accuracy is needed to place each of the data points in the right position.

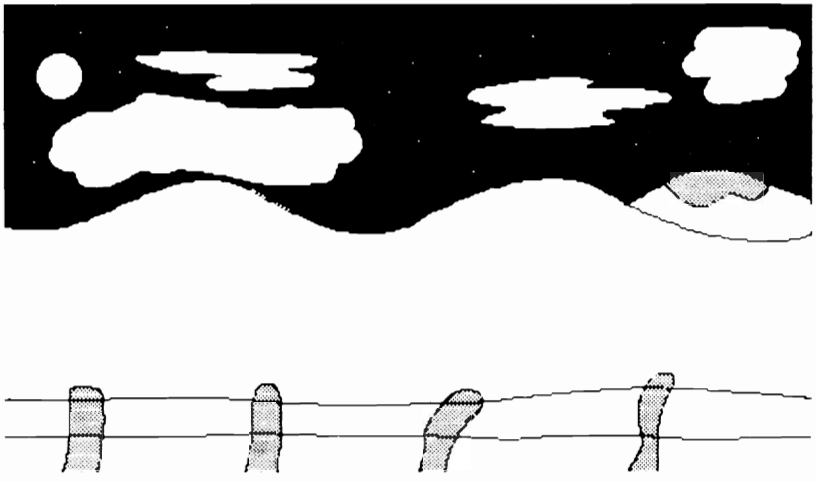
Figure 2-39. Ice Cream Chart



Custom Erasers

You already know the two ways to erase on a *geoPaint* drawing. One way is to use the eraser icon (in the normal or pixel mode) and the second is to use the pencil tool to erase pixel by pixel. While these work quite well, the only problem is that you are limited to the shape of the eraser (a square box in the normal-edit mode or a pixel in the pixel-edit mode).

Figure 2-40. Special Erasing



One way to get around this problem is by selecting a white pattern from the pattern menu and combining that with the shape of brush you want the eraser to be. In other words, you will be painting with white, erasing anything that the brush touches. This is useful for erasing different shapes and areas, and you can achieve some very interesting effects like those in Figure 2-40.

Working with Black

The combination of white on black can be striking. Don't overlook this technique for experimenting with some of your more traditional drawings. Earlier, you learned how to invert a defined area by using the *move* option. Look at Figure 2-41, where the entire screen from Figure 1-3 has been defined as a region and then inverted. This can be a very effective technique, especially when it is combined with a variety of new patterns as in Figure 2-42.

Figure 2-41. Reversed Image Clown

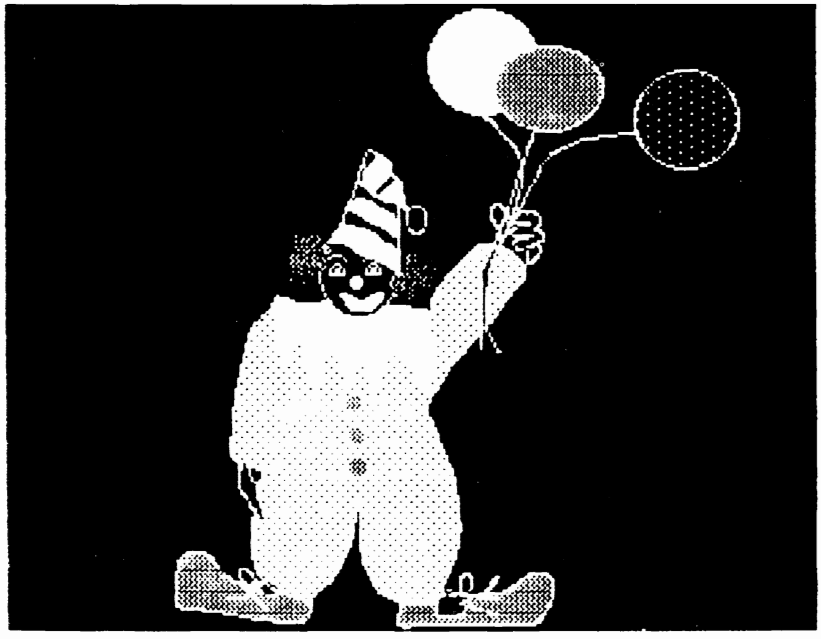
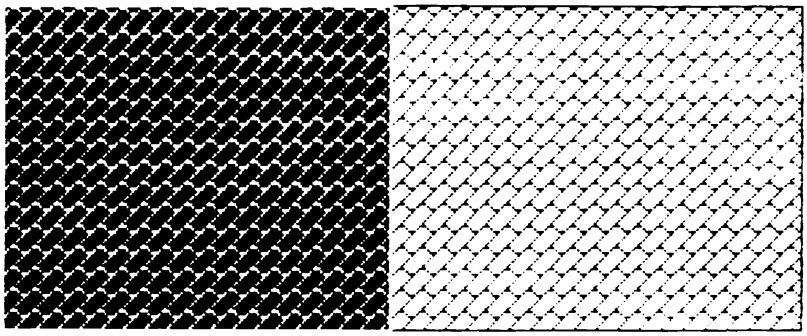


Figure 2-42. Reversed Patterns

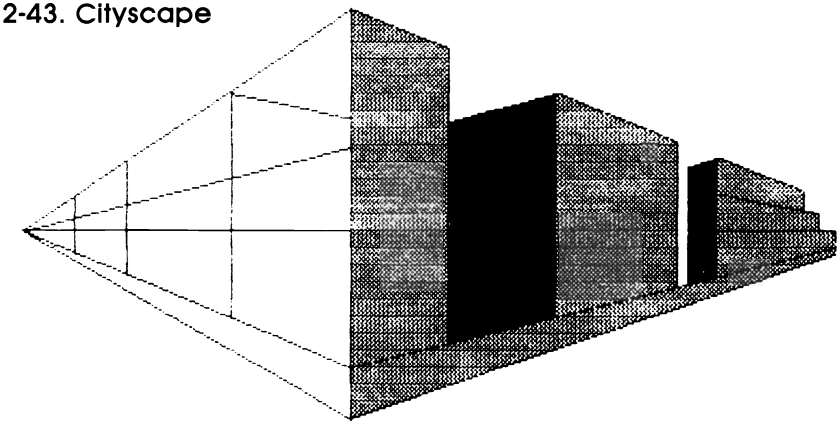


Perspective

You may know how to draw objects in perspective and how exciting the results can be. All perspective drawings have one or more sets of *vanishing points.* These are the points toward which the perspective seems to vanish. In order for a drawing to be done with perspective, these points must be established.

In Figure 2-43, vanishing points were placed at the borders of the screen. All lines were drawn toward those points when figures and objects were constructed. In this drawing you can see all the guidelines for a simple street with buildings. Notice how each rooftop and the sidewalk lines were drawn toward both endpoints.

Figure 2-43. Cityscape

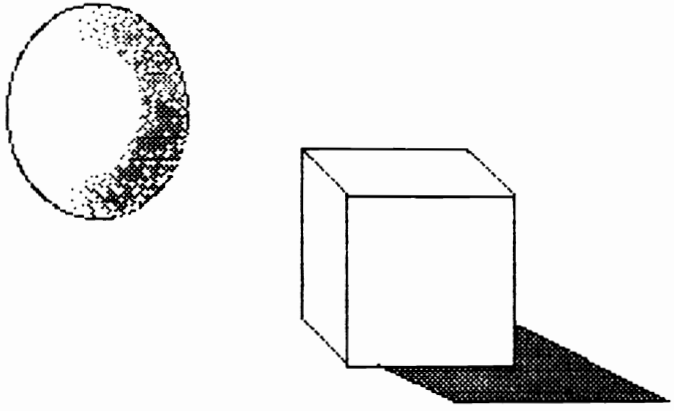


Shadows and Shading

Shadows and shading can give a three-dimensional look to an object. You can use *geoPaint* to create this effect if you use perspective lines and some shadowing.

For example, in Figure 2-44, a three-dimensional cube has been drawn (using the box and straight-line icons and some erasing); the shadowed area is created by using two perspective lines and then filling them with the gray pattern. The sphere is more difficult to draw since the shadow must be done by using freehand drawing, but the same effect is accomplished.

Figure 2-44. Shadowing



You can also create shadows of letters by using *geoPaint* features. First, you need to use the text icon and draw in the outline style. Then copy whatever it is that you have drawn slightly to the left (or right) and up (or down) from the original writing so that you end up with two staggered sets of the same letters (Figure 2-45). Then use the pencil tool to repair any leaks and, finally, the fill tool to color the shadow either gray or black, depending upon what you want to use (if anything) to fill the first set of letters.

Figure 2-45. Shadowy Letters

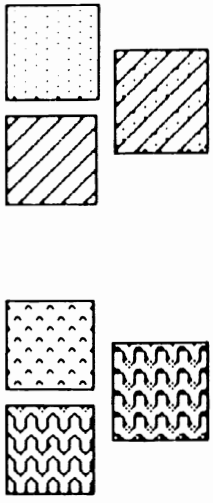
This technique works best with fonts like Cory and Roma, which can be drawn large and which have big, open spaces.

Custom Patterns

You never know what kinds of patterns will result when you use more than one. Generally, patterns that have open designs can be filled with others to create some very interesting patterns. To create your own combination of patterns, save your filling of spaces until the end. You must have defined your spaces before they can be filled.

Figure 2-46 illustrates what some pattern combinations look like both before and after the designs are mixed. You can also choose patterns that have shapes within them (like the brick pattern that actually consists of little rectangles), which can be filled as you choose.

Figure 2-46. Combining Patterns

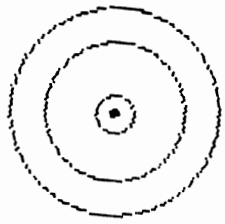


Concentric Circles

It's easy to draw a circle in *geoPaint*, but not always easy to draw one where you want it. The first circle will take a little experimenting, and the second one can be even harder to place where you want it.

An especially frustrating task is drawing concentric circles—those circles drawn within others which have a common center. There is a trick, however, that can help you get around the problem. Using the pencil tool, simply click a dot (or use a brush point) as a reference point and draw your first circle. Now place the crosshairs pointer on that dot. Anywhere you draw a circle, it will be concentric to the first one (Figure 2-47). When you have finished, erase the dot.

Figure 2-47. Concentric Circles



Circles in a Row

Drawing concentric circles can be handy, and so can drawing circles in a row. To draw a set of circles in a row (Figure 2-48), begin with a straight horizontal line. For circles to be equidistant from each other, use the rule to mark off equal lengths along the line. Then place the crosshairs from the circle icon onto the line and draw. When you want the circles to be all the same size, you might also use guidelines on the outside of the circles.

Figure 2-48. Circles in a Row

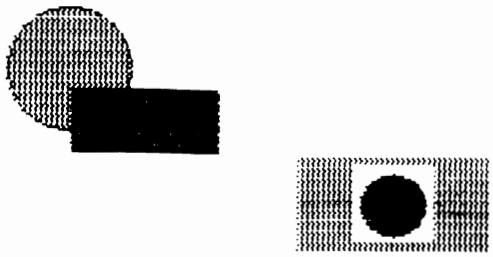
When all the circles have been drawn, select a short-line brush shape and the white pattern to erase the original reference line. To finish, use the pixel mode to fill any open spaces.

Overlapping Images

Moving one object to overlap another is simple when you use the procedure discussed above (see "Moving Parts of a Drawing"). Here's where you need to take care: Whenever a region around an object is defined, the region itself also is moved and will overlap. For example, Figure 2-49 shows how a black square has been moved over a gray circle. This works well because the black square can be perfectly enclosed by the edit icon. You can see that when you try to move a black circle, however, you also get a white square.

The white that is enclosing the circle is part of the region that has been moved. The solution: Plan in advance. Instead of moving objects over other objects, draw them over others.

Figure 2-49. Overlapping Figures



Special Projects

Banners

Everyone likes banners. You can use them for birthdays, announcements, signs, or almost any other occasion. With *geoPaint* you can take advantage of the 24-point-size fonts and produce several different full-page sheets of letters. If you want to print a banner with the words *Happy Birthday,* you will have to produce and print the banner in different sections.

The tricky part is fitting all the parts together. When you print banner sections, follow these three rules:

1. If possible, print only complete words.
2. At the end of the first section, print the first letter of the first word that will be on the second section.
3. Cut in half the last letter on the first section and overlap it with the first letter of the second section (they should be the same letter).

For the birthday banner, you will need two sections: the first will be *Happy B,* and the second, *Birthday.* The *B* on the first section will be cut in half vertically and then it will be overlapped on the second. The final step will be to tape the sections together on both sides, using transparent tape. And there's your banner.

To make an even more professional job, have it laminated. This will protect it from wear and tear, and will also keep all the parts together permanently.

Greeting Cards

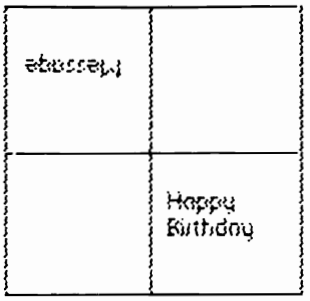
Greeting cards are another interesting project that you can complete with *geoPaint.* The key to their production is in understanding how a greeting card is put together and how you should print it.

A greeting card consists of, basically, an outside greeting and an

inside message. First, you should design the outside of the card: a picture, some text, or whatever combination you would like. Next, write the message on the inside. Here, the difficult part is putting everything together so that it opens and reads like a greeting card.

One method of printing a greeting card is to create your design for the front of the card and place it so that it will be printed in the lower right quadrant of the paper. Once you have printed the front of the card, you'll need to remove the paper from the printer and reinsert it (upside down) so that the inside will be printed in the correct place and in the proper position. The front cover should now appear upside down in the upper left quadrant of the page. Create your inside message and print it on the repositioned paper in the lower right quadrant. Figure 2-50 shows the positions of the front and inside message of the card once they both have been printed.

Figure 2-50. Greeting Card Postition



Another method is to reposition the inside text by using the *rotate* option. The text will appear upside down until the card is folded. This option takes advantage of *geoPaint*'s tools and saves you time as well.

Follow these steps so that when the piece of paper is folded into quadrants, the opener and the message will read like the first two pages of a book.

Maps

Maps are fun and easy to do with *geoPaint*, even if you'll need some help from the local office supplier or school store. Buy a thin sheet of clear acetate and a black wax pencil. Find a good reproduction of the map that you want to copy and use the acetate to trace the outline.

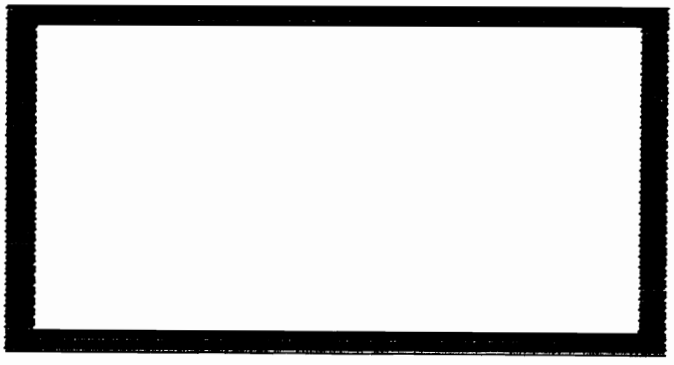
Now wipe your monitor screen with a very slightly damp sponge or paper towel, place the acetate on the screen, and use the pencil, straight-line, and pixel-edit tools to copy the map right on to your monitor screen.

Once you've finished this rough draft, you can begin to add other features such as rivers, states, the place where you were born, and so forth. When you combine text and other features (such as duplicating files, invert, and fill), you can produce professional and highly individualized maps.

Fancy Borders

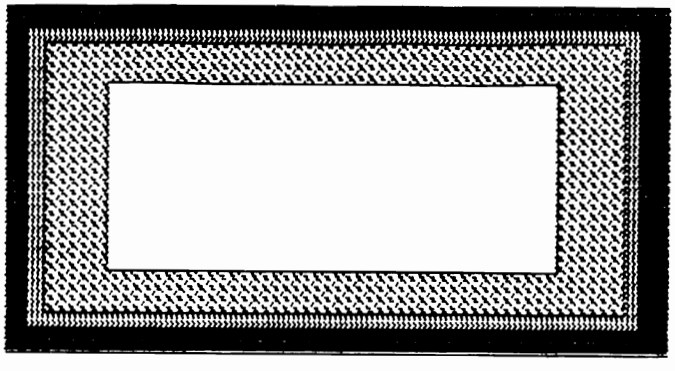
You can use borders for everything from award certificates to stationery. The simplest border is composed of two rectangles enclosing some material; the in-between space is filled with a pattern—or even with a solid color (Figure 2-51).

Figure 2-51. Simple Border



But you'll be able to create many others by using some of the techniques that you have already learned. For example, you might want to draw a set of overlapping circles and then copy that set on to itself to create a border of overlapping circles. Borders can be combinations of different fill patterns, as you see in the border in Figure 2-52.

Figure 2-52. Filled-Pattern Borders



Finally, you can create your own custom pattern, copy it to form a larger example of the pattern, and then use it to go around the edge of your screen—continuing to copy until the border has been completed.

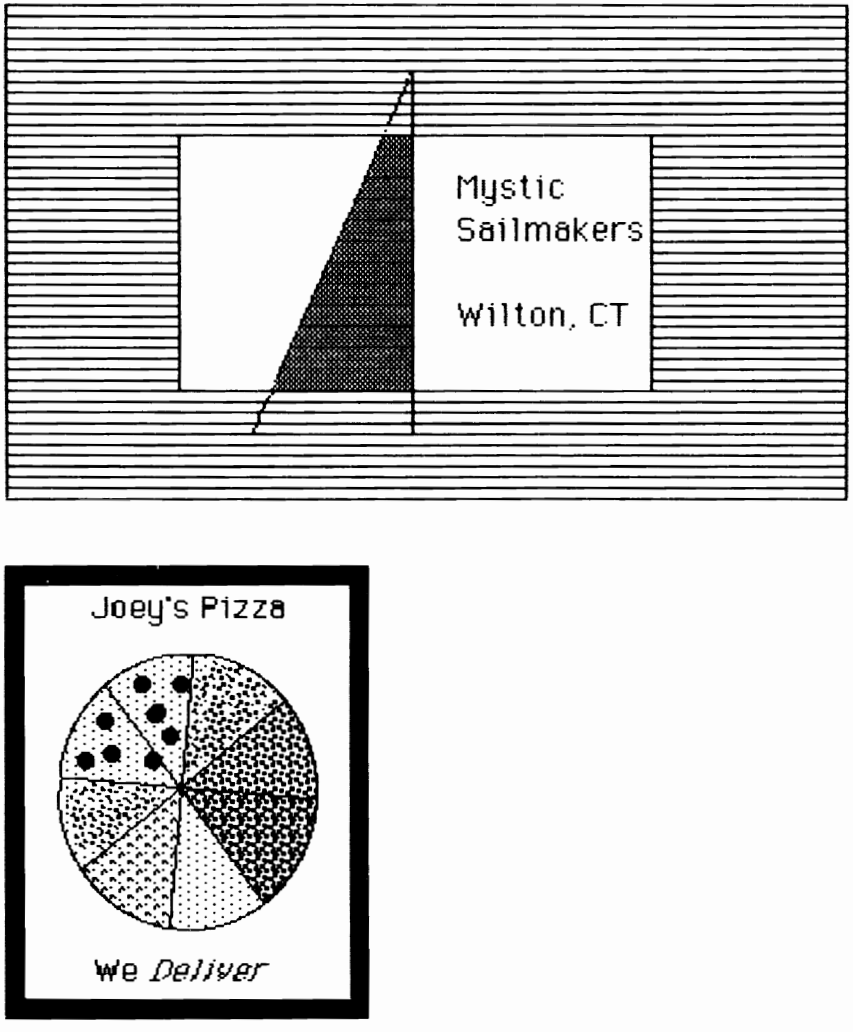
The number and types of borders that you can create is limited only by your imagination. Try using the *invert* option combined with a

customized eraser. Also try borders within borders, building up levels to achieve a detailed effect with depth.

Logos

Almost every business has a logo. Logos are visual representations of what a business does. For example, the two logos in Figure 2-53 convey the messages without the need for any text—that these companies make sails and pizza.

Figure 2-53. Logos



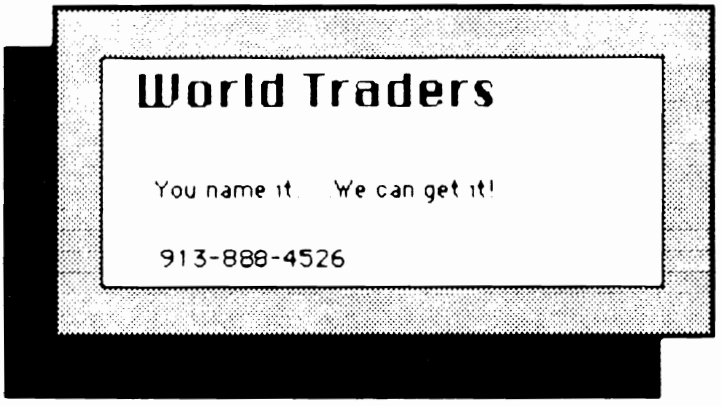
When you design a logo, remember what the company does and the image it wants to portray. If you are designing a logo for a sailmaker, you certainly don't want a motorboat depicted in the logo.

Business Cards and Forms

The business world demands that people be able to communicate clearly and quickly. Business cards, which can include minimal information or a great deal of information, allow people to do just that.

Figure 2-54 is a business card produced by creating several boxes, which were filled to create a shadow effect. Different fonts were used for text. The card is clear, crisp, and to the point, leaving no doubt in a potential customer's mind what these people can do.

Figure 2-54. Business Card



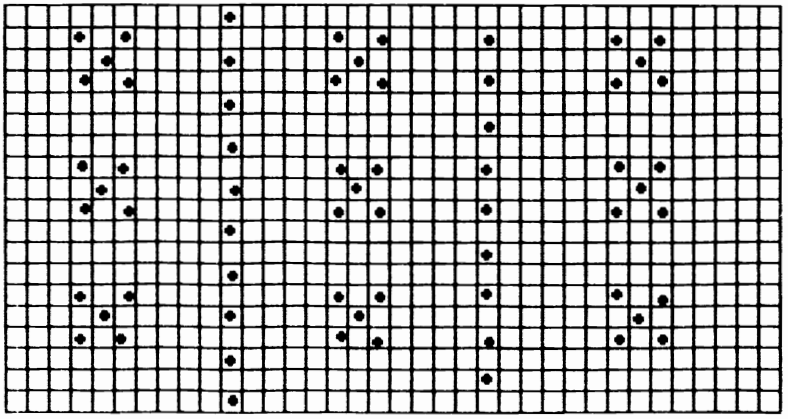
Graph Paper

Graph paper is another handy item that can be used for constructing rough drafts of charts or for planning seating and furniture arrangements. You can produce your own graph paper simply by creating a box and filling it with one of the two checkered patterns from the pattern menu offered by *geoPaint*. (You'll find these at the end of the top row and beginning of the bottom row.) The larger squares have 9 squares to the inch and the smaller squares have 18 per inch.

Crafts

Finally, you can combine *geoPaint's* graph/squares feature to create quilt and embroidery patterns. Look at Figure 2-55. Here, large graph squares have been used. In the pixel mode, small paintbrush dots have been placed in the appropriate locations until a pattern is generated. This pattern can be repeated by defining and copying the region. You can then print it out and use it as the actual pattern.

Figure 2-55. Embroidery Pattern



Chapter 3

geoWrite

geoWrite:
Be an Author

GEOS's electronic typewriter, *geoWrite*, is one of its most often used applications. It's a word processor that lets you create documents, save them, return to them later, revise them, and print them.

With *geoWrite* you can save many hours of work by producing form letters that give different personalized greetings. You can compose flyers and invitations, write complete reports, and even do your own desktop publishing as you will learn in Chapter 5.

For example, you might want to send copies of the same letter to friends announcing the opening of a new business. Using *geoWrite*, you can write the main body of the letter a single time and then insert each friend's name and address for each copy of the letter that you print. *geoWrite* cannot automatically merge a list of names and addresses with a form letter as some other word processors can do, but you'll learn a way to produce form letters that is quick, easy, and efficient.

Another word processor application, and a very common one, is creating drafts of papers, reports, and even books. You can save documents as files that can be retrieved later. Any serious writing usually involves feedback from other people. When your work is electronically stored, you should have no concern about having to retype parts of a document—or even a whole manuscript—when you get suggestions for revising it.

Word processing has revolutionized writing. If you haven't been using your Commodore for word processing, now's your chance to learn a lifetime skill that will be of enormous help to you. If you are an old hand at word processing, *geoWrite* will provide you with a tool to use along with the graphics capabilities of *geoPaint*.

Create, Open, or Quit a File

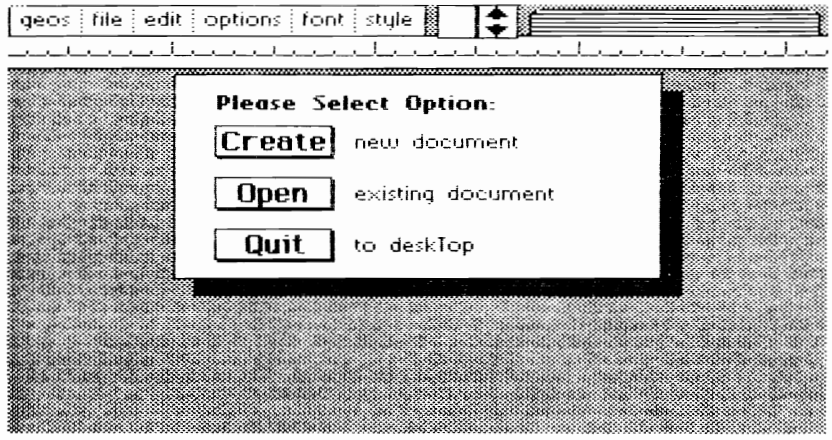
To select *geoWrite*, just move the pointer over the *geoWrite* icon and click twice. If you see a ghost icon, click again and start over; this means you've paused too long between clicks.

As always, whenever you are working with *GEOS*, be sure that

you have a work disk in the disk drive and not the *GEOS* source disk. And, remember, in order to select a file directly from the *GEOS* opening screen, you need two clicks on the fire button in rapid succession.

When *geoWrite* has been selected, the first thing you will see is a dialogue box nearly identical to the one that appeared on the screen when you first started *geoPaint*. Again you have three choices (Figure 3-1).

Figure 3-1. *geoWrite* Dialogue Box



The first choice is to create a *new document*. Select this pull-down menu when you are using *geoWrite* to create a new document that is not yet a part of the *GEOS* system. This will be a new file, and a new icon will be created to represent that file.

The second choice is to open an *existing document*. Use this when you are ready to revise or continue work on a document that has already been created and stored as a file. For example, let's say you are working on a draft of the bylaws for your professional organization and have already used *GEOS* to enter the first draft of the document. After feedback from the steering committee, you are ready to incorporate the changes. You are opening a file that already exists.

The third pull-down menu offered on the dialogue box is to quit *geoWrite* and return to the deskTop, or opening *GEOS* screen. Select this option when you have finished working on a document. Choosing this menu item automatically closes the file that you are working on.

Since this is your first outing with *geoWrite*, we'll start by creating a new document.

Opening and Naming a File

Move the pointer to the *Create new document* pull-down menu and click. When you select the pull-down menu to create a new file, *geoWrite* wants you to assign a unique name, one that's not currently being used.

There are many similarities in the management of *geoPaint* and *geoWrite* files, and naming *geoWrite* files follows the same conventions you've already become familiar with. For a new file, *GEOS* allows you to use any name that is up to 16 characters in length. It presents you with a screen that asks you for the filename. You can have as many as 144 files on a 1541 disk, although it's doubtful that you'd have files so small that all 144 could fit.

The use of extensions is appropriate with *geoWrite*. Name your *geoWrite* files so that they relate to the content of each file. The extension should represent the general class of documents. For example, you might name a file that is a letter to your friend Susan, *letter*. It would be much more descriptive, however, to name the file *Susan.ltr*. This way, you would know at a glance that it is a letter to Susan. Here are some suggested extensions:

- Use *ltr* for letters
- Use *txt* for text (reports, books, and so on)
- Use *list* for lists (shopping, to-dos, and so on)
- Use *memo* for short notes (for example, I'll be home at...)

Once you've named your new file, a press of the RETURN key will bring up the new document screen.

The Document Screen

There are several similarities between the *geoWrite* document screen and the *geoPaint* screen that you learned about in Chapter 2. First, both have a command bar menu, or window menu, at the top of the screen.

Second, the name of the file you are working on is indicated in the upper right corner, again looking like the label on a folder.

Finally, there is the familiar pointer in the work area, called the *writing window*. It's in this window that you will actually do your writing and complete your *geoWrite* files.

Just as in *geoPaint*, this window does not represent all of the space that you have to work with. Actually, it represents an area only about 6 inches wide, including the entire *geoWrite* screen. But it is still a WYSIWYG (what you see is what you get) word processor, so keep this in mind as you design your documents. Later you'll see how you can

move around the drawing window to create final copy that is 8-1/2 × 11 inches in width.

The opening *geoWrite* screen looks almost like what it actually represents, a piece of white bond paper in the writing window that is ready to be typed on.

As you move around the screen, you can see a ruler, which will help you set margins and tabs; a page-number indicator (it now contains the number 1, showing that this is page 1 of your document); and a scrolling box with two arrows in it. You'll use all these and more as you work your way through the different *geoWrite* examples.

A Simple Letter

As soon as you open a new file and name it, *geoWrite* is ready for you to enter text. The text will appear where the vertical blinking cursor is located. The cursor appears in the upper left corner just as if you were beginning a letter on a piece of paper.

Type in the following letter exactly as it appears, including errors. Don't worry about the mistakes. A major advantage of learning to use a word processor is in being able to edit the text and make corrections.

Dear Susan,

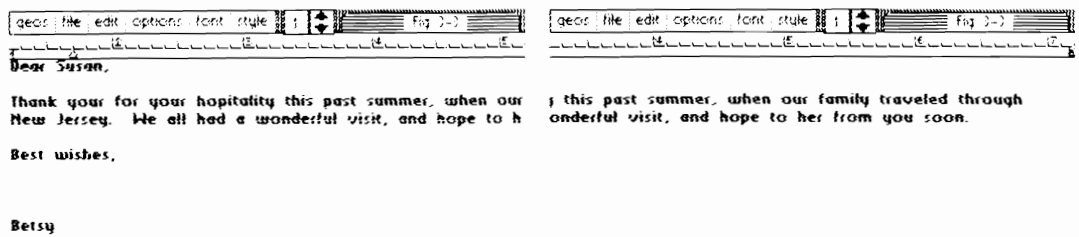
Thank you very much foryour hospitality this summer, when our family traveled through New Jersey. We all hd a wonderful visit, nad hope to hear from you soon.

Best wishes,

Betsy

As you type, you will notice certain things happening. First, *geoWrite* scrolls to the right when it runs out of room on the screen. It does this to provide you with a large work area. Figure 3-2 is another draft of the letter to Susan. You can see that it's almost as if there are two separate screens, one for the left-hand side of the letter and one for the right.

Figure 3-2. Letter Screen *(Left and Right)*



geoWrite can show you only a part of the document at any one time, which is why you see only the left half of the letter on the screen.

Move the pointer back and forth across the ruler line from the left side to the right side of the screen and back again. When you cross the border of your monitor screen, the contents of the writing window will change, and you can see the remainder of the letter.

Also, note that as the screen changes you are actually working on a different part of a whole page. Remember the page indicator in *geoPaint* and how effective it was as a tool to monitor your position? Look at the page indicator in *geoWrite*. As you move the pointer, you will see the little rectangle inside it change position as well. This little rectangle shows you the position of the text that is currently on the monitor screen.

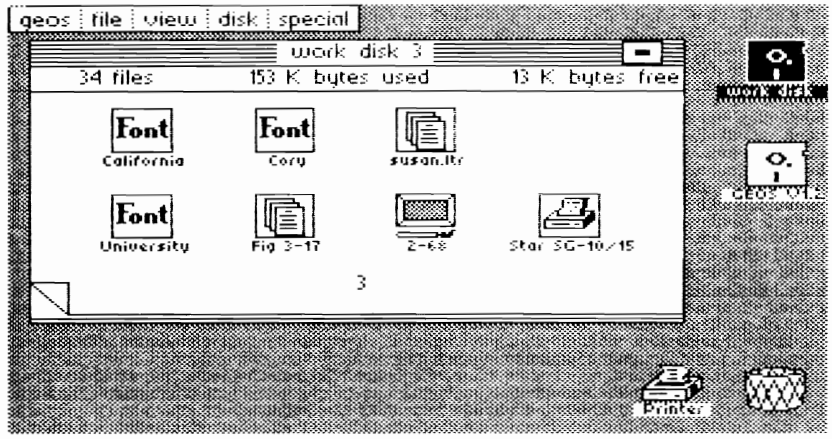
geoWrite automatically advances to the next line when you have reached the end of the previous one. This feature is called *word-wrap;* it allows you to continue typing without worrying about pressing the RETURN key as you would have to do on a conventional typewriter.

Saving Text

Before you start correcting the document, it would be wise to save it first. When a *geoWrite* document is saved, its contents are written onto the disk that is in the currently active disk drive, thereby providing you with a permanent record. As in *geoPaint,* all methods of saving a document in *geoWrite* begin with the *file* pull-down menu on the window menu where you can close a file, update it, recover it if you have problems, and, of course, quit to the deskTop.

When you create and close a *geoWrite* file, *GEOS* automatically creates an icon to represent that file and gives the icon the same name. For the letter to Susan, you can see an icon that looks like the one in Figure 3-3 on your deskTop screen. All *geoWrite* icons will look the same (a set of pages), but all will have different names underneath them.

Figure 3-3. Letter-to-Susan Icon



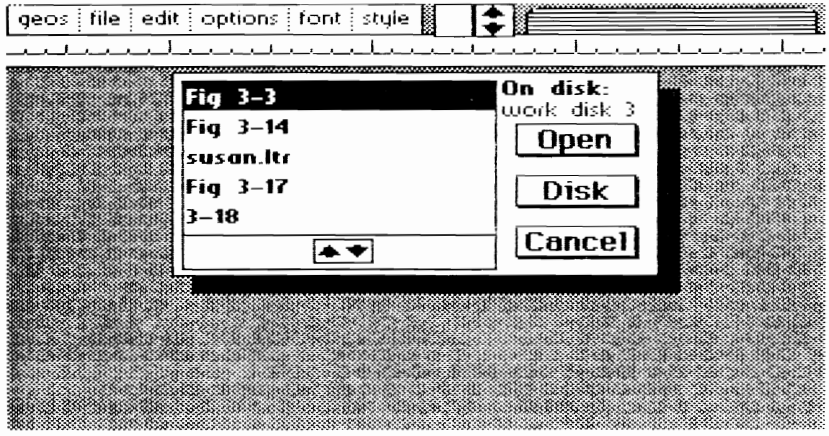
Before you continue, be sure to use the *close* option to save the file in which your letter is stored.

Opening a Saved File

Before you can correct anything in the letter to Susan, you must first retrieve the file itself. There are two ways to do this.

First, from the opening *geoWrite* dialogue box screen, click the *open* pull-down menu. *geoWrite* will list the *geoWrite* files that are on the work disk (Figure 3-4). As many as 16 files can be displayed in this window, and you can view them by pointing the cursor at one of the scrolling arrows and pressing the fire button. Open a file by moving the pointer to the file until it is highlighted and then click.

Figure 3-4. Opening a File



A second and much more direct way to open a file is by double-clicking, which you learned about in Chapter 2. First, on the deskTop screen, locate the icon representing the file you wish to open. (Remember to click on the dog-eared page corner to reveal file icons not shown on page 1.) As you did with *geoPaint*, move the pointer to the icon representing the file you want to work on (in this case, labeled *Susan.ltr)*. When you double-click, *geoWrite* will automatically open the file. Do that now, and watch as the letter to Susan appears on the screen.

Correcting Text

Nobody, no matter how fast or accurate, is a perfect typist. Everyone makes mistakes, and that's where *geoWrite* will help you correct your errors quickly and avoid the effort of typing a document over again.

Most mistakes fall into the categories of typos (spelling errors such as *nad* rather than *and* or *soonn* rather than *soon)* and omissions (such as *hd* rather than *had* or *for our* rather than *for your).*

The basic rule in making corrections in *geoWrite* is that wherever you move the pointer and click, that's where the cursor will appear. *geoWrite* will place a short vertical line in the exact place where the pointer is located.

For example, in the letter to Susan, reproduced earlier, a space needs to be placed between the *r* and the *y* in *foryour* on the first line of the letter:

Thank you very much **foryour** hospitality this summer....

To make this correction, move the pointer to the *y* and click. The cursor will appear to the left of the *y,* and you can insert the space by pressing the space bar. The cursor remains in the same place until it is moved to the next place that needs a correction.

Adding the letter *a* to the word *hd* is the next correction that needs to be done. The same procedure for adding a space is used to add a letter. Move the pointer to the place where the letter should be, click, add the letter, and click again.

Since two corrections have been made, it might be a good idea to save the file by updating it so that any other changes that are made won't accidentally affect the editing that has already been done.

There is one more correction that needs to be made. On the same line as the incorrect spelling of the word *had,* the word *and* is spelled incorrectly, too. In this case, before inserting anything, you must delete some text since there is no way to swap letters, which is all that really needs to be done.

Move the pointer to the end of the word to be deleted and click; then use the INST/DEL key to backspace or erase the word letter by letter. With the cursor in the correct place, type the word *and*.

Helpful Hints

geoWrite is able to do things only at the point where you place the pointer and click. If you move the cursor to the wrong place, *geoWrite* will make the correction in the wrong place. To practice, move the pointer around and click the fire button.

Entering and Editing a Business Letter

The letter to Susan is a simple example of editing. What follows is another letter that will illustrate some of *GEOS*'s more powerful editing features. This letter has been written by a campaign manager to voters in an upcoming election. As before, the extension *ltr* is used, and the complete name of the file is *nelson.ltr.*

This is a first draft of the letter. After reading it, the campaign manager wants to make several changes, besides the correction of a simple typo in the word *because* in the second paragraph.

To begin with, Mr. Nelson wants to delete "For the past year" and change the opening sentence from "Let me introduce myself" to "Thank you for reading this letter."

A tedious way to do this is to move the cursor to the last character in the sentence and use the INST/DEL key to backspace through the entire sentence. Then you can add the new sentence.

A much faster way is simply to highlight the text to be deleted by using the pointer. As you will see, highlighting text is the first step in several *geoWrite* operations. Place the pointer where you want highlighting to begin. In this example, it is at the beginning of the word *For* at the beginning of the second sentence in the first paragraph (Figure 3-5). Press and hold down the fire button as you drag the pointer across the text until you get to the end of the phrase. Now press the INST/DEL key, and the highlighted text will disappear.

If you make an error and accidentally erase text that you want to keep, use the *recover* item under the *file* pull-down menu (it's similar to using the *geoPaint* Undo feature). Selecting *recover* will return you to the previously saved version of a file. This is an excellent way to go back to where you started if you erase more than you want. Don't reserve the use of *recover* just for *geoPaint* files that often take more time to create than do *geoWrite* documents.

July 10, 1986

Mr. Jack Williams
123 Wilson Avenue
Chicago, Illinois 12345

Dear Mr. Williams:

Let me introduce myself. For the past year, I have been the campaign manager for John Paulson, candidate for City Commissioner. I am writing you this letter to encourage you to vote for him in the upcoming election and to contribute to his campaign fund. Although John knows many of you personally, he is hoping that he can also count on you to contact your acquaintances and share your support for him with these people.

I feel that John would make an excellent city commissioner, becaus of:

1) his previous experience as a state legislator,
2) his knowledge of the city and how it works (being a lifetime resident),
3) his commitment to community and state projects including his volunteer church and civic work,
4) his outstanding educational background,
5) his educational record, and
6) the endorsements he has received from several other state representatives.

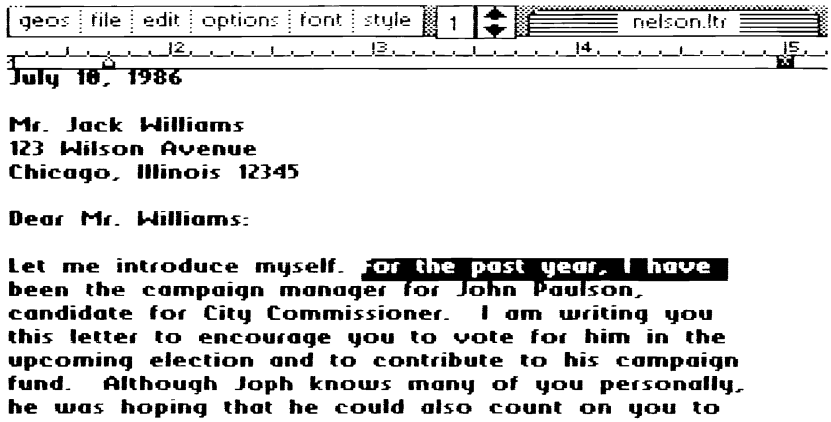
John has voted in support of many of the issues that you believe are important to keep active and has also provided effective constituent services over the years. Along with his family, he enjoys serving the people of the city and hopes that he can continue in this fashion for years to come.

John will be walking through your neighborhood during the evenings next week and will be knocking on your door to talk with you about some of important issues facing the city. I hope that you can give him some of your time.

Thank you,

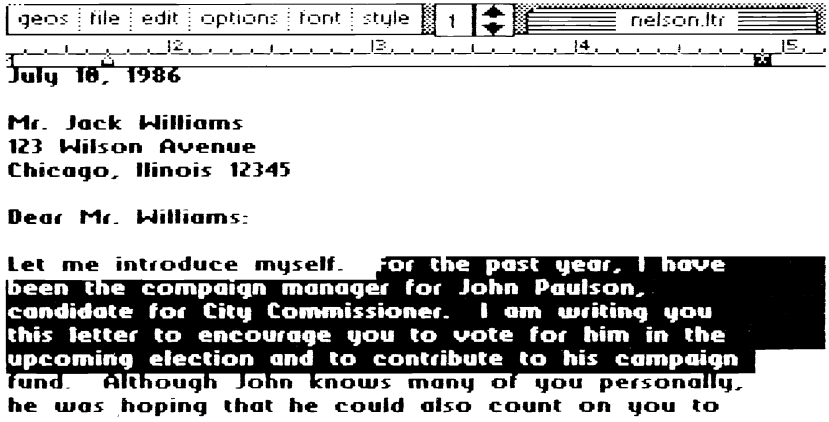
C. F. Nelson
Campaign Manager
Paulson for City Commission

Figure 3-5. Text Highlighted for Deletion



If you want to delete more than one line, simply hold down the fire button and move the pointer down the page, highlighting an entire section rather than one line (Figure 3-6).

Figure 3-6. Deleting a Section



In this letter, you also want to replace a line. That's easy. First highlight the area containing the text that is to be replaced: "Let me introduce myself." Next, simply begin entering the new text ("Thank you for reading this letter"), which will then automatically appear in the same position.

Helpful Hints

When you highlight text to be deleted, you can go beyond the right edge of the monitor screen and into the right-hand part of the file. You cannot, however, go beyond the lower edge of the monitor screen and extend to the next page. To delete text on separate pages, you'll have to go to each page.

Moving Around the Page

Finally, Mr. Nelson wants to change the close of the letter from "Thank You" to "Sincerely Yours." The first step is getting to that position in the letter so that the change can be made. You'll find that if you use the pointer to move the cursor, *GEOS* will let you go only to the bottom of the current writing window and no further.

Rather than just moving the window to the left and the right, you need to be able to move it up and down. Do this by using the scrolling arrows in the scrolling box located at the top of the screen.

Move the pointer to the down arrow and click the fire button; *geoWrite* will move the file down one line. If you continue, you will eventually page down past the bottom of the file to the end of the page. Try scrolling so that you can get used to locating different portions of the writing window.

An even faster way to move around the *geoWrite* screen is by using the page indicator (as you did with the *geoPaint* screen). Move the pointer to the place on the page that you would like to see and click twice (but not too rapidly). The page indicator (the small rectangle) will move, and the text in that section of the page will appear on the screen.

Helpful Hints

As you work, you should periodically update your file. Then, if you make a serious error, you can recover everything you have done up to the last save prior to the mistake.

Moving to Another Page

Often, like this campaign letter, your documents will be longer than one page. There are two ways to move to another page, and both are accessed through the pull-down items on the window menu.

The first way is to click the *next page* or *previous page* item on the *options* pull-down menu. This will move you forward or back one

page. The second method, *goto page*, is particularly useful if you have a long way to go in the document. If you choose the *goto page* item, a dialogue box will appear asking what page you want to go to. Indicate the page number and press the RETURN key, and you'll shortly find yourself at that page.

Helpful Hints

Want to know where you are when you're scrolling up and down? That little rectangle to the left of the scrolling box gives you the page number, and it also shows you what section of the page you are working on. Scroll up, and watch how this little rectangle changes position as the lines in the file move about.

Moving Text

Finally, if you need to move text from one part of the document to another, you must use the *edit* pull-down menu. For example, to move the date of the letter from the top of the page to the bottom, follow these steps.

1. Highlight the date by moving the pointer over the date with the fire button depressed.
2. Select the *edit* menu and the *cut* item from the submenu. The highlighted text will disappear.
3. Place the cursor where you want the text to appear—in this case, at the end of the letter. Move the pointer to the *goto* item on the *options* menu and move to page 2. Now move the cursor to the position where you want the date to appear, click, and select the *paste* feature from the *edit* menu. *GEOS* knows that you are saving the date and inserts it for you where you want it.

It's important to know that *GEOS* can store only one piece of *cut* text at a time. Later, you will learn how to save these individual items on a work disk.

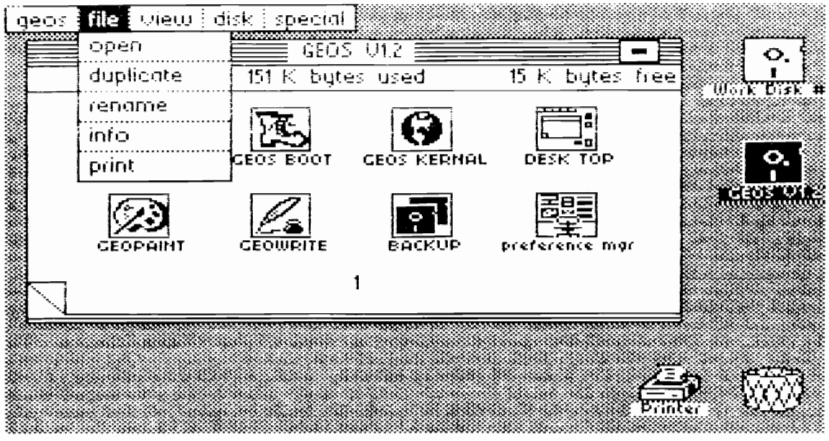
Printing

There are two simple ways to print out a file. However, before you begin printing a document, be sure that you have the correct printer driver installed. Refer to your *GEOS* manual for details.

Printing from the Window Menu

To print from the deskTop menu, first select the icon that represents the file you want to print. Next, click on the *file* pull-down menu, and then move the pointer to the *print* item on that menu (Figure 3-7).

Figure 3-7. Print from File Menu



Your printer should soon start up and produce a copy of the *geoWrite* document that you have been working on in the writing window. One of the nice things about *geoWrite* is that it prints exactly what you see on the screen, so there will be no surprises.

Printing from an Icon

There is a much easier, more direct method of printing that is similar to the procedure you used when you deleted a file with the trash can icon: You can also print from an icon. Go to the deskTop, select the icon that represents the file, click, wait, and click again. Then drag the ghost icon over to the printer icon that is located at the bottom right corner of the page, beside the trash can. Now, click one last time.

Your printer will start up and produce a copy of the document. When you use this technique, you don't need to spend any time accessing the file and going through the window menu to reach the file.

Formatting Text

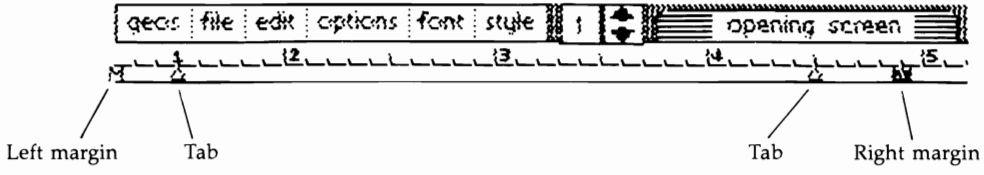
When you're creating a new document, one of the first things you'll want to decide is how it should appear. Formatting a document involves changing the way it will look on your screen and in your printed copy. Even the best writing, if poorly presented, can suffer.

Margins

Frequently, you'll want a document to have left and right margins other than the default (preset) margins of 1.2 and 7.4 inches that *GEOS* uses if it gets no other instructions. For example, let's say that you are writing a short story for a magazine and the editor wants 2-inch margins on each side of the paper.

On the *geoWrite* screen shown in Figure 3-8, you can see that there are two margins (represented by the letter *M*), one at the left side of the page and the other near the right side of the page. The margin line is located just below the ruler that runs along the width of the top of the paper.

Figure 3-8. Margins and Tabs



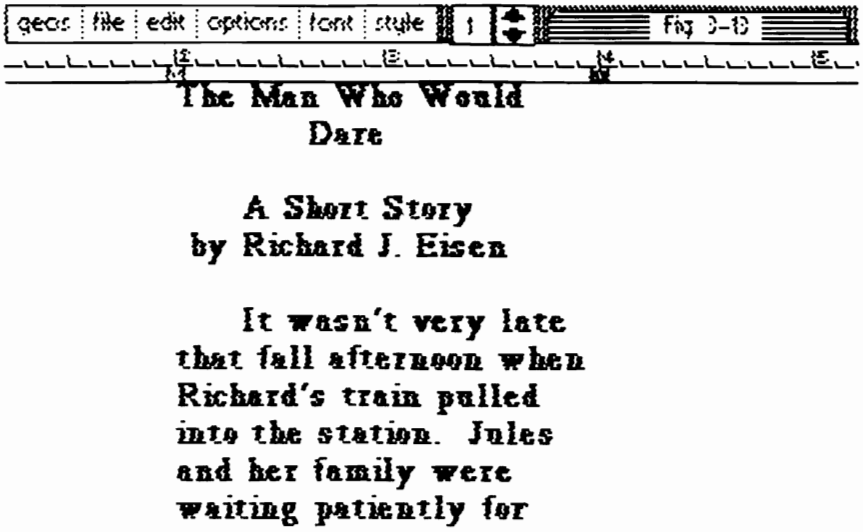
To reset the left margin, place the pointer on the *M*, click, release, and drag the *M* to the 2-inch mark along the ruler, and click again. The *M* will then appear under the 2-inch mark on the ruler.

Now do the same on the right side of the document so that the new margins are at 2 inches and 4 inches (Figure 3-9). There's plenty of room for editorial comments—even perhaps too much room and you may want to change them slightly.

Helpful Hints

When you're starting any *geoWrite* file, it's a good idea to set the left margin at the left border of the paper and the right margin at five inches. Then you can see and work with your entire document on one screen. Just before you are ready to print it out, you can adjust both margins to whatever settings you want.

Figure 3-9. New Margins



Tabs

A tab is an automatic stop. *GEOS* allows you to insert as many as eight tabs on one page. You'll find tabs especially handy if you are doing any work that involves columns, like the outline in Figure 3-10.

Setting a tab simply involves moving the pointer along the ruler line to the point that you want and then clicking. If you want to move a tab point, click it and drag it to the position where you want it to appear and click again.

In Figure 3-10, tabs have been set at 2, 3, and 4 inches with margins at 1 and 5. This leaves plenty of room for comments in the margins and even additions to the outline itself.

To use the tab feature, press the CTRL and the I key simultaneously; the cursor will move to the next tab stop.

Incidentally, when you change tabs after you've finished a document, *geoWrite* will reformat the document for you. So, just as with margins, set your initial tab stops close together and change them when you have finished and are ready to print.

Figure 3-10. Outline

I. Basic Car Maintenance: The Oil Change
A. Buying the materials
1. Determine how much oil is needed
2. Determine the filter type
3. Purchase all needed materials

B. Preparing the car
1. Let the engine idle for 5 minutes

C. Removing the old oil
1. Place an oil dish under the drain plug
2. Remove the plug (be careful - it's hot!)
3. Let oil drain completely.

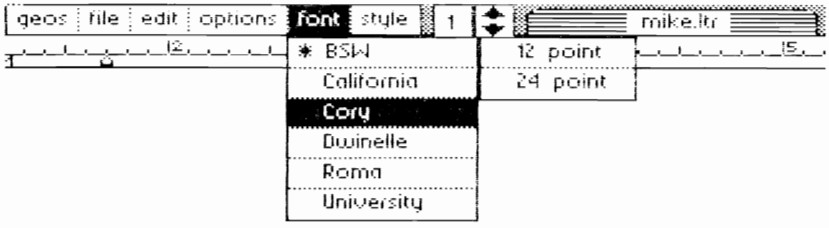
(to be continued)

Choosing and Changing Fonts

We want our printed material to look nice, and the creators of *GEOS* have accommodated that wish by providing six different fonts. As in *geoPaint*, you can choose to produce your text in any one of these fonts (or in some mixture of them). You can also vary the size as well as the type style. Refer to Appendix A for information on the available fonts, styles, and sizes.

To choose a font before you begin typing, select the *font* pull-down menu. Then move the pointer to the font that you would like to use and click. For example, in Figure 3-11, you can see the Cory font being selected. After the font has been chosen, a decision must be made about what size you want the font to be. Cory comes in two sizes, 12 point and 24 point. A point represents 1/72 inch, so a 12-point letter will be 1/6 inch high and a 24-point letter will be 1/3 inch high.

Figure 3-11. Selecting a Font



Once these selections have been made, any text that you enter from that point on will appear in that font. If you change fonts while working on a document, just make a new selection, and the text will be reformatted.

Helpful Hints

Not all text looks good in all fonts. Try to match the content of what you are saying with the type of text. For example, if you are producing a flyer about an upcoming meeting of the chess club (Figure 3-12), you might want to attract attention by using a combination of Dwinelle, 18 point (the only size available), and Roma, 12 point.

Also, remember that certain styles of text represent certain things. For example, when an author wants some words or phrases in the final printing of a document to appear in italics, the usual convention is that the word is underlined.

Figure 3-12. Chess Club Notice

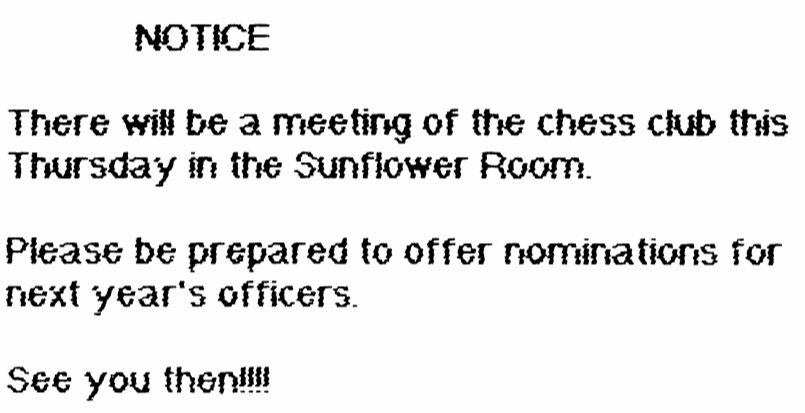
There will be a meeting of the chess club this Thursday in the Sunflower Room.

Please be prepared to offer nominations for next year's officers.

See you then!!!

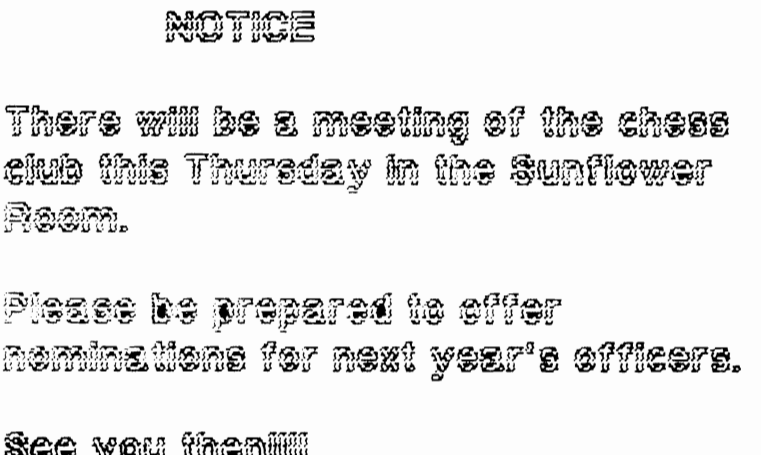
Let's say, however, that you don't like the combination of fonts or you want to change the size, but don't want to have to retype the entire flyer. To change the font or style after it has already been entered, highlight the part you want changed (as you did when you were deleting text) and choose a new font. Figure 3-13 shows how the entire chess club notice would appear in California 14 point.

Figure 3-13. Chess Club—California 14 Point



Finally, you can also change the style. Figure 3-14 is the same notice, in the same font and size (California 14 point), but in the outline style. The procedure to change the style of the type is the same as changing the font. Highlight, and then select a new style.

Figure 3-14. Chess Club—California 14 Point, Outline



Helpful Hints

When you first enter any text, use the smallest font available, the BSW (which stands for Berkeley Softworks). You'll be able to get as much on a page as possible, and you can avoid having to move the writing window up and down.

Advanced Word Processing

geoWrite offers many different features, but since *GEOS* is not solely a word processor (but a graphics environment and an operating system), it cannot offer everything. However, with a little creativity, you can make *geoWrite* do many of the things that the most expensive and complicated word processing programs can accomplish.

Form Letters

One of the most frequent uses of a word processor is merging a list of names with a standard letter so that a number of personalized letters are produced. With *geoWrite* there are two ways to produce form letters. The first is by writing a standard letter and then making multiple copies, each with a different name and address inserted. The second way is to write one standard letter, replacing just the name and address each time you print it.

If you use the first technique, write the letter as you want it to appear. Then save it under the title *form.ltr*. Return to the opening *GEOS* screen. Now make multiple copies of that file by using the *duplicate* submenu item on the *file* menu on the deskTop screen. Do this by clicking once on the *form.ltr* file icon, clicking once on the *file* pull-down menu on the window menu, and then clicking *duplicate*.

You'll see the *duplicate* dialogue box asking you what you want the new file to be named. In this case, add a 1 to the title to make it *form.ltr1*. Once you press the RETURN key, you'll see a new icon representing a new file appear on the deskTop screen. Make as many copies of the letter as you will need.

Now you can go to each copy of the letter and insert a name, address, and greeting to make each one a personalized letter. You can save each of these letters (under a separate filename) for later use.

The second way to write form letters is to enter the body of the letter as a file, then add the name and address of one of the people on your list, and finally print out your letter. When you're ready to write another letter, erase the old name and address and add the next one. You'll have a new letter, all ready to print out.

The big advantage of the second way over the first is that you have to create only one file and change it as you print each letter. The disadvantages are that you don't have a record of what you've done and you cannot fine-tune your letters ("regards to the children") since all the letters are duplicates of the original.

Centering

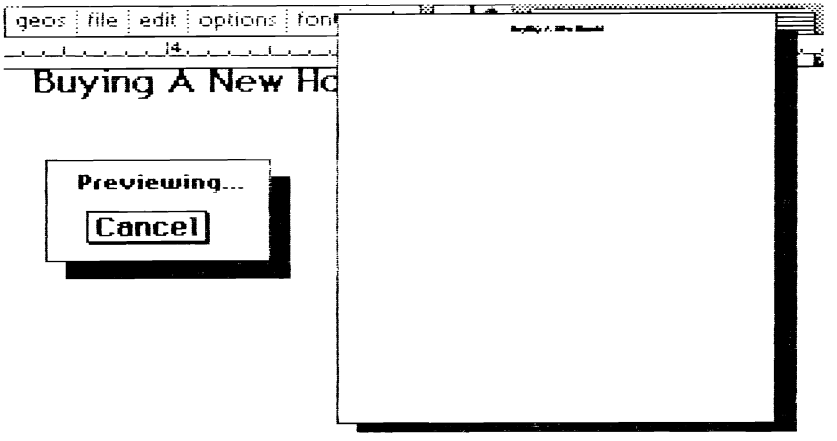
Being able to center text is a very useful feature. Titles are usually centered, but information on signs and notices can be centered as well. To center text in *geoWrite,* follow this guide.

Type in the first line of text that you want centered and use the pointer to place the cursor at the beginning of the line you just typed. Now insert spaces until you think the text is approximately in the middle of the page.

To get a sense of how off-center you may be, use the *preview* item from the *file* pull-down menu on the window menu. When you select this item, a reduced page of text will appear on the screen, and you can see where the one line of text lies relative to the borders of the page. You'll probably not be able to read the text on the preview page, but you will have a good idea of where it is situated.

Figure 3-15 shows the line "Buying A New House" (14-point University font) as it appears when it is centered and the *preview* item has been selected. If the line is too far to the left, insert more spaces. If it is too far to the right, delete spaces. Remember to place the pointer at the beginning of the line when you insert spaces.

Figure 3-15. Previewing a Screen



Helpful Hints

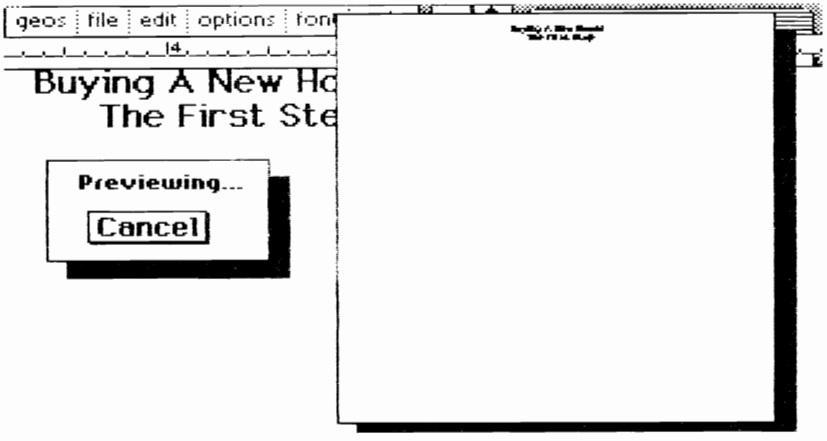
Another way to center is by using a ruler and holding it up to the monitor screen. As before, either add or delete spaces until the text is equidistant from both margins.

Different fonts and different sizes of letters take up different amounts of space. That's why if you use two different fonts on a line you want centered, you'll need to go through one of the two procedures discussed above. But if you intend to use the same font throughout your document, here's what to do.

Center the first line, using either of the two ways mentioned above. Now use that first line as a standard against which others can be centered. For example, the line "Buying A New House" is followed by the words "The First Step." Count the number of spaces and letters in both lines. The first has 18, and the second has 14.

Subtract the smaller number from the larger, divide by 2 (since you want an equal distance from both margins), and begin the second line that many spaces before (if the second line is bigger) or after (if the second line is smaller than the first) the beginning of the first line. In this example, 18 − 14 = 4, so the second line should be started 2 (4 divided by 2) spaces after the beginning of the first line, as it appears in Figure 3-16.

Figure 3-16. Adding Another Line



Page Numbers

You may want to paginate (assign page numbers to) your document. Pagination is more often added to relatively long documents, where it helps readers in finding references. *geoWrite* does not automatically paginate. To assign page numbers, do as follows:

1. Complete the text-entry and editing process. Your document should be in highly acceptable shape and be ready to print. Be sure that the text is formatted as you want it to be printed.
2. Go to the top of each page in the *geoWrite* file. Place the cursor at the beginning of the lefthand margin.
3. Press the RETURN key to create a space at the top of the page.
4. Use the space bar to move the cursor to the place where you want the page number to appear (usually in the upper right corner).
5. Enter the page number. You might want to use page 4, 1-4 (chapter 1, page 4), or just 4.
6. Go to the next page and do the same thing.

Helpful Hints

Assigning page numbers should be the last thing you do before printing. When assigning page numbers, you must first have your text completely finished and begin with the first page. Remember, any change made on the front page will affect the rest of the manuscript.

Footers and Headers

Those phrases that sometimes appear on the bottoms and tops of pages are called, respectively, footers and headers. They are typically used to help the reader keep track of a chapter or a title, and they can easily be combined with the page number.

Here are some headers and footers for a book on learning to use *GEOS*. On the top of all the even-numbered pages, the header will be a condensation of the chapter title.

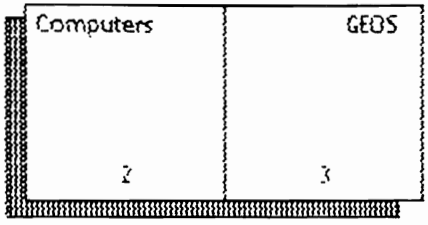
Computers

On the top of each odd page, the header will contain the chapter's subtitle:

GEOS

The footers will be the page numbers. The pages for the first chapter, then, will look something like Figure 3-17.

Figure 3-17. Book Pages



To place a footer or a header, use the same procedure that is used in paginating, but enter the text that you want to use.

Double-Spacing

It's often necessary to double-space text to make material easier to read and, sometimes, to make room for writing comments directly on the copy. *geoWrite* does not have an automatic double-spacing feature, but you can provide for double spacing. You can always insert another line of space between lines as you type, but that assumes you know exactly how your text will be formatted, and you probably don't.

After you've entered all your text, set the margins and adjust the formatting. Then move the pointer to the end of each line and insert a space by pressing the RETURN key twice.

Paragraph Indentions

Indenting paragraphs is good form. Use the tab feature to indent. The conventional indention is five spaces. Figure 3-18 shows two sets of paragraphs, one set indented and spaced, and the other not.

Figure 3-18. Indenting and Double Spacing

geoPaint and geoWrite are two

applications programs that are not

only useful in the home, but are

useful in business as well.

They are easy to learn, simple to use,

and have many of the features that

much more expensive computers offer.

geoPaint and geoWrite are two applications programs that are not only useful in the home, but are useful in business as well. They are easy to learn, simple to use, and have many of the features that much more expensive computers offer.

Using *GEOS* to Outline

Often, you may want to prepare an outline of a set of procedures or topics. Outlining is a valuable tool since it forces you to organize ideas that might otherwise be scattered. Outlines are written in hierarchical levels. Here are the conventional levels with their symbols:

Level	Symbol
1	Roman numeral
2	Uppercase letter
3	Arabic numeral
4	Lowercase letter

For example, Figure 3-19 is a brief outline created on *GEOS*. If you wanted to change the order of the topics, you could simply use the *copy/paste* sequence described earlier.

Figure 3-19. Outline

I. *geoPaint*
  A. Graphics environment
    1. Allows use of color
    2. Provides multiple drawing tools
      a. fill
      b. solid box
      c. etc.
  B. Accessible from opening screen
II. *geoWrite*
  A. Electronic word processor
    1. Contains move, copy, and cut capability
    2. Uses various fonts
      a. Roma
      b. University
      c. etc.
  B. Accessible from opening screen

Writing with a Word Processor

By now you should be pretty skilled at using *geoWrite* as a full-fledged word processor. Because you know how to use a word processor, however, does not necessarily mean that you know how to write with one. The following ideas are a collection of thoughts about writing with a word processor, including a method that has been tried and found successful in classrooms and businesses throughout the country.

Many people think that good writers are born rather than made. But any writer who has had any measure of success will tell you that to become successful, he or she had to spend many, many hours of hard work. Like anything else, writing takes practice. And a word processor can help make that practice more effective.

The first step involves generating ideas about your topic. The word processing capability is handy here, since a writer can move ideas (or the writing behind them) around and can place them at different locations within a first draft to see how they fit. Relatively little effort is involved in moving text to another position.

The next step comes when the writer begins thinking about and placing ideas in the order in which they will appear in the first draft. This requires some hard thinking for both fiction and nonfiction writers. Whether it's a science fiction story or an article on bumblebees, the logic must be clear and well thought out so that a reader can follow the theme without difficulty.

The third step is the actual writing—putting words on paper (or onscreen). The writer must make the commitment to explore the ideas expressed earlier and to see whether the organization and logic developed earlier make sense.

Fourth, the writer needs to get feedback from other writers about the manuscript's technical quality, accuracy, and interest. With *geoWrite* you can print out multiple copies of a manuscript for review, as well as personalized form letters to the people you ask for feedback.

Revision is the final step—incorporating feedback into your manuscript. How do you know that you should take the advice that you are given? You're the only one who can answer that. In general, it doesn't make much sense to ask people to help you and then not listen to their advice, especially when you take some care to choose people who you believe are highly competent and who will give you an honest reading. On the other hand, you may get suggestions that reflect a reviewer's personal bias, and you should recognize those remarks for what they are.

When you do revise, try to leave some time between preparation of the first draft and any revision you make. Sometimes you'll see a manuscript differently after a little time has passed.

If you want to learn more about writing with a word processor,

read *Writing with a Word Processor* by William Zinsser (Harper & Row, 1983). This book goes into great detail about adjusting to the use of a word processor as well as using it in writing.

Keeping Your Head

Here are some tips that you might find helpful in using a word processor for your writing tasks.

1. If you are writing more than one draft of a document, label them Draft L1, Draft L2, and so forth. This will keep you straight as to the most current draft.
2. Use boilerplates (see the discussion in Chapter 5) for everything that you can, from copyright statements to the small biography that you are sometimes requested to include with a manuscript.
3. Place the following copyright notice on your work:

   Copyright, 198–, *your name.*

   This assures you of some degree of protection from anyone using your material without permission. Better yet, write to the Library of Congress, Washington, DC, and ask for copyright forms.
4. Don't work when you are too tired to make good decisions. When you're tired, files are saved under the wrong name, information is erased, and other mistakes are made that ordinarily would not occur.
5. Always finish your work session with a hardcopy (a printout) of what you have written that day. Then if anything happens to your file, you will have a reference copy.
6. Finally, work in small, manageable chunks. Although *geoWrite* allows documents as long as 64 pages, you might want to work in chunks no longer than 20 or 25 pages. If you follow this advice, be sure that your breaks are at logical points in your document, such as at a new chapter, a new subheading, a new section of an outline, and so forth. You'll find that it's much easier to put the parts together later when you print the final copy.

Leaving *geoWrite*

When you have finished using *geoWrite,* select the *file* pull-down menu and the *quit* option. You will be returned to the *GEOS* opening screen, and your file will be closed and saved on the active work disk.

Chapter 4

Getting Organized

Getting Organized:
The Desk Accessories

The two main application programs, *geoPaint* and *geoWrite*, are where you'll probably spend most of your time creating new files and working with old ones. *GEOS* does, however, offer another set of programs, called *desk accessories*, that will help you make even better use of *geoPaint* and *geoWrite*. These programs are unique in several respects.

First, you can use them while you are working in either *geoPaint* or *geoWrite*. This means that without leaving either of the main application programs, you can switch to the note pad to write a reminder to yourself, or you can reset the alarm clock so that you won't be late for an appointment.

Second, you can use more than one desk accessory within another application, but not two at the same time. When you have finished with the calculator, for example, exit it and move on to the photo manager, which helps you store and manage different drawings and other images.

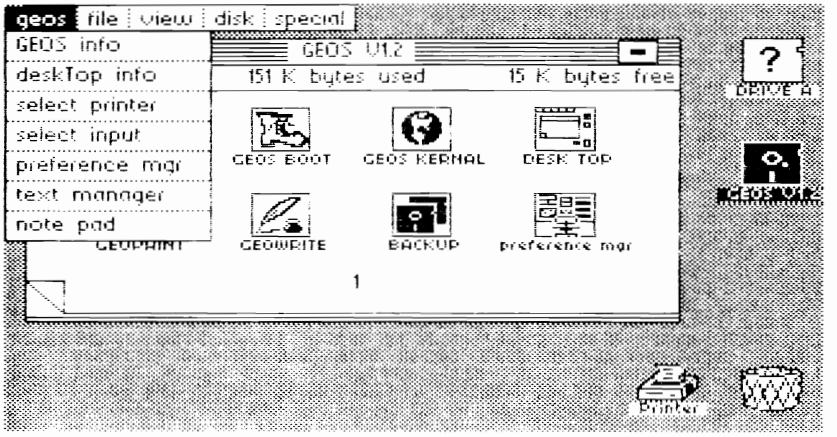
Finally, the desk accessories are memory-resident. They are always off-stage, ready to be called into action, while the other *GEOS* applications are in their dressing rooms.

Choosing a Desk Accessory

Any of the six desk accessories can be chosen from the *geos* pull-down menu. (Figure 4-1).

To choose a desk accessory, do as you would with any other *GEOS* file. Either double-click the file icon on one of the pages of the *GEOS* opening screen to open the file directly, or select it with a single-click and then open it from the *file* option on the command-bar menu.

Figure 4-1. Desk Accessories



Helpful Hints

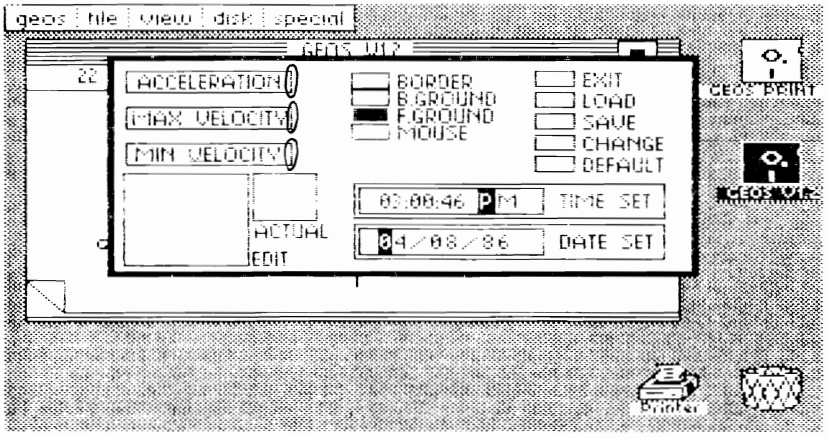
If for some reason a desk accessory does not work, there is probably not enough room on your work disk for *GEOS* to store information. Move some of your own files (not *GEOS*'s files) to another work disk and try again.

The Preference Manager

The first desk accessory that you should learn to use is the one that allows you to set and change certain parameters, or general characteristics, of how the *GEOS* system operates. These include the colors of the foreground and background, the time and date, and the movement of the pointer.

Changing these characteristics will help you fit *GEOS* more closely to your personal preferences and will tailor the program even more to your computing needs. When you select the preference manager, you will see the screen shown in Figure 4-2, with the different areas of the preference-manager screen defined.

Figure 4-2. The Preference Manager



Setting the Pointer's Speed

When you first begin to use *GEOS*, you may not be concerned with increasing the pointer's speed as it moves across the screen. As you become more proficient and accurate, however, you may want to increase the speed so that you can complete your drawings and operations more quickly.

In Figure 4-2, the three bars at the left (captioned *Acceleration, Max Velocity, and Min Velocity)* are settings that can be changed. You can modify the velocity that the pointer can achieve and its acceleration, or the length of time it will take for the pointer to reach the maximum speed that you have set.

To change each of these three parameters, place the pointer over the thin vertical oval that marks the setting, click, and then drag the pointer to where you want the new setting to be. Moving the oval to the right increases the speed or acceleration, while moving it to the left decreases the speed or acceleration.

The setting you see on the preference-manager screen now is for the maximum amount of acceleration and the maximum velocity.

Changing the Pointer's Shape

As you have seen throughout various *GEOS* applications, the default shape of the pointer is a small arrow. You're not tied to this shape, however, and through the use of the preference manager, you can change the shape to whatever you might like.

To change the shape of the pointer, move the pointer to the larger edit window at the bottom left corner. As soon as the pointer is in the

edit window, the pixel mode will automatically become active. Clicking on a blank space will create a pixel, while clicking on a filled space will erase a pixel. With a little practice you can produce a simple circle, square, or even a happy face as your pointer.

Setting the Date and Time

Being able to set the current date and time increases your *GEOS* power. When the date and time are current, you can keep track of when each of your files was created. This is important since you may need to determine when a file was created and what changes have been made since then. Knowing the date of creation for a specific file can be very helpful.

To set the preference-manager clock, move the pointer into the clock rectangle. When you press the space bar one or more times, you will cause the highlighted cursor to move across the digits of the clock. Now, move the cursor to the far-left digit (the hours) and enter the correct time by typing numbers from the keyboard. Here are a few conventions:

- Four-fifteen in the afternoon is written 04:15:00 PM.
- Noon is 12:00:00 PM.
- Ten after six in the morning is 06:10:00 AM.

When you have set the time, press the RETURN key. The clock will begin functioning. You don't need to enter the colon between the hour and the minutes or between the minutes and the seconds. *GEOS* does that for you.

Set the date in the same way. Move the pointer into the date box and use the space bar to move over the digit that needs to be changed. Then enter the change from the keyboard and press the RETURN key.

Once you've set the time and date, these settings will be remain in force until you exit *GEOS*.

Helpful Hints

When you exit *GEOS*, the time and date settings will no longer be current since your Commodore (and *GEOS)* does not have any kind of internal clock. Every time you boot up, you should reset the date and the time. Also, remember not to erase the preference-manager file from your work disks. Otherwise, you will not be able to set the date or the time.

Changing Colors

There are three parts to every *GEOS* screen: a border, a foreground, and a background. If you have a monochrome or color monitor, the first screen you see has a gray border, a white background, and a black foreground. The pointer is black as well.

You can change these colors by clicking the pointer on the square of the *GEOS* screen characteristics (Figure 4-2, middle) that you want to change (on a monochrome monitor the intensity will change). *GEOS* will cycle through each of its 16 colors. When you reach the color that you want, move on to the next screen characteristic or stop.

Be careful when you're choosing colors and combinations. Certain colors go together quite nicely, while others clash. For example, blue on a light gray background and even purple on a cyan background go well together. If you are a heavy *geoWrite* user, you'll want a combination that is easy to look at for long periods of time. Other combinations, such as blue on a yellow background or any combination of red and green, may be stressful to your eyes.

If you don't like what you see when you experiment, you can easily go back to the default gray, black, and white combination. You'll learn how to do that next.

Entering Changes

The last section of the preference manager involves making changes. There are five choices available, and they are located at the right of the screen (again, refer to Figure 4-2).

Default. This option returns you to the original *GEOS* configuration (or settings) installed by the developers of *GEOS*. If you get into trouble with colors or cursor values, don't be concerned. Simply click *Default*. You will be returned to the opening, or default, values for all the preference-manager parameters, and you'll be able to work once more.

Change. If you have made changes on the preference manager, clicking *Change* will show you what the changes will look like without making them permanent. This is an excellent way to try on new colors or even a new pointer shape.

Save. Clicking *Save* makes permanent whatever changes you have made, until you enter the preference manager again and make new changes. For example, if you change the background color to blue, each time you enter a *GEOS* work disk with these settings recorded, the background will be blue.

Helpful Hints

Any save function saves only to the particular work disk that is currently active (in the disk drive). If you are going to use another work disk, unless similar changes are made on it, you can't expect them to be there.

If you want to design your preference manager so that any new work disks that are created will have the new settings, you must change the settings on the *GEOS* source disk. But beware: When you begin to change the *GEOS* source disk, you are risking erasing files that you may not be able to replace.

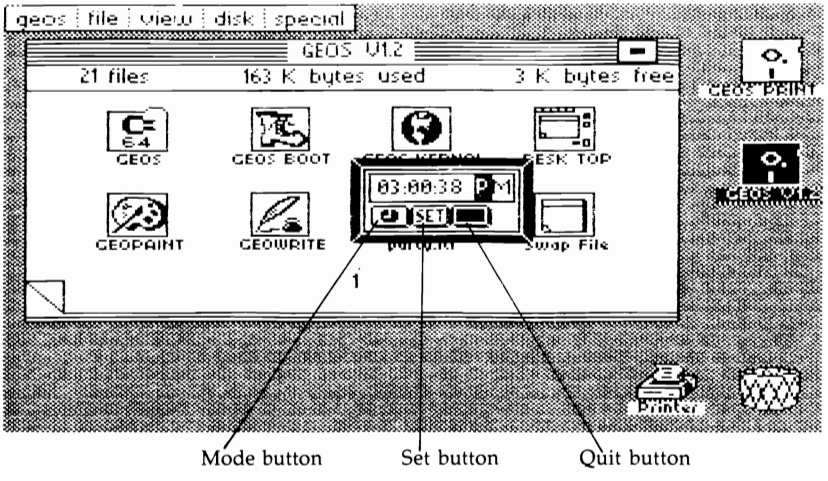
Load. After you have saved new changes and made others, you may find that the latest changes are not acceptable. This would be the time to use the *Load* option to recall the most recent changes. The *Load* operation is similar to the *recover* option that you use to bring up the latest edition of a *geoPaint* or *geoWrite* file. It allows some flexibility if you have committed yourself too early to a certain design or color scheme.

Exit. By choosing this option, you exit from the preference manager and are returned to wherever you were in *GEOS* before you selected this desk accessory.

The Alarm Clock

Have you ever sat down at your Commodore just for a few minutes and looked up at the clock two or three hours later? It's happened to everyone, and the *GEOS* alarm clock can help you manage your time a little better. The alarm clock screen (Figure 4-3) contains the clock that

Figure 4-3. The Alarm Clock



you set before (using the preference manager), a mode button, a set button, and a close, or quit, button.

The mode button allows you to switch between the time mode and the alarm mode. You can change from one to the other by placing the pointer on the button and using the fire button on your joystick as a toggle switch. Firing once will change you from the alarm mode (a small bell appears) to the time mode (a clock face appears). When the alarm is active, you'll notice that there is another bell symbol to the left of the close icon in the clock box.

Setting the Time and the Alarm

To set the time or the alarm, click on the clock or the bell face in the clock. Next, place the pointer inside the alarm/clock box and use the space bar to move over the digit that you want to set. In most cases, this will be the far-left digit. Now, enter either the clock time or the alarm time, and click with the pointer on the set button on the clock.

You'll notice that when you are setting the clock or the alarm time, the clock will freeze. You can now use the keyboard to enter the time. If you want to use the alarm, you will probably need to set the time first, then the alarm. Once you have set the clock time, you cannot return to the alarm mode to see the alarm setting.

Helpful Hints

The time setting freezes while you are changing numbers with the space bar and RETURN key. This means that your clock is not moving, although the actual time set in the preference manager is. If you take a long time to set the clock or the alarm time, the time here will be different from the time recorded on the preference manager's clock.

One thing you can do to minimize this difference is to practice until you get to the point where your alarm-clock setting is only one or two seconds behind the preference manager. Another option is to press the M key when you're ready to enter the final setting of the time or the alarm. It seems that when this key, rather than the pointer, is used on the set button, *GEOS* remembers what the real time is and no time is lost.

Exiting the Alarm Clock

When you are satisfied that the clock and alarm time are set as you need them, click on the solid box or the close icon, and you will be returned to the application that you were in. You can also press the SHIFT-Q combination of keys to close the alarm clock.

Making Notes to Yourself

I forgot to call about the newspaper....I must call the plumber again....The books have to be returned to the library.

Sound familiar? Everyone forgets what's on lists, what errands need to be run, or what must be prepared for work or class tomorrow. The problem is that people often remember these things at the worst times—such as when they are working on their computers. Slips of paper might work fine, but that's not very efficient. Papers get lost, and there's no way to keep them in any order. Enter the note-pad desk accessory.

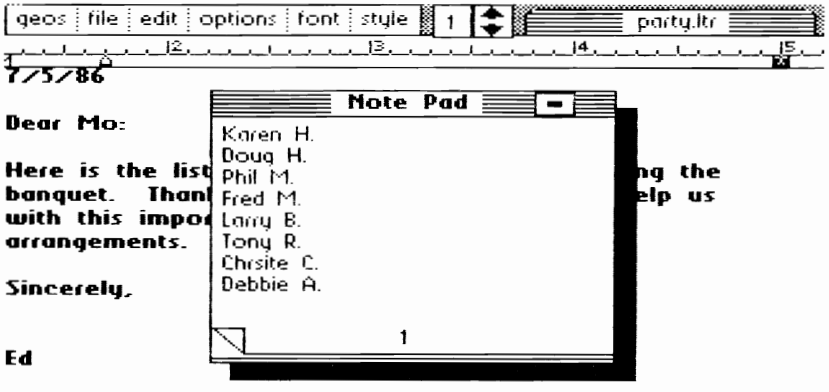
The Note Pad

By selecting *note pad,* you can leave any *GEOS* application and write yourself a note, keep a list, even write a letter within a letter, and print it out at a later time.

An application of the note-pad feature might go something like this. Figure 4-4 is a *geoWrite* letter about an upcoming party. In the middle of the letter, the writer realizes that it would be very convenient to keep a running list of some of the people who should be called about awards, rides, and other business.

To start making a list, the writer selects the *geos* option from within *geoWrite* (since that's the application where the letter is being written), and then selects the *note pad* item on the pull-down menu. The actual note-pad screen will appear, and, just as in *geoWrite,* the list of people to be called can be entered and edited if necessary.

Figure 4-4. Letter with Note Pad



GEOS will automatically save this information as a file called "Notes" (with a new icon) on your work disk; it can be as long as 127 pages. When you have finished making entries on the note pad, click the close icon on the top right of the pad. *GEOS* will return you to the original screen that you were working on.

The Note Pad and Multiple Files

There is only one note pad, and it can be accessed from any file you are working on. For example, if you open an entirely different application from the letter above and select *note pad* you will get the party list.

For this reason, you should develop a system for keeping your notes on each subject separate from the others—for example, by using a dotted line when you are finished with one file and ready to move to another. Then, if you return to an earlier set of notes, just add these to the note-pad file by placing the pointer at that point, clicking, and typing in the additional notes.

To delete the note-pad file, simply select the icon from the work-disk opening screen and dump it in the trash.

The Calculator: Keeping Your Numbers Straight

Another useful desk accessory is the calculator, which allows you to leave whatever application you are in and compute certain values that you might need for a document. As with the other desk accessories, the calculator is selected from the *geos* option on the command-bar menu.

Using the *GEOS* calculator is just like using a hand-held calculator. The same number of steps is required, and they are performed in the same general sequence. You'll find the following keys on the calculator:

+	Add
−	Subtract
×	Multiply
/	Divide
C	Clear screen
INST/DEL	Clear entry
SHIFT-Q	Close calculator file
E	Calculate exponent

Helpful Hints

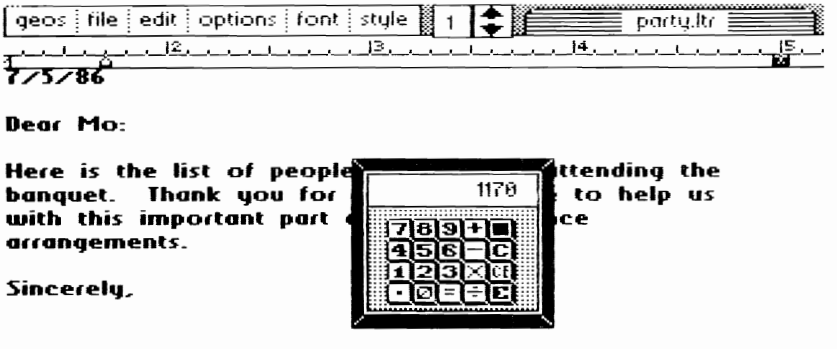
You can do almost any kind of mathematical operation with the keys that are available on the calculator. For example, you'll notice that there is no square-root sign on the calculator. If you want to take the square root of a number, simply use the E (exponent) key and take the number to the 0.5 power.

A Step-by-Step Application of the Calculator

One application of the calculator is in computing how much the total cost will be for the party described in Figure 4-4. At $15 per person, with an attendance of 78 people, the final figure is $1,170. Here's how to compute this on the calculator:

1. Select the calculator desk accessory.
2. Enter the number 78 from the keyboard. These two digits will appear on the top row of the calculator. If you like, you can use the pointer to click the numbers you want to select.
3. Enter the multiply symbol—either entering the asterisk (*) from the keyboard or clicking the times sign (×) on the screen.
4. Select and enter the price of one dinner ($15).
5. Enter the equal sign, and the final value, $1,170, will be computed (Figure 4-5).
6. Exit the calculator by clicking the close icon. You can then enter the final cost for all the dinners into the letter that will be sent to the chairperson of the event.

Figure 4-5. Calculating Party Costs



Helpful Hints

You can also do a series of operations simultaneously, although they will not appear on the screen. For example, if you want to perform the computation

((2 × 6) + 4) / 2

you would have to press the equal sign between each transaction. To get the correct answer, 8, the actual sequence of keys entered must be

2 × 6 = + 4 = / 2 =

Editing with the Calculator

If you make a mistake when you're entering a number, you can do one of two things. First, you can clear the entry (press CE), which will erase the latest entry from the calculator's memory, and then begin again.

When you clear an entry, all that is cleared is the last digit or digits that have appeared on the calculator screen. You cannot clear an entry that is an operation, such as multiplication (×) or subtraction (−).

The second way to edit a calculator entry is just to use the INST/DEL key as you do when you're editing text. This action will backspace over an entry. It too can be used only for numeric values and not for operational signs.

As with other desk accessories, simply click on the small black square on the calculator and *GEOS* will return you to the application you were working in.

The Photo Manager

One of the most useful desk accessories is the photo manager. This *GEOS* accessory allows you to store the drawings, images, and anything else you can create with *geoPaint* onto your work disks, and then transfer these images into another document.

The photo manager works something like this. Any of the images that you create can be saved as a file. When an image is current (on the screen), it can be saved as a photo scrap. *GEOS* can hold only one photo scrap in its memory at a time. If you want to save that file, you will need to create what is called a photo album, used for the permanent storage of photo scraps.

So, the photo manager is the tool that allows you to place up to 127 separately named photo scraps into a photo album. Like any other

kind of album, a photo album has pages, and any page from that album (which is a photo scrap) can be recalled whenever you want to use it again.

Creating Photo Scraps

A good example of how to use the photo manager can be illustrated with the design and development of flowcharts. Flowcharts are diagrams that use symbols to signify different kinds of operations. A diamond shape represents one type of operation and a rectangle or square, another. In order to use these photo scraps more than once, we will create *geoPaint* files for each one (Figures 4-6 and 4-7) and then place them in a photo album named "flow.symbols."

Figure 4-6. Diamond Photo Scrap

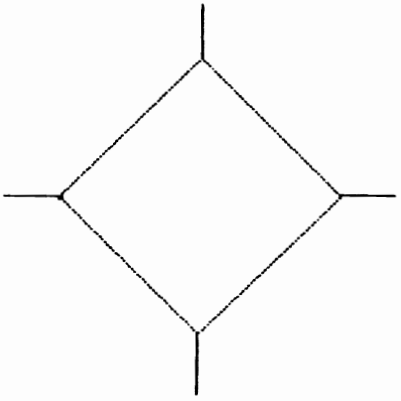
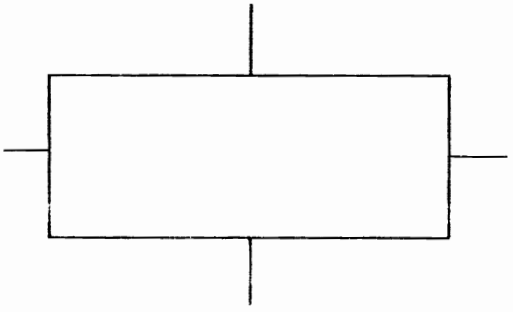


Figure 4-7. Rectangle Photo Scrap

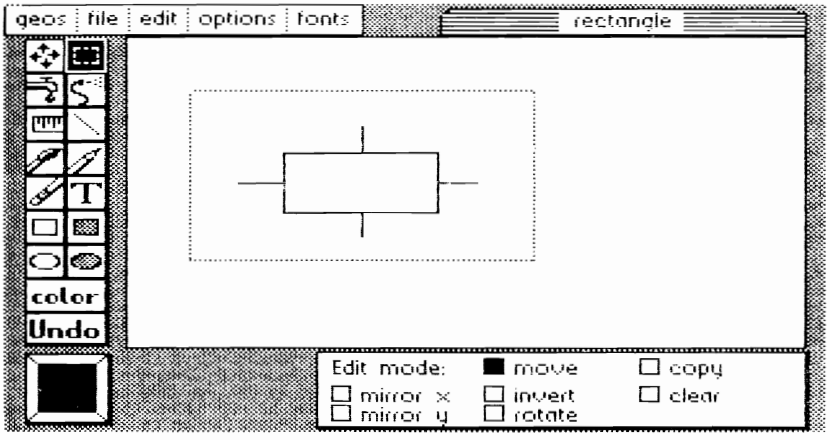


Placing a Photo Scrap into a Photo Album

After you've drawn the figure that's to become a photo scrap, select the edit icon and define a region surrounding the drawing (Figure 4-8).

Now, go to the *edit* option on the window menu and select *cut* or *copy* from the submenu. If you choose to cut, you will be taking the selected region from your *geoPaint* screen and placing it into the photo album as a photo scrap. The image will disappear from the screen and the file. If you choose *copy,* you will be taking the image from your *geoPaint* screen and saving it as a photo scrap, but the image will remain on the screen and part of the file.

Figure 4-8. Defining a Photo Scrap



Helpful Hints

When you create a photo album, it's probably best to copy a drawing rather than to cut it. Most photo scraps will be used again, and if you cut them from a file, they will no longer be accessible.

Only one photo scrap can be in temporary storage at one time. If you cut or copy one photo scrap, and then go on to cut or copy another, the last one cut or copied will replace the first. The latest photo scrap that is cut or copied is saved as a *GEOS* file.

The photo scrap is represented on the *GEOS* opening screen by the scissors icon. You'll notice that the name of this icon is *Photo Scrap*, not some user-given name (such as "party.ltr" or "pta.sign"). This is because the content of the photo-scrap file changes each time a new scrap is identified.

Creating a Photo Album

In order to save images to be used later, you need to create a place for them to be stored. This storage area is called the photo album.

The first step is to select the *photo manager* item from the *geos* option on the command-bar menu. You'll see a dialogue box like that in Figure 4-9.

Figure 4-9. Photo Album Dialogue Box

Just as with other dialogue boxes, you need to make a decision here. Since you are creating your first photo album, the choice should be to create a new photo album and assign a name (which, in the case of the example given earlier, is "flow.symbols").

If you had already created and stored some photo albums on your work disk, you would choose the option to open an existing album. You would then see a list of the albums available, and you would open the one you were interested in working with.

Now, however, you can see the opening photo album screen, which in this case will contain the title "flow.symbols" and a *file* and an *edit* option in the upper left corner.

To place the rectangle flowchart symbol (Figure 4-7) into the photo album, click the *edit* option and then the *paste* option on the menu.

The image will be transferred from being a photo scrap to becoming part of the photo album. The photo manager knows to do this since it looks for the most recently defined region, which you identified by using the edit icon and the most recently copied or cut scrap (Figure 4-10).

If you want to add additional photo scraps to this photo album, click the *file* option and then the *quit* option, which will return you to the application you were working in when you created the photo scrap.

If you want to open a different photo album, click the *file* option and the *close* option. You will then be shown a dialogue box that will ask if you want to create a new album or open an existing one. If you choose to open an existing one, you will see a listing of the available albums that have already been created (Figure 4-11).

Figure 4-10. Transferring Image

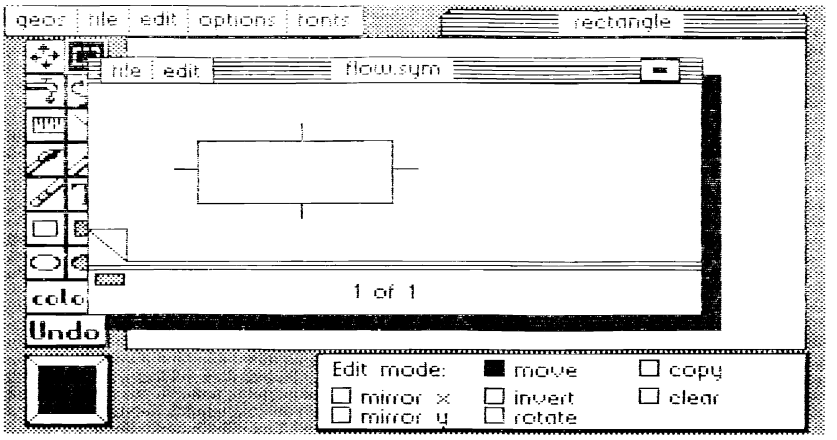
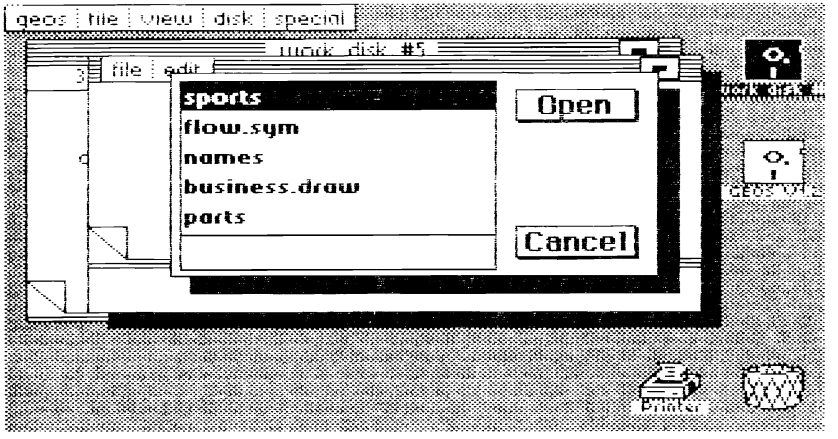


Figure 4-11. List of Available Photo Albums



Each page in each photo album holds one photo scrap. A photo album is treated like a file and is represented on the *GEOS* opening screen by an icon which shows three graphics tools. The same icon is used for all photo albums, with the title of the photo album given underneath.

Making Multiple Images

It's easy to reproduce the contents of a photo album by just pasting in the same photo scrap as many times as you need. You might want to use multiple copies of a certain image in different types of applications. Having more than one available would be convenient.

A Photo-Scrap Summary

Here's a summary of the steps required to create a photo scrap and enter it into a photo album:

1. Using *geoPaint,* create a photo scrap.
2. Use the edit icon to define the region you want to identify as a photo scrap.
3. Click *edit* on the command-bar menu and either copy or cut the region.
4. Select *photo manager* from the *geos* option on the command-bar menu.
5. Create a new photo album and name it, or open an existing one.
6. Select the *edit* option on the photo-manager screen and then paste the photo scrap into the album where it should then appear on the screen.

What's in My Photo Album?

When you are working with your photo album, you can easily review its contents by moving the cursor to the bottom left corner and using the fire button to click and page through the photo scraps.

In Chapter 5, you'll learn how to use photo scraps and photo albums in a very powerful way, by combining them with other *geoPaint* and *geoWrite* documents.

When you have finished working in a photo album, click the close icon, and you will be returned to the application in which you were working.

The Text Manager

When you use *GEOS* as an everyday tool, you will find the text manager to be as indispensable as the photo manager. There are similarities between the two.

Just as the photo manager handles photo scraps, so the text manager takes scraps of text and allows you to move them around *GEOS* documents. The text manager helps you to manage up to 127 of these different text scraps for each of the albums that you create.

And, as there is an icon that represents a photo scrap, there is an

icon that represents a text scrap. Again, the title of each photo scrap is shown underneath the icon.

The text manager also saves text scraps as a file for you to use later. As is the case with the photo manager, only one scrap at a time can be active. If you do not save that one text scrap, the first one will disappear when it comes time to cut, copy, or paste another one into this temporary storage.

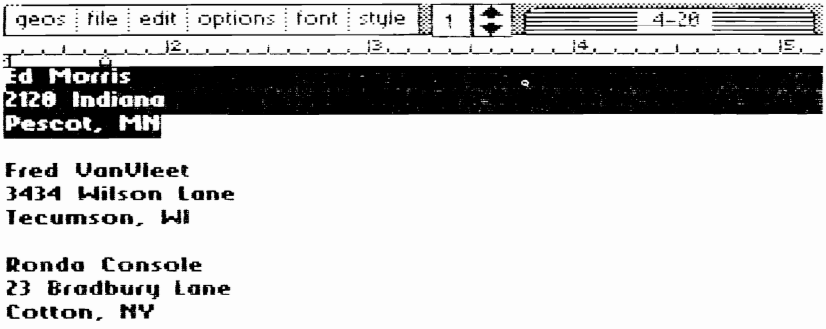
Creating a Text Scrap

When you use *geoPaint*, you must first identify any information that is to be placed into any album. With a photo scrap, you select the edit icon and define a region by moving the pointer to create a box that encloses the photo scrap. With a *geoWrite* text scrap, it's a little different. The basic step of identifying a region remains, but the exact steps in the process are different.

First, of course, you must have some text that has been created within a *geoWrite* file. For a text scrap, highlight the area by using the joystick and the fire button. (You did this earlier when you learned about editing in *geoWrite*.) Drag the cursor over the material to define the region that will become a text scrap.

In Figure 4-12, the fire button has been pressed and the cursor has been dragged over the first name and address on a list. This method for defining a text region is the first step in creating a photo album.

Figure 4-12. Highlighted Name and Address



Placing a Text Scrap into a Text Album

After the region (the three lines including name, address, and city and state) has been highlighted to select it, the *edit* option on the command-bar menu and the *copy* item on the submenu are selected. This saves the text scrap in temporary storage, and it is ready to be transferred to a text album for more permanent storage. Remember, only

one text scrap can reside within *GEOS* at a time. A text scrap must be stored in a text album, or it will be replaced with the next text scrap that is defined.

Creating a Text Album

The next step is to select *text manager* from the *geos* option on the command-bar menu and one of the three following options from the dialogue box: create a new text album, open an existing one, or quit.

As with your first photo album, choose the option to create. Since this set will be used as the names for the form letter, an appropriate text album title is "names."

Helpful Hints

As you work with more and more files on more and more disks, it will become critical for you to name your files and albums something that makes sense. Numbers such as file 1 or file 2 will come back to haunt you—you may have more than one file 1 on different disks, and you will not know which one you want to use. Use clear labels that tell you at a glance something important about the contents of the file.

When you select *paste* from the text-album *edit* menu, the "names" file will have the name and address you selected as its first page entry (it can have as many as 127 pages).

In the future, should you have more text scraps to add to this (or to any other album), you will have to go through the dialogue box and open an existing text album or create a new one.

Helpful Hints

Once you enter a text scrap into a text album, you cannot edit that text scrap, so be very careful that what you want is what you have entered. You can remove a text scrap, however, by selecting the *cut* item from the *edit* option on the text-album page. When you do this, you will delete from the text album whatever text is on that page of the text album.

Multiple Copies: Mailing Labels and Lists

Sometimes you may want to make more than one copy of a text-album entry. You can do this simply by pasting again and again at the text-album level. Do this by selecting the *paste* item from the pull-down menu as many times as you want a copy.

Each time you select *paste* from this pull-down menu, you will see the number of text scraps in the text album increase by one. This application could be very useful in producing multiple copies of an individual's name and address, which could then be printed on gum labels and used as mailing labels.

You might also use this option if you want multiple copies of anything, including letters and memos that have been entered into the text album. It's almost like having your own photocopy machine.

A Text-Scrap Summary

Here's a summary of the steps that you should take to create a text scrap and enter it into a text album:

1. Create a text scrap using *geoWrite.*
2. Use the pointer to highlight and define the text that you want to use as a text scrap.
3. Click *edit* on the command-bar menu, and either copy or cut the region.
4. Select *text manager* from the *geos* option on the command-bar menu.
5. Create a new text album, and assign a name or open an existing one.
6. Select the *edit* option on the text-manager screen; then paste the text scrap into the album where it should then appear on the screen.

To exit the text manager, click the close icon on the text-album screen and the *close* item on the *file* option on the command-bar menu.

What's in My Text Albums?

Just as with a photo album, you can find out what is in any of the text albums you have created by opening it and flipping through the pages, or by clicking the scrolling arrows at the bottom of the text-album window.

Here, you can get an idea of what you have and what you may or may not need. It's a good idea to delete files and scraps when they are no longer needed (be sure before you act) so that more space is made available on the work disk for new applications.

When you have finished working with the current photo album, click the close icon on the screen, and you will be returned to the current application.

Chapter 5

Desktop Publishing with *GEOS*

Desktop Publishing with *GEOS*

geoPaint and *geoWrite* Together

You and *GEOS* are about to embark on an adventure in personal computing: desktop publishing. Until now, any kind of publishing—from stationery to greeting cards to pamphlets and books—had to be done with expensive equipment that was operated by highly skilled technicians.

Not so today. While the Macintosh set the pace, the Commodore 64 and *GEOS* now come very close to producing Mac-like documents at a fraction of the cost for equipment and software of the traditional printing job. When you've learned the material in this section, you'll be able to put together your own publishing efforts and produce top-quality materials right from your own study—with your Commodore, *GEOS*, and printer.

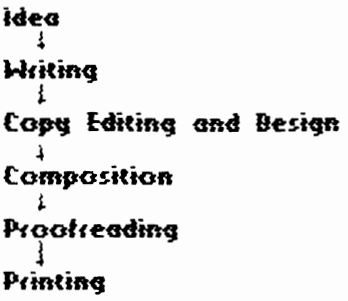
What Is Desktop Publishing?

Desktop publishing is the process through which you control the entire publication process, from the initial idea of developing a newsletter or cookbook through the final printing of the product. To do any of these things, you will need your Commodore computer and disk drive, the *GEOS* software, and the best quality printer that you can afford. Later in this section, you'll learn more about what kinds of printers to look for and what they can and cannot do.

The Publishing Process

Figure 5-1 outlines the steps in the traditional publishing process from the conception of an idea through the production of the final document.

Figure 5-1. The Publishing Process



You may be responsible for one, two, or even all of these steps. It depends upon your skills and the amount of interest and time that you have to devote to the project. Some people want more control over their work than others, and they may do everything themselves. Others want to spend their time doing one or two things, such as writing or designing, and they will leave the rest of the process to other people. The point is that you probably have the hardware, software, and skills to do all of the things in Figure 5-1 if you should choose to do so.

The Idea

Exploring ideas for desktop publishing can often be as exciting as the publishing process itself. You're probably full of ideas about things you would like to write about, and the desktop-publishing environment can make that possible. As your ideas develop, keep these points in mind:

1. Is the idea feasible? Can it be done? You might have the time to do the writing, editing, and publishing, but is the idea itself possible? For example, can you publish a new collection of 100 greeting cards for every holiday period, or should you just concentrate on one holiday a year for starters?
2. Is your idea manageable? Some ideas are so large and overwhelming that even the most organized effort can't get them done. For example, publishing a weekly newsletter might be an overwhelming burden on someone who is not already geared up and in the business. Perhaps a better idea would be to try a monthly newsletter and build from there.
3. Is there any interest in the idea? Your answer should be yes to such questions as these: "Is there a market for this idea?" "Will people enjoy the graphics that I produce?" "Are there other publications like mine that are currently being distributed?"

The Author

The author of the material is the individual (or individuals) who writes the original material and is knowledgeable in the area being written about. An author should have a thorough understanding of the topic. If you are doing the writing yourself, you may be, or be able to become, an expert. If someone else is doing the writing, be sure that the person you choose has the experience and the ability to deliver what you need. Ask a prospective author for work samples—specifically material that is similar to the general area of writing which you are seeking.

Helpful Hints

When using *GEOS* on a desktop-publishing project, begin with a new work disk and remove all the files that you will not be using. Remember that you may want to use different fonts, but if you do not need accessories like the calculator or the note pad, delete them to make room for your other files.

For example, here's a work disk set up for the newsletter project that will be completed later in this chapter. (It's the same list that you would get if you selected the *view* option from the window menu and the *by type* item from the pull-down menu.)

File	**Size**	**Type**
JOYSTICK	1K	Input Driver
California	6K	Font File
Roma	5K	Font File
University	10K	Font File
GEOPAINT	29K	Application
GEOWRITE	22K	Application
DESK TOP	18K	System File
photo manager	5K	Desk Accessory
text manager	5K	Desk Accessory
(Your Printer File)	1K	Printer Driver

In this configuration, the total number of files is ten, the total number of bytes (a measure of space used) is 102K, and the space that you have available for files is 59K. A Commodore disk holds about 320K, but since *GEOS* takes up some of the space, all the space on the disk is not available.

You'll notice that all of the desk accessories and some of the fonts (Dwinelle and Cory) have been removed since they were not necessary for this application.

The Copy Editor

The copy editor's job is to check everything from spelling and grammar to picture captions, consistency, and style. He or she also has to make sure that the manuscript is internally consistent, for example, with figures numbered in the proper sequence. Most important is clarification of unclear phrases and language and generally making the manuscript more readable.

The copy-editing stage is often the last chance to make corrections in a manuscript before it goes into the production stage. Authors usually are able to see the copy editor's version of the manuscript to insure that nothing has been changed to read other than the way the author intended.

The Art Designer

The art designer is in charge of providing art and design copy, making sure that different aspects of the manuscript, such as type fonts and styles used in different sections, don't clash. This person renders drafts of book covers, logos, chapter openings, section headings, and so forth. Anything that comes under the general umbrella of visual aspects of the published product should include the art designer's feedback.

The Compositor

The compositor is the person who actually enters the copy into the computer and builds the file that will be used in the printing process. Twenty years ago, compositors used Linotype machines to create plates, which were then used to print pages. Today, many compositors don't actually do any typing themselves, but operate typesetting machinery which reads disks directly and then forms type from those disks.

As a desktop publisher, you are your own compositor. Programs like *GEOS* will read *geoWrite* and *geoPaint* files and print them out, formatted as you have specified. There are even companies that specialize in reading files into commercial typesetting machines, producing type that is indistinguishable from the most professional-quality productions.

The Proofreader

The proofreader is responsible for correcting errors and identifying formatting problems within the manuscript (for example, incorrect margins and absence of page numbers). Since almost every manuscript or piece of copy has some errors, this is a very important job and one that

must be done slowly and carefully. Some proofreaders read their assigned work two ways: first, from front to back to check for errors in content, and second, from back to front, word by word, to make sure that the spelling is correct.

The Printer

Finally, there's the printer, the person who takes the disk with the words and symbols and turns it into hardcopy. Your local quick-print shop can often handle all your printing needs since you will be generating the master copy to print from. You should have no need for its typesetting or design services.

Most people use some kind of copying service when they need to produce large quantities of printed material. If your projects are successful enough, it might pay for you to take your finished copy to a commercial printer. The printer will then make a plate of the image and print it on an offset press.

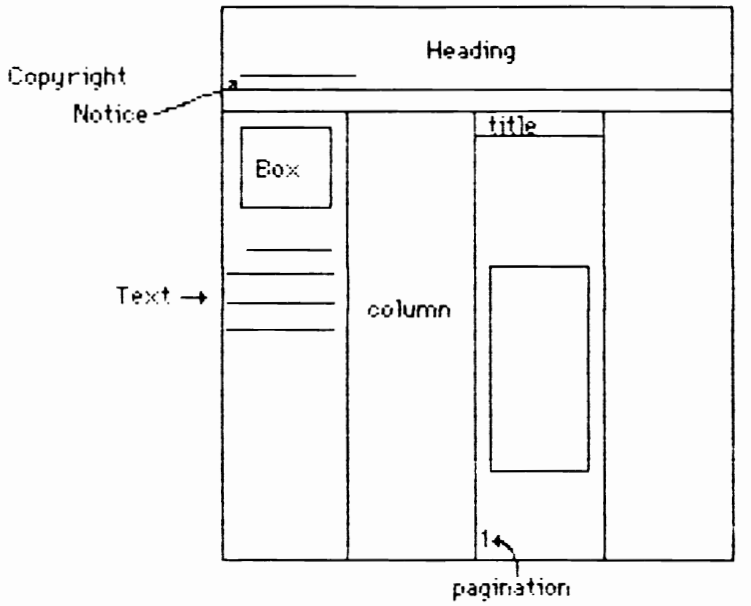
Designing Your Pages

After you have written your copy (the material that will be printed), your next concern should be the design of the pages. You'll need to consider what is on each page and how everything fits together to look balanced and well conceived.

As you already know, *GEOS* offers you several different types of fonts that come in various sizes and styles (see Appendix A). Your finished printed page will contain many different elements, all of which must be combined to produce final copy that will be printed. Figure 5-2 illustrates some of the most important elements besides fonts, styles, and sizes. These include the following elements:

Column size and placement
Page size
Titles
Number of headings
Pagination
Use of boxes
Margins
Indention
Copyright statement
Justification
Lines

Figure 5-2. Sample Page



Using some of the *GEOS* features that you have already learned about, and others that you will read about in this chapter, you will be able to make choices about each of these elements as you design your page.

Good Design

Good design does not come easy. Like anything else, it must be practiced. There are, however, some hints that you might want to remember as you begin your first efforts.

- Use graph paper to roughly sketch out the format and content of your pages. Include everything that you want on the page. Don't take the time to do any detailed design work since *GEOS* will do that for you. All you want is an idea of what things will look like before you begin the formal work of putting it all together.
- Any page design must take into account both the spaces that are printed and the ones that are not. The white space (the unprinted areas) should be balanced with the printed areas. A full page that is double-spaced is more attractive and easier to read than a half-page of single-spaced copy.
- Good page design calls for a variety of different types of elements, but not so many that they compete with each other and cancel any

beneficial effect. For example, one "what's new" box might be very effective, but four such boxes would compete with each other and result in visual confusion.

- Keep in mind the purpose of your publication and its intended audience. If you're publishing a children's book, you don't want to use 10-point (5/12 inch) type. It won't be readable or attractive.
- Let your design fit your budget. If you can afford the best quality paper for the final printing, you might want to go the extra length and print in more than one color. You can use different colors of ribbons and run the paper through your printer more than once.

  If you are on a strict budget, perhaps just good quality black ribbons would better reflect your needs.

  Another possibility is the use of photographs. With the development of new hardware, you can incorporate pictures into your publications at relatively low cost. For example, digitizers are hardware peripherals that transform an image into a file that the computer can read and print. Digitizers are available, but they are expensive. Try to find someone who has the hardware and will let you create files from the photos you'd like to incorporate into your document.
- Graphics, including tables and charts, should be placed near their reference in the text. This makes them easy to find and, since the example is nearby, enhances your discussion.
- Consistency is important, but overdoing it can be boring. You may want to place department headings (such as "Books Reviewed" or "New Equipment") in the same position on their respective pages, but don't necessarily make the text in each department the same length.

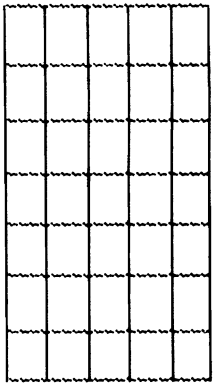
Getting Ready to Print

A major part of any publishing effort, and especially of desktop publishing, is making a dummy layout of how things will look. This means assembling an actual layout of the different columns, photos, boxes, special features, headlines, and all the other elements so that you can get some idea of how things will look and also of how many pages will be necessary to print the finished work.

When preparing a dummy, you will need a form to work on, like the one in Figure 5-3. It's a simple grid of lines, equally spaced across the page, and was constructed by using the straight-line tool and the ruler.

The dummy is sent to the printer, and extra copies are made on a photocopy machine. Many years ago these sheets were used for the actual paste-ups, and then the photographs were taken and made into plates that were used in the printing process. With desktop publishing, you skip the actual (tedious and time-consuming) paste-up process.

Figure 5-3. Grid for Dummy Layout



Preparing the Dummy

Using one of the grid pages, start laying out the individual columns, boxes, and figures that you have produced using *geoPaint* and *geoWrite*. Although later in this chapter you will learn how to integrate these two programs, the dummy will help you to plan for that integration.

Produce a dummy for each of the pages that you expect to be designing. This will give you a good idea about the number of pages that will be required. Publishers usually print in terms of what is known as a *signature*, which is a large sheet folded to page size that contains a number of pages.

For example, if you are producing a four-page newsletter, you could print four individual 8-1/2-by-11-inch pages. Another way would be to print on both sides of a 17-by-11-inch piece of paper and then fold it twice to produce a four-page newsletter. This format is much easier to organize and print, and it's also much easier to mail.

Selecting a Printer

Today there are basically three types of printers available. The printer that you use will depend upon many factors, including cost, quality of print, and compatibility with *GEOS*.

The **dot-matrix** is the most popular general-use printer. It uses a printing head that consists of wires arranged in a rectangle. When it is time to print, the computer sends a message to the printer telling which combination of wires to print. Then numbers and letters are produced.

The big advantages of dot-matrix printers are that they are inexpensive to buy, print very quickly, and are well-suited for graphics. The major disadvantage is that the quality of the print often looks ragged around the edge. Some of the new dot-matrix printers that have 24-wire printheads give much better quality than the standard 9-wire type that is most often available.

The best quality type that a standard dot-matrix printer can produce is called correspondence quality; it is often used for letters.

The **daisywheel** printer produces letter-quality type. A print wheel is used, and it has the advantage of producing high-quality type. The disadvantages are that daisywheels are slow in speed (sometimes very slow) and high in expense.

The **laser** printer is the third kind of printer that is suited for desktop publishing. While it is the most desirable, it is also the most expensive. It does, however, produce beautiful copy and is the choice of many people who regularly use it for desktop publishing.

A laser printer works like a photocopier. It actually makes an impression of the file contents and prints the file by using a drum and the toner that photocopiers use. An electrostatic charge attracts the toner onto the drum in a pattern that corresponds to the words and images on the screen. This image is then transferred to paper for a hardcopy. Good laser printers can print about eight pages of text in a minute, compared to the slower dot-matrix type and the turtle pace of some daisywheel printers.

What Kind of Printer?

The printer that you use is operated from within *GEOS* by a specific printer driver. When you choose the printer driver to produce your first document, you have to identify the driver for the printer that you have hooked up to your Commodore 64 and install the driver. See the *GEOS* manual for instructions.

To a large extent, whatever is available as drivers (listed in the *GEOS* manual) can be used with *GEOS*. The producers of *GEOS* will soon be offering a driver for laser-jet printers. If you're a registered owner of *GEOS*, you should be getting information about this in the near future.

Producing Clean Copy

Right now you are probably using a dot-matrix printer, and whether the quality is high or low, there are some simple steps you can take to improve it:

- Always use a new ribbon when you are printing out final copy. Wash

your hands completely, using some mild cleanser to make sure that any ink that can smear on clean paper has been removed.

If you can, use a carbon ribbon. That's the kind that is coated on only one side, and the impression is struck onto the paper. If you can't get a carbon ribbon for your printer, a good-quality cotton ribbon is essential. Quality does make a difference, and the ribbons recommended by manufacturers are more expensive, but they usually work better than generic brands.

To save money, you can buy reinkers for ribbons. They are especially useful when you buy ribbons that come in expensive cartridges. You can even find companies that will replace ribbons in your cartridges, saving you additional money.

- Use high-quality paper. Paper comes in grades such as 15 and 20 pounds. Use the highest grade you can afford, with the highest rag (cotton) content. Twenty pound with 25 percent rag content is usually fine. Always begin with clean paper.
- Be sure that the platen (the roller) and the other parts of your printer are clean. Nothing is more frustrating that a beautiful, sharp image ruined by some earlier sloppy work.
- If you use fanfold paper (attached with perforations), be sure you get the kind that has pages that are easily and cleanly separable from each other. Nothing looks worse than ragged, uneven edges on a finished document.

Creating a Newsletter

During the past ten years, the number of newsletters being published has increased dramatically, and it is likely that desktop publishing will play a large role in any future increases. There are newsletters for every special interest: how to manage your money, where to go on vacation, your health, house security, and even where to find the best chocolate.

What follows now is a step-by-step example of how to create a newsletter about children, using some of the ideas that have already been discussed—including the photo and text managers. The title of the newsletter is *Your Child & You*. The outline for the first issue looks like this:

YOUR CHANGING CHILD
    A New Routine
BEING A PARENT
    Crying
HEALTH & SAFETY
    When to Call the Doctor
    Car Seats
THINGS TO DO
    Mobiles and Visuals
NUTRITION
    Breast-feeding and Drugs
PARENT TO PARENT
    Crib Death
    Constipation
    Colic
NEXT TIME IN *YC & Y*

To produce this newsletter, you'll create text and photo albums and then integrate them with *geoWrite* and *geoPaint* files.

Creating the Text Albums

The first step is to create a set of text albums that contain text or passages that will be used more than once in this issue of the newsletter and in later issues.

The first text album will be named "banner"; it will contain the banner for the newsletter (Figure 5-4). YOUR CHILD & YOU is written in 24-point Roma bold. The subheading (The Newsletter That Grows With Your Child) is composed in Roma 12-point bold. Finally, the issue and date information is Roma 9-point plain.

Figure 5-4. Newsletter Banner

The text that is entered in the text album will not look the same as the text that was originally typed into the *geoWrite* file. *GEOS* stores text scraps in only one font. When this text is transferred to a *geoPaint* or *geoWrite* file, it will appear as it was originally typed.

The next album (Figure 5-5) will be called "headings." It will consist of the department headings, such as YOUR CHANGING CHILD, BEING A PARENT, and so forth. Remember that, in order to form these albums, you first have to create text scraps.

Figure 5-5. Newsletter Department Headings

YOUR CHANGING CHILD
BEING A PARENT
HEALTH & SAFETY
THINGS TO DO
NUTRITION
PARENT TO PARENT

Creating the Photo Albums

The next step is to create a set of photo albums. These albums will store *geoPaint* materials that will be used more than once in this issue of the newsletter as well as in future issues. The first one is a rectangle outlined with a black border indicating that an article continues on the next page (Figure 5-6).

The second one will be created in a file called "end." It's a simple graphic that will be used at the end of this and each issue to close the issue. Both of these drawings will be placed into a photo album called "parts."

Figure 5-6. Next Page

Figure 5-7. End Graphic

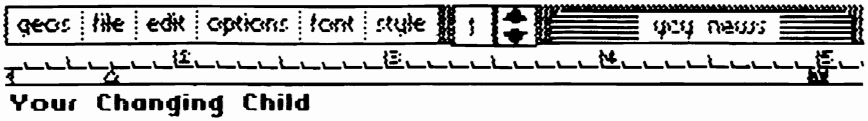
Entering the Text

By this point the contents of the newsletter have been determined, and the text for each of the sections has been completed. The text for the newsletter has been typed into separate *geoWrite* files, with a separate file for each of the sections (YOUR CHANGING CHILD, PARENT TO PARENT, and so forth). This insures that if any one file is accidentally lost, the entire copy for the first issue will not be lost at the same time.

It's also usually easier to keep track of things and work efficiently when you have a series of smaller files rather than one huge one.

Figure 5-8 is the first screen of material for the first section of the newsletter—YOUR CHANGING CHILD.

Figure 5-8. First Screen of Newsletter



Your Changing Child

Many parents, especially those who both work outside the home, find that good quality day care is absolutely necessary for their families to run smoothly. All parents want a place where their children will be safe and well cared for, but it is often difficult to decide what makes one center better than another.

Regardless of the center that you might choose, you should feel comfortable that the staff can give your child the kind of care that you would give if you were there.

To find out what kind of day care centers are available in your

The text has been entered with relatively narrow margins (flush for the left margin and five inches for the right). A tab has been set for paragraph indentions. The size of the margins doesn't matter; when you paste this text into your *geoPaint* file, you can adjust the size. As you know, however, the margins should be set to one screen's width so that you can see the entire text as it is entered.

The only font used in the text is University (12 point) with some headings and special words in boldface. This is the initial part of the text-entry step in the production process. At this point nothing is centered or lined up as it will be in the final copy.

The copy for the first issue of the newsletter is saved under the files YCY1-1, YCY1-2, YCY1-3, YCY1-4, YCY1-5, YCY1-6, and YCY1-7 (one for each section).

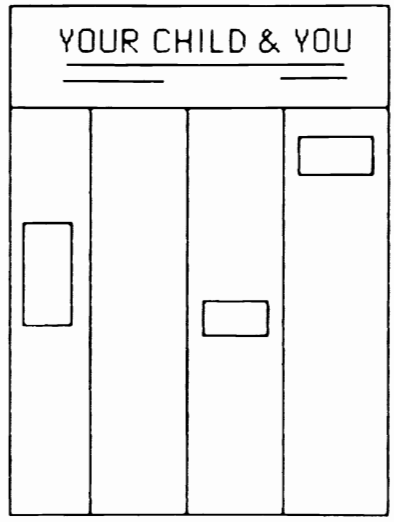
After the text has been entered, the files are printed out and proofread for typos, spelling errors, consistency, and clarity. Proofreading your own work is difficult since it's easy to overlook even the most obvious typing error. For this reason you should have someone else proofread your work. If you are producing a newsletter or other materials for wide dissemination, you should probably hire a professional.

Designing the Page

Now that the text has been entered and edited, turn your attention to designing the page layout. First, design a layout screen and save it as a file. Figure 5-9 is a general layout that can be used for all newsletter pages. The dummy of the entire newsletter, which was done earlier,

indicates that this issue will be four pages long. So, one layout screen for the front page and three copies of this screen will be made (using the *file/duplicate* sequence). They will be named "title page," "page 2," "page 3," and "page 4." These pages become templates into which other text and photo album materials can be pasted.

Figure 5-9. General Newsletter Layout



The first thing to draw is the outline, or the border, for the first page of the document. In *geoPaint*, since you can draw only as much as you can see on the drawing window, this border must be done in parts. Move the page for each new section and use the straight-line tool.

Figure 5-10 is a preview of the upper left part of the page border.

In order to continue, select the edit icon from the toolbox and then move the page to the place where the border lines can be continued. When this icon is selected, the page-map box shows the location of the current drawing window in respect to the entire page.

When there is no more room to move the line so that it can be continued, a click on the fire button will return you to the straight-line tool. Remember that you can use the pixel tool to draw or line things up at any time.

Figure 5-10. Preview of Border

Helpful Hints

As you use the full *geoPaint* screen, use the *preview* option frequently. This gives you an idea of where you are going and lets you see what kinds of spaces you are creating. Also, don't forget to update your file as you work; *geoPaint* drawings sometimes take a very long time to complete and require many different steps. Updating prevents major catastrophes.

The job now is to continue drawing the border until the complete page is outlined. All the lines are drawn by using the straight-line tool. You can form a thin black border around the page itself by drawing two sets of lines and then filling the space between them with black.

At this point you can also mark off columns, and you should leave room for the banner on the opening page.

Combining *geoPaint* and *geoWrite* Files

The text has been finished and graphics have been prepared for insertion into the page templates. Now it's time to place the text into the *geoPaint* page design.

Creating Text Scraps

Since the *geoWrite* files will be placed into the *geoPaint* layout, the first step is to create text scraps from each of the *geoWrite* files and then place them into a text album for further use. To do this, return to the first *geoWrite* file, in this case called YCY1-1. Creating a text scrap, as you may remember, is done by highlighting a selected section of text

and then cutting or copying it. Whether it is cut or copied, it is put into temporary storage.

If you want to place the text scrap in permanent storage, you can then place it into a text album through the use of the text manager.

Helpful Hints

Once a text scrap has been entered into a text album, it loses its identity as a text scrap and becomes part of a text album. When in temporary storage (after it is cut or copied), it is a scrap, but once it is placed in the album (which is permanent), it becomes part of the album it is placed within.

In this case the text album that is created is named "YCY.text."

Once the text scrap is pasted in the album, it will appear on the text album screen as *1 of 1* text-album pages.

When you define (by highlighting) an area of text as a text scrap and place it in the text album, the next text scrap that is defined will be placed immediately after that first section of text. If you want to keep sets of text scraps separate from one another, you need to create a separate text album for each set. For example, you might want to create a new text album for each of the sections in a newsletter or chapters in a book or sections of a report. This may or may not be necessary, depending upon your specific needs.

Copying a Large *geoWrite* Document into a Text Album

In many cases the text that you want to transfer will take up more than one *geoWrite* monitor screen. This could be a problem, since *GEOS* allows you to highlight only one screen's worth of information for transfer into a text album.

To copy a large *geoWrite* document into a text album as a series of text scraps, follow these steps. (*Large* here means a *geoWrite* file that takes up more than one monitor screen.)

1. Select the appropriate *geoWrite* file.
2. Highlight the entire *geoWrite* screen.
3. Copy or cut the text using the *edit* option on the command-bar menu.
4. Select the text manager from the *geos* option on the command-bar menu.
5. Create (or open) a text album. If you are creating a new album, you will have to name it. If you are opening an already established one, you will have to click it and open it on the dialogue box that will be displayed.

6. Select the *edit* option on the text-album menu and click *paste*. This will place the text scrap into the album.

Now, repeat this process with the next monitor screen of text. That screen will become a text scrap and will be placed into the same text album as the first scrap.

Placing Headers and Department Heads

Before any text is added to the *geoPaint* document (which, in this case, is the page-layout form), materials stored in photo albums should be placed into the *geoPaint* "page" file. When this step has been finished, the first page of the newsletter should be completely designed, except for the addition of the actual text.

The first image that should be pasted into the *geoPaint* page template is the headline for the newsletter. Just follow these steps:

1. Open the "page" file that has the border and outlines for the first page of the newsletter.
2. Select the photo manager from the *geos* pull-down menu.
3. Open the photo album in which the headline is stored, which in this case is "headline."
4. You will want to use this headline again for future issues of the newsletter, so choose *copy* from the *edit* menu on the photo-album screen. If you wanted to remove it completely from the photo album, you would select *cut*. This image is now (once again) a photo scrap.
5. Select the edit icon and open the region where you want the newsletter headline to appear.
6. Select *paste* from the *edit* menu, and the photo scrap should appear in the *geoPaint* file.

Helpful Hints

Remember that when you are pasting anything into a *geoPaint* document and you need to define a region, the size of the region you define must be big enough to accommodate the image that is being transferred. Otherwise, only part of the image will be transferred.

One way to avoid this problem is to make the edit box much larger than you need (as long as it does not interfere with other graphics), since you can always paste over unwanted areas.

The next graphic images that must be transferred and placed are the department headings. The same process described above will be used again.

Placing the Text

The first step in placing text from a text album into a *geoPaint* file is to select from the opening *GEOS* screen the *geoPaint* file that you want to place the text in. In this case the text from the newsletter file YCY1-1, which is already part of a text album, will be placed into the template created in *geoPaint* and named "page."

Here are the steps for placing the first page of the newsletter's text into the *geoPaint* "page" file, which by now has headlines and section markers.

1. Select the text manager.
2. Open the appropriate text album, which in this case is called "YCY.text."
3. Find the text that you want transferred and copy it from the text album into a text scrap using the *copy* item from the *edit* menu.
4. Use the text icon to select the region where you want the text scrap to be placed.
5. Select the *paste* option from the *edit* menu, and the text scrap will appear in the text region that you have defined on the newsletter page.

   You can change the position of the text and even the size, style, and font with techniques that you have learned earlier. All of these alterations can be made before the final click on the text icon. After that final click, no changes can be made.

Helpful Hints

Remember that you can transfer only one screen's worth of text at a time. To avoid confusion, mark on the dummy of the page where you start and where you end each transfer.

6. When more text scraps are added, the new material will be placed after the position of the I-beam, which is determined by the beginning of the text region.

Helpful Hints

There may be times when you will transfer more than you want to from a text album to a *geoPaint* file. Simply erase to delete what you don't want. For example, you could save all the department headings as one text scrap (Figure 5-5), paste in the entire set, and then delete what you don't need.

Once the *geoPaint* file appears on the monitor screen, you will need to define a place where the text will go. Do this with the text icon. You may remember that this tool is used to define an area and to add text to *geoPaint* drawings.

Finally, you use the *paste* item from the *edit* option on the command-bar menu. The text that you have saved as a scrap will then appear in the text region which you defined in the *geoPaint* document. You can now adjust the size of the region to the column sizes that you defined in the original layout of the *geoPaint* page.

Once the text from the text album is in the region that you have defined, you can do several things—from changing format (by adjusting the size of the region) to changing the font and size (by clicking on those command-bar options) or even modifying the style of the text (by clicking one of the boxes in the status box).

You cannot, however, change only part of the entered text. Since it has been defined as one region, any operation acts on the entire region of text.

You should know that Undo will not have any effect on changes made to text-album material that is placed in a text region. You'll need to take extra care.

You can make any combinations of changes until you click for the final time; then the box defining the text region will disappear, and all changes will become permanent. Take advantage of the opportunity to move the text, the headline, or the department heads if they are not where you want them to be. But, remember, the final click is it. There's no more editing after that.

Boilerplates

Boilerplates are standardized sets of sentences or words that are used over and over again in a document or throughout a set of documents. They're handy because you won't have to type the same material again and again. *GEOS* can use boilerplates quite easily. First, you define a block of text as a boilerplate, store it as a text scrap in a text album, and then transfer it into a *geoWrite* file.

For example, if you wanted to create personalized stationery, you could use a boilerplate for the heading. Each time you sat down to write a letter, you would simply transfer the text from the album into the *geoWrite* file, and your heading would appear there.

Here's how to create a boilerplate and use it with *geoWrite*:

1. In *geoWrite*, enter the text that will become the boilerplate.
2. Define the boilerplate as a text scrap and store it in a text album.
3. Whenever you need the boilerplate, copy it from the text album.

4. Return to the *geoWrite* application to which you want to transfer the boilerplate.
5. Enter the text manager and copy the boilerplate of text you want to transfer.
6. Select the *paste* option from the *edit* menu (in *geoWrite)* and then select the *text* option. Your text will be transferred to the document.
7. Now, using the *edit/cut/paste* sequence, move text wherever you want.

Inserting an Image into a Letter

You have seen how text and photo scraps can be placed in different kinds of documents. Often, you might like to insert a particularly attractive graphic, such as a chart that took many hours to draw, into the text of a letter. Here's how to go about it.

1. Make a photo scrap of the image and place it in a photo album.
2. Select the *geoWrite* document that you want to transfer material into.
3. In *geoWrite,* select *paste* from the *edit* menu and you will see two options. One will paste text into a *geoWrite* file; the other will paste the image that is a photo scrap, the graphic.
4. Select the *paste/picture* sequence, and the graphic will appear on the screen.
5. Now move the graphic to the exact position where you need it. Preview the page to check such things as formatting and spacing.

These are just some of the possibilities that you can accomplish by using *GEOS* and its many options. Look for new application programs from the developers of *GEOS,* and good luck with your creations.

Appendix A

GEOS Windows and Pull-Down Menus

GEOS Windows and Pull-Down Menus

Use these quick-reference tools to find the pull-down menu and the *GEOS* command that you want.

Opening-Screen Window Menus

geos	file	view	disk	special

geos

geos info	General information about *GEOS*
deskTop info	General information about the deskTop operating system
select printer	Use this to select a printer after a driver is on your work disk
select input	Use this to select a joystick, mouse, or pad input
preference mgr	Sets *GEOS* parameters
alarm clock	Sets time and alarm time
photo manager	Manages photo scraps and albums
text manager	Manages text scraps and albums
calculator	Works like a hand-held calculator
note pad	Writes and stores memos

file

open	Opens a file
duplicate	Duplicates a file
rename	Renames a file
info	Provides information on a file
print	Prints a file

view

by icon	Shows files' icons
by size	Shows files by size

by type	Shows files by types
by date	Shows files by creation date
by name	Shows filenames in alphabetical order

disk

open	Opens disk
close	Closes disk
rename	Renames disk
copy	Copies disk
add drive	Adds a new drive
validate	Validates a disk for errors
format	Formats a disk

special

BASIC	Runs BASIC programs from *GEOS*
RESET	Resets to Commodore BASIC
Q-LINK	Loads QuantumLink program

geoPaint Screen Window

geos

See opening screen.

file

close	Closes a file
update	Saves a file (file remains active)
preview	Views the entire *geoPaint* page
recover	Returns to last saved version of file
rename	Renames a file
print	Prints a file
quit	Quits and returns to deskTop

edit

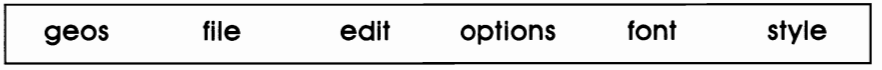
cut	Removes highlighted region from file
copy	Copies highlighted region
paste	Pastes scrap into file

options

pixel edit	Edits in pixel mode
normal edit	Edits in normal mode
change brush	Selects new brush
color off	Turns off color

font (point sizes given in parentheses*)
BSW (9)
California (10, 12, 14, 18)
Cory (12, 24)
Dwinelle (18)
Roma (9, 12, 18, 24)
University (6, 10, 12, 14, 18, 24)
* Size of type (1 point equals 1/72 inches)

geoWrite Screen Window



geos
See geoPaint *screen.*

file
See geoPaint *screen.*

edit

cut		Removes highlighted text from file
copy		Copies highlighted text
paste	text	Pastes text scrap into *geoWrite* document
	picture	Pastes photo scrap into *geoWrite* document

options

previous page	Goes to previous page in file
next page	Goes to next page in file
goto page	Goes to designated page
hide/show pictures	Prevents pictures from showing onscreen
page break	Advances to next page

font
See geoPaint *screen.*

style
plain text
bold
italic
outline
underline
* Size of type (1 point equals 1/72 inches)

Figure A-1. *GEOS* Fonts and Styles

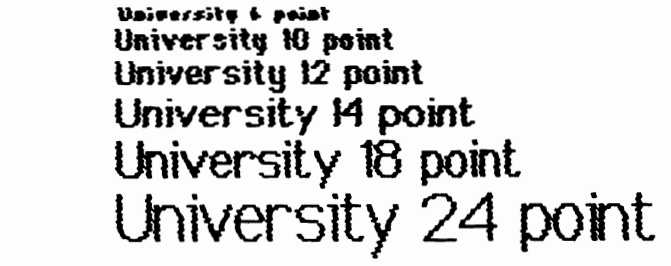
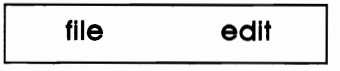


Photo-Manager Screen Window



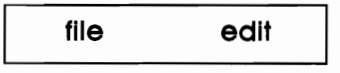
file

close	Saves file and returns to photo-album dialogue box
quit	Saves file and returns to application

edit

cut	Removes region from file
copy	Copies highlighted region
paste	Pastes photo scrap

Text-Manager Screen Window



file

close	Saves file and returns to text-album dialogue box
quit	Saves file and returns to application

edit

cut	Removes highlighted text from file
copy	Copies highlighted text
paste	Pastes text

Appendix B

Glossary

Glossary

alarm clock
A desk accessory that keeps track of the time and rings an alarm when set.

backup
A copy of the master *GEOS* disk.

boot
To start *GEOS* from the blank Commodore 64 screen.

border
The area on the screen where files are temporarily stored as they are switched from disk to disk or from page to page of the deskTop pad.

brushes
The set of 32 *GEOS* brush shapes.

calculator
A desk accessory which functions as a full-featured "hand-held" calculator.

click
To push the joystick button once.

close
To make a disk no longer available to the *GEOS* operating system.

close icon
A small black square on various screens that allows you to close a file without going to the window menu.

color bar
A display of 16 color choices accessible when *geoPaint* is being used in color.

copy
To reproduce a scrap from one document for placement within another.

copy a file
To make a copy of a file on the same disk or on another disk.

create
The option to choose when you are starting a new file.

current-pattern indicator
A small square at the bottom of the *geoPaint* screen that indicates the active pattern.

cursor
The blinking character on the screen that indicates where entered text will appear.

cut
To remove a scrap from one document for placement within another.

delete
To erase or remove material from a work disk.

desk accessories
The set of *GEOS* accessories including the alarm clock, preference manager, calculator, text manager, photo manager, and note pad.

deskTop
The interface between you and other *GEOS* features such as *geoPaint* and *geoWrite.*

dialogue box
A *GEOS* window that requests information before it can continue—for example, asking whether you want to open or create a new file.

disk
A round piece of magnetic material that stores your files.

double-click
To push the joystick button twice in rapid succession.

drag
To select and move an icon or a screen region from one part of a screen to another.

drawing window
Within *geoPaint,* the space where drawing takes place.

driver
A file that tells *GEOS* what kind of printer or pointer controller you are using.

edit box
The dotted line enclosing a selected region of a *geoPaint* screen that will be moved, mirrored, inverted, copied, or rotated.

exit
To leave a file.

file
A unique set of information stored in a separate location on a disk, like a book in a library.

font
A specific type of lettering style, for example, Roma or University.

format
To prepare a disk to receive information.

geoPaint
The *GEOS* graphics program.

geoWrite
The *GEOS* word processing program.

ghost icon
The faint icon that appears after one click on a *GEOS* icon.

goto page
The *geoWrite* option that advances you to the specified page.

highlight
To use the pointer to move across text and select it.

icon
A visual symbol that represents a file on the *GEOS* screen.

info box
A *GEOS* box that provides information about the file that is selected.

input driver
The file that tells *GEOS* what is being used to control the input device, such as a joystick or a mouse.

invert
To reverse black and white in a selected region of a *geoPaint* document.

joystick
A device that allows you to control the pointer.

menu
A series of items from which you can choose by using the pointer and the joystick or mouse.

mirror
To flip a selected region in a *geoPaint* document from top to bottom or from left to right.

mouse
A device that enables you to control the pointer.

open
The option to choose when you want to return to a previously created file.

open a disk
To make a disk and its files available to the *GEOS* operating system.

page break
The *geoWrite* option that advances you to the next page.

page indicator
A small rectangle on the *geoWrite* screen that shows the current page number.

page map
A rectangle in the status box of *geoPaint* and on the *geoWrite* screen that displays the pointer's position on the entire page. It allows rapid movement from one part of the page to another.

paste
To place a scrap into a document.

photo manager
A desk accessory that allows the storage and retrieval of photo scraps and their transfer into other *geoPaint* and *geoWrite* documents.

photo scrap
A part of the *geoPaint* file, identified and transferred to a photo album.

pixel
A picture element.

pixel edit
The ability to identify and work with a *geoWrite* drawing at the pixel level.

pointer
The small arrow-shaped icon used to indicate which file or operation you want to choose.

point size
The size of a font in points; each point equals 1/72 inch.

preference manager
A desk accessory that allows you to set colors, time, and other general characteristics of the *GEOS* operating system.

preview page
The production of a greatly reduced total page on the *GEOS* screen.

print
The production of hardcopy of a file.

printer icon
The icon that is used to send files to a printer.

quit
To return to the main *GEOS* screen.

region
An area of the screen either defined by the edit icon in *geoPaint* or highlighted by using the pointer in *geoWrite.*

rename
To assign a new name to a disk or a file.

rotate
To turn a region in a *geoPaint* document 90 degrees.

save
To store a file on a disk.

select printer
Identification of what printer is being used.

status box
A part of the *GEOS* screen that gives information about page location, color, size of drawing, and more.

tab
A preset stop along the ruler line in *geoWrite.*

text manager
A desk accessory that allows the storage and retrieval of text scraps and their transfer into other *geoPaint* and *geoWrite* documents.

text region
An area identified in a document where text will be created, moved, inverted, transferred, copied, or cut.

text scrap
A part of a *geoWrite* text file, identified and transferred into a text album.

title bar
The screen area that displays the title of the active document.

tool box
The set of 14 *geoPaint* tools.

trash can
The icon that is used to delete files.

type style
The appearance of a font, for example, bold or outline.

undo
A very useful command that allows you to erase your last action.

validate
To check whether the sectors or portions of a disk are all organized as they should be.

window menu
The main menu that appears on *GEOS* screens.

word-wrap
The characteristic of word processors that allows the text to continue on the next line rather than requiring the user to press the RETURN key.

work disk
A new disk created from the master *GEOS* disk that is used to store your files.

write-protected file
A file that cannot be directly accessed from the *GEOS* operating system.

writing window
The space within *geoWrite* where writing takes place.

Index

The *GEOS* System

GEOS is not just a new software package. It's a completely new operating system that lets you interact directly with your Commodore computer as you've never been able to do before. The *GEOS* system offers you the advantages of a desktop environment, complete with pull-down menus, windows, and icons, hitherto unavailable for Commodore computers. With the *geoPaint* art and design program, you are free to pursue whatever graphics interests you choose, from the purely practical (for-sale signs, club announcements, and the like) to more imaginative projects (greeting cards, invitations, and banners)—all this with a sophistication never before possible on a Commodore.

Author Neil Salkind has carefully put together a well-balanced mixture of how-to information and design ideas that will have you producing your own custom-tailored graphics and other special effects in no time. You'll find comprehensive coverage of all the *GEOS* features, including:

- ***geoPaint.*** The graphics capabilities found in *GEOS*'s drawing program are extraordinary. You have a choice of over a dozen tools, ranging from a paintbrush to an area-fill tool, with which you can accomplish amazingly complicated and sophisticated designs in color or monochrome. You can even add text in various fonts and styles to personalize your creations.
- ***geoWrite.*** With this easy-to-learn word processor, you'll be able to produce clean copy ranging from simple business letters to full-length manuscripts.
- **The desk accessories.** Built into the *GEOS* system are the desk accessories, which can be used simultaneously with either *geoPaint* or *geoWrite.* You'll be able to write yourself notes, use a calculator, set an alarm clock, create a photo album of various graphics, and much more.
- **Desktop publishing.** Once you've mastered the basic components of *GEOS,* you can even go on to become your own desktop publisher. By combining the features of *geoPaint* and *geoWrite,* you'll be able to control the entire publication process, from the idea to the finished product.

Copiously illustrated, *COMPUTE!'s User's Guide to GEOS* is more than a collection of what someone else has accomplished. Besides being an excellent source-book and idea-generator for what you might want to achieve with *GEOS,* it's also a solid, hands-on guide to producing your own custom-designed graphics. As a tutorial, the book leads you step by step with clear and concise descriptions. You'll quickly become comfortable with *GEOS* and begin discovering your own uses for this remarkable software package.

0-87455-080-7