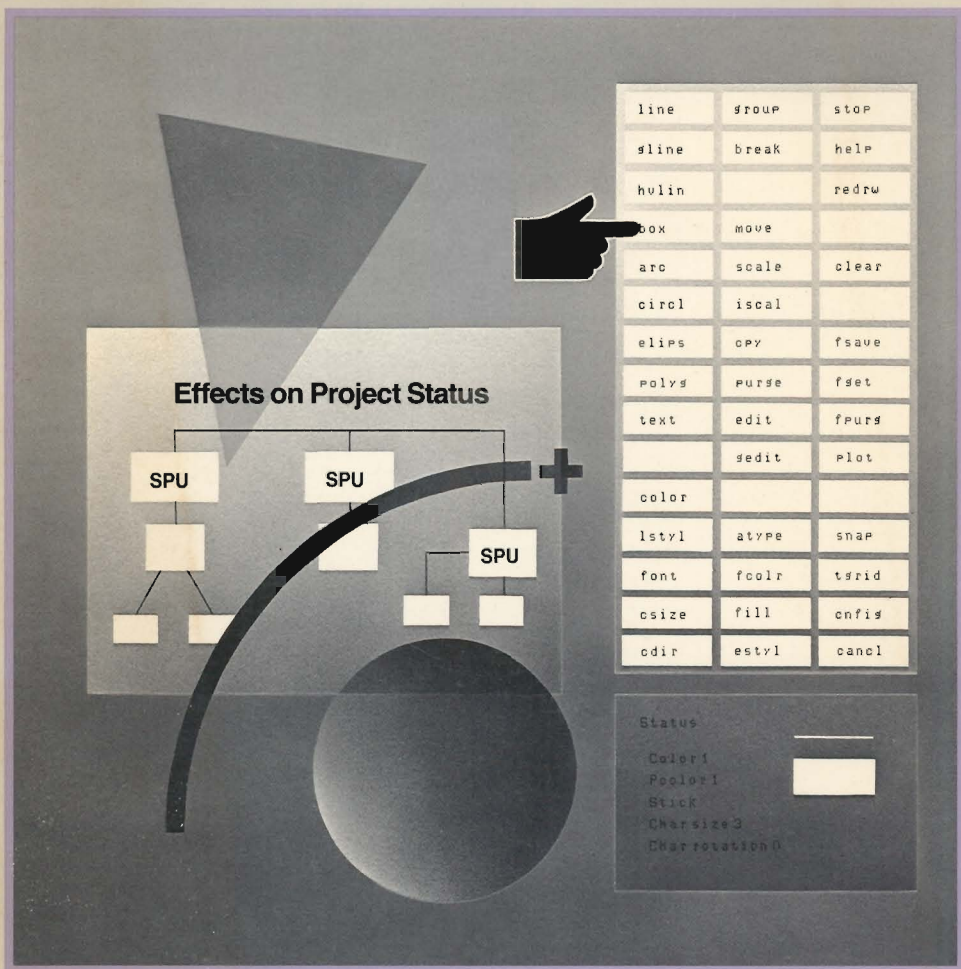


HEWLETT-PACKARD



**Graphics Editor/200
User's Guide**

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Personal Software Division
3410 Central Expressway
Santa Clara, CA 95051, U.S.A.

Printing History

First Edition—August 1984

Printed in U.S.A.

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Graphics Editor/200 User's Guide



**Manual Part No.
45537-90001**



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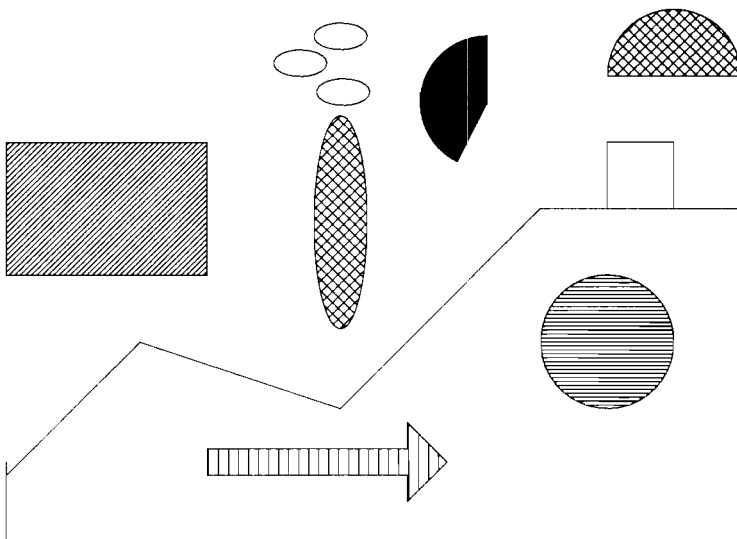
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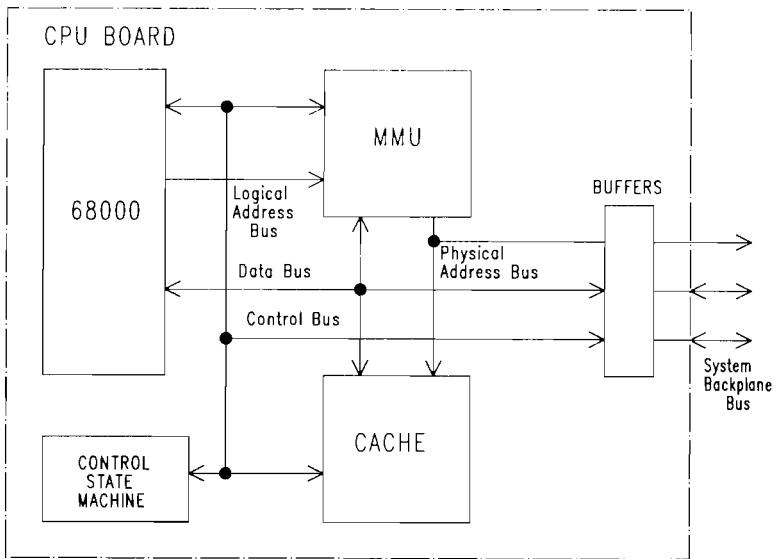
Overview

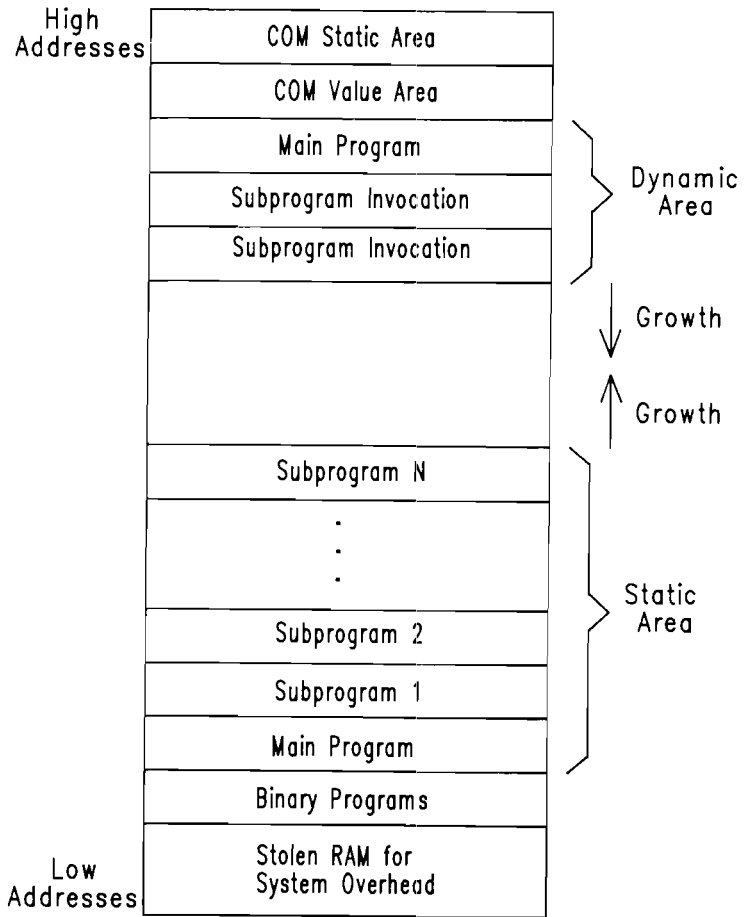
Introduction

GRAPHICS EDITOR 200 (GE/200) is an interactive graphics editor that helps you easily generate high-quality drawings and slides like the graphics below.

HERE ARE SOME SAMPLES OF TEXT AND SHAPES CREATED THROUGH GRAPHICS EDITOR/200.







With GE/200, you can produce a wide variety of graphics, including:

- Organizational charts
- Flow diagrams
- Network designs
- Text slides
- Icons (with the HP 9111A Graphics Tablet)

GE/200 features a wide range of editing capabilities that allows you to manipulate design elements. The powerful graphics editor frees you from the time-consuming tasks of aligning, changing, and copying figures.

GE/200 is a functional tool that is easy to learn and useful for a variety of tasks ranging from office memoranda to technical communication.

Output from GE/200 can be incorporated into another HP program, Techwriter (P/N 98819A), a document editor which merges text and graphics on screen and printed documents. GE/200 drawings can be inserted and scaled in Techwriter documents.

Features and Functions

With GE/200 you can:

Create drawings with with a variety of design elements including:

- circles
- lines
- ellipses
- polygons
- rectangles
- arcs
- text

Specify style attributes for design elements:

- color
- fill style
- line style
- text fonts
- character size
- character direction

Manipulate picture objects

- copy
- move
- scale
- group
- delete
- change attributes

Save and restore pictures on diskette

Output pictures to plotter or printer

Special GE/200 features that make graphics editing more responsive include:

Choice of horizontal, vertical, or custom format for slides

A separate prompt window

On-line HELP documentation

Easy-to-use command structure

Support of color display on an HP 9836C

Acceptance of input from keyboard, mouse, and digital tablet

System Requirements

To run GE/200 you need an HP Series 200 Personal Technical Computer with a minimum of 512K memory. (Model 236C requires 768 Kb of memory.)

GE/200 will run on the following HP computers.

Model

Series 200 Model 216

Series 200 Model 220

Series 200 Model 226

Series 200 Model 236A

Series 200 Model 236C (requires 768 Kb of memory)

Series 200 Model 237

Series 200 Model 217

See **GE/200 Versions** for a listing of GE/200 versions supported by each Series 200 Technical Computer.

**Storage and
Peripheral Devices
Supported By
GE/200**

Disc Drives

82901M 5¼" Drive
HP 9121D 3.5" Dual Drive
HP 9122D 3.5" Dual Drive
HP 9133V 3.5" Drive 5 MByte Winchester
HP 9133XV 3.5" Drive 15 MByte Winchester
HP 7908, 11, 12, 14

Plotters

HP 7470A Low-cost Plotter
HP 7475A 6-pen Plotter
HP 7550A Plotter
HP 7580A D-size Plotter
HP 7585B E-size Plotter
HP 9872B/S 4-pen Plotter
HP 9872C1T 8-pen Plotter

Data Tablet

HP 9111A

Printers

HP 2225A ThinkJet Printer
HP 2631G
HP 2671G
HP 2673A
HP 2932A
HP 2933A
HP 2934A
HP 9876A
HP 82905B
HP 82906A

Mouse

Series 200 Model 217
Series 200 Model 237

Additionally, GE/200 also supports disc drives and plotters on the Shared Resource Manager.

Unit Numbers

Throughout this User's Guide, unit numbers will be used to refer to specific disc drive and hard disc volumes. For the purposes of copying discs and running the program, it is important to know the unit numbers of all the volumes in your system configuration. For more information on volumes and unit numbers, see **Understanding the File System** in the *Application System User's Guide* that accompanies GRAPHICS EDITOR/200.

These tables list the most common system configurations. Your unit numbering scheme may differ with the tables.

Computer	Mass Storage Device	Drive Number or Address	Unit Number
216, 217 220, 237	9121D, 9122D or 82901M	Lft.-hand Drive	# 3
		Rt.-hand Drive	# 4
216, 217, 220, 237	9133A (segmented)	Diskette Drive	# 3
		Hard Disk	
		(700.0)	#11
		(700.1)	#12
		(700.2)	#13
(700.3)	#14		
216, 217, 220, 237	9133B, 9133V, 9133XV	Diskette Drive	# 3
		Hard Disk Vol.	#11..#25
236	Any	236 Built-In Rt.	# 3
		236 Built-In Lft.	# 4
236	9121D, 9122D, 82901M	Lft. Peripheral Drive	# 9
		Rt. Peripheral Drive	#10

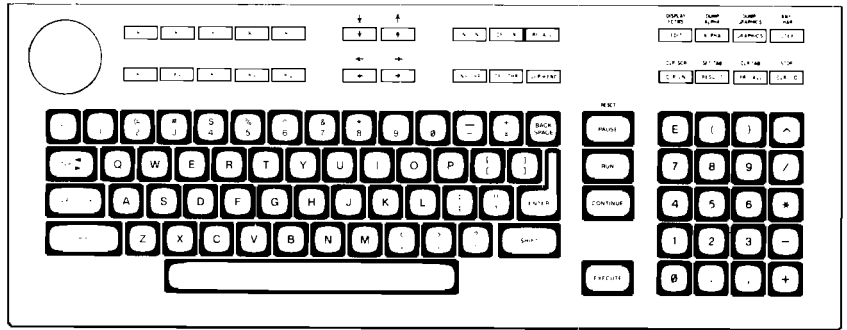
Computer	Mass Storage Device	Drive Number or Address	Unit Number
236	9133A (segmented)	Diskette Drive	# 9
		Hard Disk	#11
		(700.0)	#12
		(700.1)	#13
		(700.2)	#14
236	9133B, 9133V, 9133XV	Diskette Drive	# 9
		Hard Disk Vol.	#11..#25 [see below]

When you **initialize** one of the unsegmented hard disks with **Mediainit**, the program automatically divides the disk into 1-Megabyte sectors. The first sector is assigned unit number #11, and the remaining sectors are numbered sequentially; for example, an HP 9133V initialized by **Mediainit** will consist of five 1-Mbyte sectors named #11, #12, #13, #14, and #15.

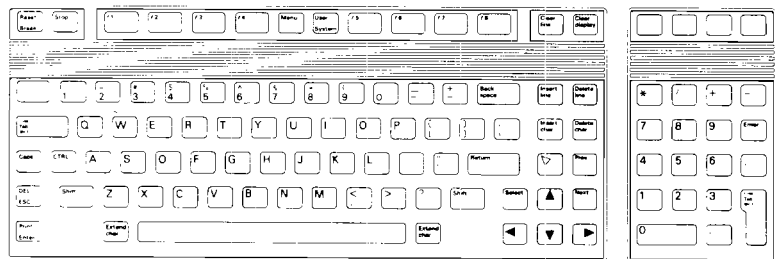
For more information on **Mediainit**, see **Preparing Your Discs** in the *Application System User's Guide* that accompanies this product.

Keyboards

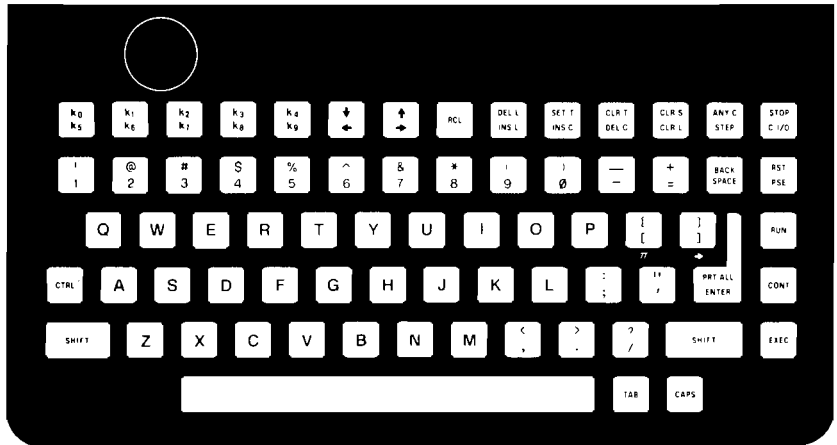
GE/200 supports all three U. S. keyboard types provided with Series 200 computers.



HP 98203B Keyboard (Model 226/236 also)



HP 46020A Keyboard



HP 98203A Keyboard

Each keyboard uses slightly different labeling conventions for some of the keys. In this manual, the labels featured on the HP 46020A keyboard are used as the standard in examples and procedures. If you have a keyboard other than the HP 46020A, use the Key Correspondence Table below to locate the corresponding key on your keyboard.

Key Correspondence Table

HP 46020A Keyboard Label	HP 98203B Keyboard Label	HP 98203A Keyboard Label
Return	ENTER	ENTER
Select	EXECUTE	EXEC
Clear line	CLR LN	CLR L
Break	PAUSE	PSE
ESC	SHIFT EXECUTE	SHIFT EXEC
CONT	CONTINUE	CONT

GE/200 Versions

Each GRAPHICS EDITOR/200 package includes two versions of the program; a Standard version and a Large version. The following tables outline the differences and capabilities of the different versions.

HP Series 200 computers that support GE/200:

Model	Minimum Memory Sizes Required for Each Version	
	Standard Size Disc #1	Large Size Disc #2
Series 200 Model 216	512 Kb	640 Kb
Series 200 Model 220	512 Kb	640 Kb
Series 200 Model 226	512 Kb	640 Kb
Series 200 Model 236A	512 Kb	640 Kb
Series 200 Model 236C	768 Kb	768 Kb
Series 200 Model 217	512 Kb	640 Kb
Series 200 Model 237	512 Kb	640 Kb

Features	Standard Size Disc #1	Large Size Disc #2
Supports CS 80 Disc Drives	YES	YES
Supports graphics dump to printer	YES	YES
Supports Shared Resource Manager	NO	YES
Supports 98620A High Speed HP-IB Interface	NO	YES

GE/200 can also be used with the complete Pascal Language System, revision 3.0. The file to execute is KEY:GE200.CODE. For information about how to load files in the Pascal Workstation environment, refer to the Pascal 3.0 Workstation User's Guide.

The File System

GE/200 is supported by the PASCAL Workstation file system. The file system controls the way in which data is stored, retrieved, and transferred between system components.

While GE/200 file commands perform file system tasks, some procedures such as disc backup require that you use the File System directly. For a detailed explanation of Filer features and functions, refer to the *Application System User's Guide* provided with GE/200.

Ordering Duplicate Discs

Ordering Copies of BOOT and FONTS Discs

You can purchase additional copies of BOOT and FONTS discs at the reasonable cost directly from Hewlett-Packard. In the United States, order copies directly from HP's **Computer Supplies Operation**. The phone number is (800) 538-8787. In California, call (408) 738-4133. Outside the United States, contact the HP office nearest to you and they will place the order for you. When you place an order, use the following table to request the correct part numbers for your system.

Disc Number	Disc Description	Part Number
For Option 630, 3½" discs:		
#1	Boot (512K)	45537-63001
#2	Boot (640K)	45537-63002
#5	Fonts	45537-63004
For Option 650, 5¼" discs (External disc drive):		
#1	Boot (512K)	45537-65001
#2	Boot (640K)	45537-65002
#5	Fonts	45537-65004
For Option 655, 5¼" discs (Internal disc drive):		
#1	Boot (512K)	45537-65005
#2	Boot (640K)	45537-65006
#5	Fonts	45537-65008

Ordering Copies of KEY Discs

Although a back up of the GE/200 KEY disc is provided with the GRAPHICS EDITOR/200 package, your original may wear out in time and you'll require another back up. Because the KEY disc is copy-protected, the ordering procedure is slightly different from the ordering procedure for FONTS and BOOT. You must return the damaged KEY disc to acquire a duplicate.

First, obtain a Software Update Form from HP. To obtain the form in the U. S., call (800) 538-8787. In California, call (408) 738-4133. Outside the U. S., contact your local HP office to obtain the form.

The Software Update Form provides instructions on how to return the form with the damaged diskette and the replacement fee. Please be sure to include the correct part number from the following list.

Disc Number	Disc Description	Part Number
For Option 630, 3½" discs:		
#3	Key	45537-63003
For Option 650, 5¼" discs (External disc drive):		
#3	Key	45537-65003
For Option 655, 5¼" discs (Internal disc drive):		
#3	Key	45537-65007



The GRAPHICS EDITOR/200 Discs

Getting Started

Five discs are provided with the GRAPHICS EDITOR/200 package:

1. A BOOT disc (Standard Version) for starting your system.
2. Another BOOT disc (Large Version)
3. A KEY disc containing GRAPHICS EDITOR/200
4. An extra KEY disc.
5. A FONTS disc that also contains the Pascal Filer Program, the Mediainit program and some sample picture files.

An extra KEY disc is provided because the KEY disc is "copy-protected" - you can't make an exact duplicate of the disc.

For information on ordering replacement discs, see **Ordering Replacement Discs** in **Chapter 1** of this User's Guide.

Starting Up

To use GRAPHICS EDITOR/200, you start your system with the disc labelled BOOT and enter the Applications System.

Before you begin, see the instructions for booting the Application System with various Boot ROM's in the Applications System User's Manual that accompanies this product. This section identifies the disc drive that will hold the BOOT disk on your system and provides detailed descriptions of booting procedures.

1. Insert the program diskette labeled BOOT in the correct flexible disc drive and turn the power on. After the computer loads the BOOT files, The Editor prompts you to enter date and time.

By entering date and time, you can review the chronology of file creation and manipulation when you start creating picture files with GE/200.

NEW SYSTEM DATE ?

```
SYSTEM DATE IS      5-MAR-85
CLOCK TIME IS      0 : 7 : 39
```

```
GRAPHICS EDITOR/200 REV 1.0      1-OCT-84
```

```
COPYRIGHT 1984 HEWLETT PACKARD COMPANY .
ALL RIGHTS RESERVED . COPYING OR OTHER
REPRODUCTION OF THIS PROGRAM EXCEPT FOR
ARCHIVAL PURPOSES IS PROHIBITED WITHOUT PRIOR
WRITTEN PERMISSION OF HEWLETT PACKARD COMPANY .
```

2. Enter the current date in the format shown: day, month, year. For example, enter March 20, 1985 as 20-MAR-85.

Type the date and press

If you don't want to enter the date feature, press without typing the date.

3. Enter the time in the screen format: hours, minutes, and seconds. Time is measured in the 24-hour clock. For example Nine P.M. is entered as 21:00:00.

Type the time and press

If you don't want to enter the time, just press without typing the time.

The Applications Command Line appears at the top of the screen.

COMMAND: GE200 FILER MEDIAINIT VERSION WHAT

You select an option by typing the initial letter of each program.

To Select:	Type:
Graphics Editor	<input type="text" value="G"/>
Filer	<input type="text" value="F"/>
Mediainit	<input type="text" value="M"/>
Version	<input type="text" value="V"/>
What	<input type="text" value="W"/>

Type to recall the initial display and repeat the time and date prompts.

Type to see which volume is currently designated as the system volume.

You can enter GE/200 by typing , but you should first make some program backup discs before running GE/200.

Executing from the Pascal Language System

GE/200 can also be used with the complete Pascal Language System, revision 3.0. The file to execute is KEY:GE200.CODE. For information about how to load files in the Pascal Workstation environment, refer to the *Pascal 3.0 Workstation User's Guide*.

Making Backup Copies

Before you start using GE/200, you should make back up copies of each program diskette. Backups are insurance against any mishaps involving your diskettes.

Before beginning the copy procedure, you must initialize blank diskettes that will hold the copied program. Follow the instructions in the *PASCAL Workstation User's Guide* for initializing diskettes. Depending on the number of disc drives your system supports, follow one of the two procedures below for backing up the system.

Backing Up With Two Disc Drives

This procedure assumes that the disc drives are assigned unit numbers 3 (drive 0) and 4 (drive 1). If your disc drives have different unit numbers, substitute these numbers whenever you are told to type #3: and #4:. If you don't know the unit numbers of your disc drive, refer to **Unit Numbers** in **Chapter 1** of this User's Guide.

1. Enter the Applications Command Shell by following the procedures in **Starting Up**.
2. When the Command Line appears, insert the FONTS disc in drive 1 and type .

When the Filer is loaded, the following message appears at the top of the screen.

```
Filer: Change Get Ldir New Quit Remove Save  
Translate Vols What Access Udir ?
```

3. Insert the BOOT disc tailored for your memory capacity in drive 0 if it isn't already in the disc drive.
4. Insert a blank initialized diskette in drive 1.
5. Type to use the FILECOPY command. The Filer prompts:

```
FILE COPY WHAT FILE ?
```

6. You want to copy the entire volume in drive 0. To do this, type the device unit number of the drive and a colon.

```
#3: 
```

The Filer prompts:

FILE COPY TO WHAT ?

7. The filer is asking you to name a destination drive. In this case, type the device unit number of drive 1 (#4).

#4:

8. The Filer asks if you really want to destroy (write over) your destination volume.

DESTROY DIRECTORY V4 ? (Y/N)

Type if the directory name displayed is the Volume ID of one of your GE/200 discs (for example, BOOT, KEY, FONTS, and so on). Start over, making sure that the correct disc is in drive 1.

9. If the volume is a blank, initialized disc, type .

The Filer copies the program files onto the blank disc. When the operation is complete, the Filer displays the message:

```
Filer: Change Get Ldir New Quit Remove Save
Translate Vols What Access Udir ?
Destroy Directory V3 ? (Y/N)
Boot:                               ==> #4:
```

10. Remove the BOOT disc from drive 0 and return it to the GE/200 box. Remove the newly copied disc from drive 1 and label it PROGRAM. Place the new copy in a safe place.
11. Starting again at step 2, repeat the backup procedure with the FONTS disc.
12. Type to return to the Applications Command Line.

Backing Up With A Single Disc Drive

This procedure assumes that the disc drive is assigned unit number 3. If your disc drive has a different unit number, substitute this number whenever you are told to type #3:. If you don't know the unit number of your disc drive, refer to **Unit Numbers** in **Chapter 1** of this User's Guide.

1. Enter the Applications Command Shell by following the procedures in **Starting Up**.
2. When the Command Line appears, insert the FONTS disc in the disc drive and press .

When the Filer is loaded, the following message appears at the top of the screen.

```
Filer: Change Get Ldir New Quit Remove Save  
Translate Vols What Access Udir ?
```

3. Insert the BOOT disc tailored for your memory capacity in the flexible disc drive.
4. Type to use the FILECOPYY command. The Filer prompts:

```
FILE COPY WHAT FILE ?
```

5. You want to copy the entire volume in the drive. To do this, type the device unit number of the drive and a colon.

```
#3: 
```

The Filer prompts:

```
FILE COPY TO WHAT ?
```

6. The filer is asking you to name a destination. In this case, type the same unit number (#3).

```
#3: 
```

The copying process begins as the disc's contents are read into the computer's memory. When the read process is complete, a new prompt appears:

```
PLEASE MOUNT DESTINATION IN UNIT #3  
'C' CONTINUES, <ESC> ABORTS.
```

7. Replace the BOOT disc with a blank, initialized disc and press .
8. The Filer asks if you really want to destroy (write over) your destination volume.

```
DESTROY DIRECTORY V3 ? (Y/N)
```

Type

N

if the directory name displayed is the Volume ID of one of your GE/200 discs (BOOT, KEY FONTS, etc.). Start over, making sure that the correct disc is in drive 1.

9. If the volume is a newly initialized disc, type .

The Filer copies the program files onto the blank disc. When the operation is complete, the Filer displays the message:

```
Filer: Change Get Ldir New Quit Remove Save  
Translate Vols What Access Udir ?  
Destroy Directory V3 ? (Y/N)  
Boot:                               ==> #3:
```

10. Remove the newly copied disc from the drive and label it BOOT. Place the new copy in a safe place.
11. Starting again at step 2, repeat the backup procedure with the FONTS disc.
12. Type to return to the Applications Command Line.

Copying GRAPHICS EDITOR 200 To A Hard Disc

If your system supports a hard disc drive, you may want to copy the GE/200 program on to the hard disc as well as making back ups on flexible discs. If you do copy GE/200 to the hard disc, don't forget to also make backups of the original discs to doubly safeguard the program.

GE/200 cannot be copied on to a hard disk that has not been initialized. If your hard disk is not initialized, see **Initializing a Winchester (Hard) Disc** in the *Applications System User's Guide* that accompanies this user's guide.

This procedure assumes that the flexible disc drive is assigned unit number 3.

To copy GRAPHICS EDITOR/200 on to a Hard Disc:

1. Follow the instructions in **Starting Up** to enter the Applications Command Shell.
2. When the Applications Command Line appears, insert the FONTS disk in the disc drive.
3. Type to enter the Filer. A Line of Filer commands appears at the top of the screen.
4. Type to use the Filecopy command. The Filer prompts:

```
FILECOPY WHAT FILE ?
```

You want to instruct the Filer to copy the entire volume (FONTS) in your flexible disc drive.

5. Type:

```
#3:= 
```

The [=] tells the Filer that you want to copy to another volume without destroying the current contents of that volume. The Filer responds:

```
FILECOPY TO WHAT ?
```

The Filer is asking you to specify a destination volume for the copy of FONTS. Hard discs are usually divided into

one volume per megabyte of storage space. For example, a 15 Megabyte hard disc will be divided into 15 volumes.

This procedure assumes that the first volume on the on a hard disc is assigned the unit number #10 and successive volumes are numbered in progression; 11, 12, 13, and so on. If your hard disc uses different unit numbers, substitute these numbers whenever you are told to enter a unit number.

You don't want to copy FONTS on to the first volume, V10 in this procedure, because you'll need to save this disc sector for the BOOT volume. Assign the FONTS copy to the next available volume: For example, V11.

6. Type:

#11: \$

The Filer copies the entire contents of the FONTS disc into volume V11 on the hard disc.

7. When the Filer signals that the copying process is complete, replace the FONTS disc in the flexible disc drive with the BOOT disc.

To run GE/200 from a hard disk, you need to name volume V11 FONTS so the files can be found by the system.

8. Type to invoke the Change command. The Filer prompts:

CHANGE WHAT FILE ?

9. Type:

#11:

The Filer replies:

CHANGE TO WHAT ?

10. Type the new volume name:

FONTS:

Now you can copy BOOT to the hard disc.

11. Type to invoke the Filecopy command again. The Filer prompts:

FILECOPY WHAT FILE ?

You want to instruct the Filer to copy the entire contents of the disc, BOOT, in the flexible disc drive.

12. Type:

#3: =

The Filer responds:

FILECOPY TO WHAT ?

For the BOOT volume, the destination volume must be the first volume to be accessed on the hard disc, #10: If BOOT is not copied onto V10, you won't be able to start GE/200 from the hard disc.

13. Type:

#10:\$

The Filer copies the contents of the BOOT disc onto volume V10 of the hard disk.

You won't need to change the volume name BOOT on the hard disc because your system always "boots up" from the first volume on the hard disc.

14. Repeat steps 2 through 7, substituting the KEY disc for the FONTS disc.

The copy-protection format allows you to copy the KEY files onto the hard disk, but the system won't load the GE/200 program unless the master KEY disc is in the flexible disc drive.

For more information, see **Running GE/200 From A Hard Disk**, in this section of the User's Guide.



Creating a Work Disc

Before you start using GRAPHICS EDITOR/200, you want to prepare a blank work disc to store pictures. Before you begin, initialize a blank disc by following the directions in the *Applications System User's Guide* for initializing discs.

1. Enter the Applications Command Shell by following the procedure in **Starting Up**.
2. When the Command Line appears, insert the FONTS disc in the default drive and type

When the Filer is loaded, a menu of Filer commands appears at the top of the screen.

3. Remove the FONTS disc from the default drive and replace it with a blank, initialized disc.
4. Type to invoke the Change command. The Filer prompts.

CHANGE WHAT FILE ?

5. Type the volume number assigned to the initialized disc. If the volume name is V3, type:

#3:

The Filer replies:

CHANGE TO WHAT ?

6. Type a new name that will be readily identifiable to you. To change the volume name to CHARTS, type:

CHARTS:

The volume name is changed and your work disc is ready for use.

Running GRAPHICS EDITOR/200

Running GRAPHICS EDITOR/200 With A Single Disc Drive

Before you run GE/200, remember to make backups of the program discs by following the directions under **Making Backup Copies**.

1. If the Applications Command Line isn't on the screen, follow the instructions in **Starting Up** to enter the workstation.
2. When the Command Line appears, insert the KEY disc in disc drive and type .

A screen message tells you that the GRAPHICS EDITOR files are loading. When the loading process is complete, the following message appears:

FONT LOAD ERROR

CAN NOT FIND FONT FILE GED-STICK

FOR FLOPPY BASED SYSTEMS; IS THE FONTS:
DISC IN A DRIVE ?

FOR NON-FLOPPY SYSTEMS; ARE THE FONT FILES
LOCATED ON ONE OF THE FOLLOWING VOLUMES ?

FONTS:

*: THE CURRENT SYSTEM VOLUME
: THE CURRENT PREFIXED VOLUME

PRESS SPACE TO CONTINUE, STOP TO ABORT.

3. Insert the FONTS disc in the disc drive and press any key.

GE/200 tells you that the FONT files are loading. When the loading is complete, GE/200 tells you what the current input device is and asks if you want to change the device. If a mouse is attached to your system, GE/200 automatically sets the mouse as an input device and notes its presence.

```
GRAPHICS EDITOR/200      REV 1.0  
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```

```
POSITION INPUT IS VIA THE KEYBOARD AND  
OPTIONAL MOUSE
```

```
DO YOU WISH TO CHANGE THE INPUT DEVICE ?  
(Y/N) {DEFAULT = N}
```

4. If you want to retain the current input device, press N or Enter and the GE/200 screen appears.

If you want to change the input device, type Y.

GE/200 displays an input device menu and asks you to make a selection.

```
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```

```
SELECT POSITION INPUT DEVICE :
```

```
(I) INTERNAL KEYBOARD AND OPTIONAL MOUSE  
(E) 91111A GRAPHICS TABLET
```

```
ITEM {DEFAULT = NO CHANGE} >
```

Setting An Input Device

1. Type the letter corresponding to your input device or press Enter to retain the current device.

2. If you select an external device (graphics tablet), GE/200 prompts you for an external device address:

ENTER EXTERNAL DEVICE ADDRESS >

See your computer or external device manual for more information on setting device addresses.

3. Type the address number and press Enter . GE/200 notes the new input device and asks again if you want to change devices.

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POSITION INPUT IS VIA THE DATA TABLET AT
ADDRESS 706

DO YOU WISH TO CHANGE THE INPUT DEVICE ?
(Y/N) {DEFAULT = N} >

4. Press Enter to retain the new device.

The GE/200 screen appears.

Whether you run GRAPHICS EDITOR/200 with a single disc drive or two disc drives, the KEY disc must always be in a drive when you start GE/200 and the FONTS disc must always be in a drive when GE/200 comes up.

Running GRAPHICS EDITOR/200 with Two Disc Drives

1. If the Applications Command Line isn't on the screen, follow the instructions in **Starting Up** to enter the workstation.
2. When the Command Line appears, insert the KEY disc in drive 0 and the FONTS disc in drive 1.
3. Type G .

A screen message tells you that the GRAPHICS EDITOR files are loading. When the loading process is completed, GE/200 begins loading the font files.

When the fonts loading is complete, GE/200 tells you what the current input device is and asks if you want to change the device.

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POSITION INPUT IS VIA THE KEYBOARD AND
OPTIONAL MOUSE

DO YOU WISH TO CHANGE THE INPUT DEVICE ?
(Y/N) {DEFAULT = N}

4. If you want to retain the current input device, type N or Enter and the GE/200 screen appears.

If you want to change the input device, type Y.

GE/200 displays an input device menu and asks you to make a selection. If a mouse is attached to your system, GE/200 automatically sets the mouse as an input device and notes its presence.

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SELECT POSITION INPUT DEVICE:

(I) INTERNAL KEYBOARD AND OPTIONAL MOUSE
(E) 91111A GRAPHICS TABLET

ITEM {DEFAULT = NO CHANGE} >

Setting An Input Device

1. Type the letter corresponding to the desired input device or press Enter to retain the current device.
2. If you select an external device (graphics tablet), GE/200 prompts you for an external device address:

ENTER EXTERNAL DEVICE ADDRESS >

See your computer or external device manual for more information on setting device addresses.

3. Type the address number and press . GE/200 notes the new input device and asks again if you want to change devices.

```
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```

```
POSITION INPUT IS VIA THE DATA TABLET AT  
ADDRESS 706
```

```
DO YOU WISH TO CHANGE THE INPUT DEVICE ?  
(Y/N) {DEFAULT = N} >
```

4. Press to retain the new device.

The GE/200 screen appears.

Running GE/200 From a Hard Disc

Before you can run GE/200 from a hard disk, you must first copy the FONTS and BOOT disc volumes onto your hard disc. For more information on this procedure, see **Copying GE/200 Onto A Hard Disc**, appearing earlier in this chapter of the User's Guide.

To run GE/200 from a hard disc:

1. Turn your system devices on. If you have more than one hard disc drive, make sure that *only* the hard disc containing the GE/200 programs is on and shut off any other hard disc drives connected to your computer.

The system automatically loads the BOOT volume and prompts you to enter a date.

2. Enter the current date in the format shown: day, month, year. For example, enter March 20, 1985 as 20-MAR-85.

Type the date and press

If you don't want to enter the date, press without typing the date.

3. Enter the time in the screen format: hours, minutes, and seconds. Time is measured by the 24-hour clock. For example Nine P.M. is entered as 21:00:00.

Type the time and press

If you don't want to enter the time, just press without typing the time.

The Graphics Editor redraws the screen. The Applications Command Line appears at the top of the screen.

```
COMMAND: GE 200 FILER MEDIAINIT VERSION WHAT
```

```
SYSTEMDATE IS      5-MAR-85  
CLOCKTIME IS      0 : 7 : 39
```

```
GRAPHICSEDITOR/200 REV 1.0      1-OCT-84
```

```
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ALL RIGHTS RESERVED. COPYING OR OTHER  
REPRODUCTION OF THIS PROGRAM EXCEPT FOR  
ARCHIVAL PURPOSES IS PROHIBITED WITHOUT PRIOR  
WRITTEN PERMISSION OF HEWLETT PACKARD COMPANY.
```

You select an option by typing the initial letter of each program.

4. Insert the KEY disc in a flexible disc drive.
5. Type to enter GE/200.

A screen message tells you that the GRAPHICS EDITOR files are loading. When the loading process is completed, GE/200 begins loading the font files.

When the fonts loading is complete, GE/200 tells you what the current input device is and asks if you want to change the device.

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POSITION INPUT IS VIA THE KEYBOARD AND
OPTIONAL MOUSE

DO YOU WISH TO CHANGE THE INPUT DEVICE ?
(Y/N) {DEFAULT = N}

6. If you want to retain the current input device, press N or Enter and the GE/200 screen appears.

If you want to change the input device, type Y .

GE/200 displays an input device menu and asks you to make a selection.

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SELECT POSITION INPUT DEVICE :

(I) INTERNAL KEYBOARD AND OPTIONAL MOUSE
(E) 9111A GRAPHICS TABLET

ITEM {DEFAULT = NO CHANGE} >

Setting An Input Device

1. Type the letter corresponding to the desired input device or press Enter to retain the current device.
2. If you select an external device (graphics tablet), GE/200 prompts you for an external device address:

ENTER EXTERNAL DEVICE ADDRESS >

See your computer or external device manual for more information on setting device addresses.

3. The address number and press . GE/200 notes the new input device and asks again if you want to change devices.

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POSITION INPUT IS VIA THE DATA TABLET AT
ADDRESS 706

DO YOU WISH TO CHANGE THE INPUT DEVICE ?
(Y/N) {DEFAULT = N} >

4. Press to retain the new device.

The GE/200 screen appears.

Running GE/200 from The Filer

You can run GE/200 directly from the Filer without typing to return to the Applications Command Line.

From the Filer command line:

1. Type to start the execute command.

The filer prompts:

EXECUTE WHAT FILE ?

Make sure your KEY disc is in a flexible disc drive.

2. Type:

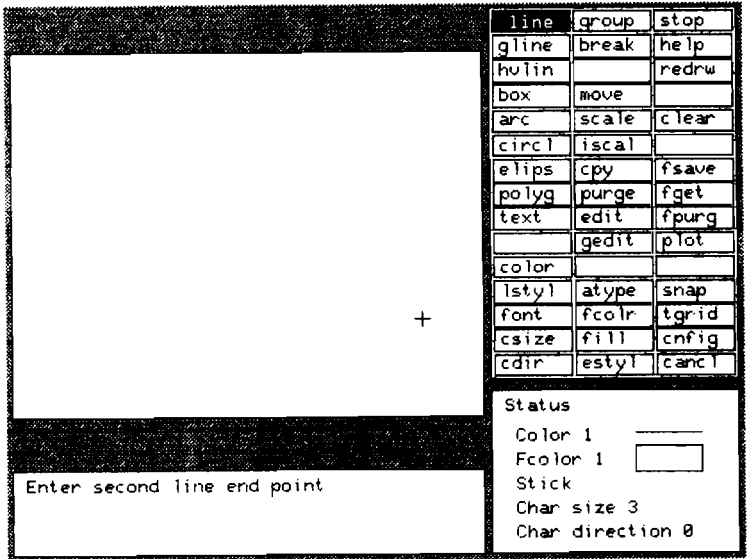
KEY: GE/200

3. Follow the procedure for running GE/200 on your system.

The GRAPHICS EDITOR 200 Screen

Screen Layout

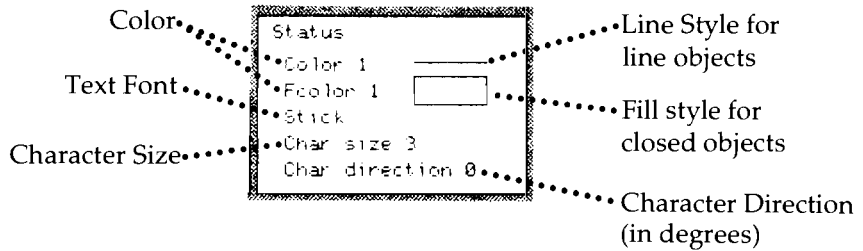
After you load the GE/200 program and specify an input device, the GE/200 screen appears. The screen is divided into five areas: the desktop and four windows.



The **Desktop** provides a background for the GE/200 windows and distinguishes different GE/200 areas.

The **Command** window contains primary GE/200 commands. You use the cursor to choose commands from the menu.

The **Status** window lists current attributes assigned to GE/200 objects. The status window lists the following attributes:



The **Prompt** window displays prompts that guide you through GE/200 operations. The **Prompt** window also displays text that you enter with the TEXT command.

The **Work Area** window is your drawing surface. This is where your drawing takes shape as you add and manipulate GE/200 objects. The **Work Area** defines the part of a drawing that can be saved in a file and produced on a printer or plotter.

The **Work Area** can be adjusted for either horizontal or vertical orientation. See **Configuration Commands** in **Chapter 3** of this User's Guide.

Cursor

Five different cursors appear on the GE/200 screen. The cursors allow you to select GE/200 commands and edit objects in the Work Area. In addition, cursors inform you on the current status of a GE/200 operation. A different cursor appears depending on the area of the screen you are working in or the operation you are performing.



The **pointer** appears when you use the cursor to select menu items from the command menu or a pop-up menu.



The **cross-hair** appears when the cursor is in the Work Area. You use this cursor to select points or manipulate objects in the work area.



The **question mark** appears when you move the cursor onto the Desktop or Status window. The ? tells you that you can't perform GE/200 operations in these areas.



The **hourglass** appears when GE/200 is performing a long operation. You cannot move the cursor when the hourglass is present. The hourglass changes to one of the other cursors when the GE/200 operation is complete.



The **bull's eye** appears when you use an Edit command that requires you to select an object in the Work Area.

Moving the Cursor

How you move the cursor around the GE/200 screen depends on the input devices available on your system.

ARROW KEYS

On all HP Series 200 Technical Computers you can move the cursor by pressing the arrow keys on the keyboard.

KNOB

If your system has a graphics knob, turn the knob to move the cursor horizontally (left and right). Move the cursor vertically (up and down) by holding down the SHIFT key while turning the knob.

STYLUS

If your input device is the HP 9111A graphics tablet, move the cursor by lightly touching the stylus pen to the tablet and moving the pen. Be sure to keep the stylus point in contact with the tablet.

MOUSE

On systems equipped with a mouse, move the cursor by rolling the mouse over a desktop or other smooth surface.

In this manual you will be told to move the cursor. The method of movement depends on the input device you are using.

Menus

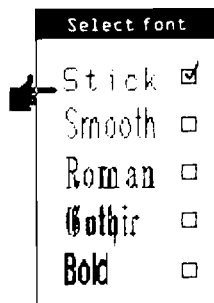
GE/200 offers commands in two kinds of menus: the COMMAND menu and POP UP menus.

The COMMAND menu appears in the **Command** window and contains all the basic GE/200 commands. Each command is contained in a separate command cell.

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpurg
	gedit	plot
color		
lstyl	atype	snap
font	fc01r	tgrid
csize	fill	cnfig
cdir	estyl	cancel

POP UP menus appear in the **Work Area** when you select a COMMAND menu item that requires another level of selection. For example, if you select COLOR from the

Command menu, a pop-up menu appears presenting a palette of color choices. Some pop-up menu selections lead to other pop-up menus.



When a pop-up menu appears, the [hand] cursor is provided for menu selection.

Selecting Menu Items

To perform GE/200 operations, you select commands from menus. The method of selection depends on your input device. See **Moving The Cursor** to review how to move the cursor with your input device.

To select a menu item with:

Keyboard/Knob

Do this:

Move the cursor with the arrow keys or knob until the fingertip is inside the desired GE/200 command cell. Press either the key or the space bar.

Commands can also be selected from the Command Menu by holding down the key and typing the first two letters of the command. This method does not work with Pop Up Menus.

Selecting Work Area Points

Graphics Tablet

Move the cursor to the desired command. Press the tip of the stylus against the tablet until it clicks, then release pressure.

Mouse

Move the cursor to the desired command and click the leftmost button on the mouse.

In this guide you will be told to select menu items. Use the table above to determine your method of command selection.

To add and manipulate GE/200 objects in the Work Area, you select points in the Work Area. The method of point location also depends on your input device.

To select a Work Area point with:

Keyboard/Knob

Do this:

Move the cursor to the desired point and press either the key or space bar.

Graphics Tablet

Move the cursor to the desired point. Press the tip of the stylus against the the tablet until it clicks, then release pressure.

Mouse

Move the cursor to the desired point and click the leftmost button on the mouse.

In this guide, you will be told to select points on the Work Area. Use the table above to determine your method of point selection.

An Example Session

This example session provides a short tutorial that introduces some basic GE/200 commands. The tutorial provides step-by-step procedures that quickly get you started creating GE/200 drawings.

You will learn how to:

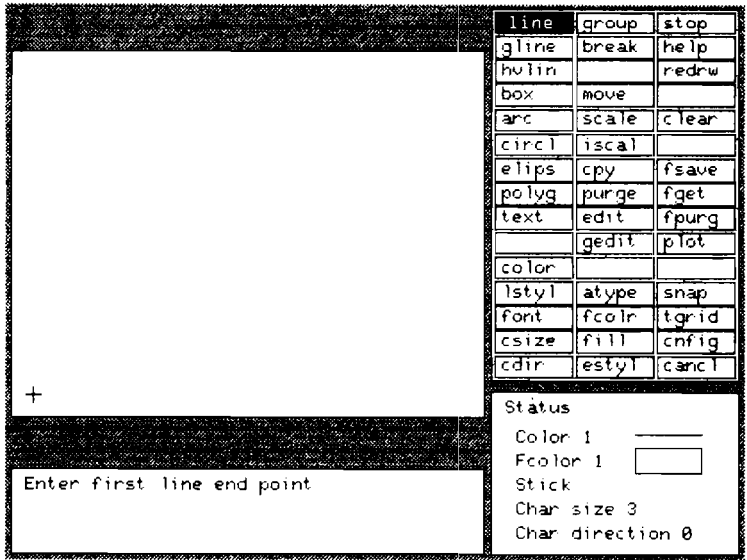
- Draw a line
- Set a fill style for a circle
- Draw a circle
- Change a circle fill style
- Save the picture in a file
- Begin a new drawing
- Leave GE/200

Before you begin, you must start GE/200 by following the instructions in **Running GE/200**. When the GE/200 screen appears, insert a blank, initialized diskette in drive 1. You will save your picture files on this diskette.

Draw A Line

- 1.** Select the LINE command from the Menu Window. GE/200 prompts:

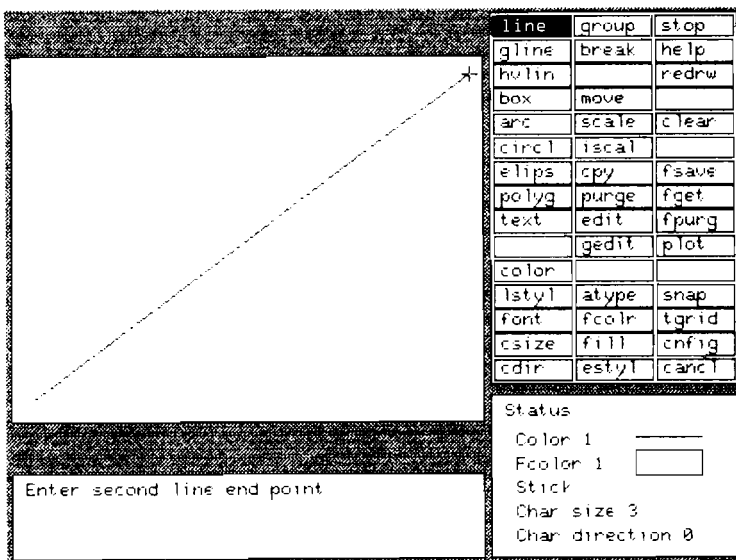
ENTER FIRST LINE ENDP0INT .
- 2.** Move the cursor on to the Work Area, near the lower left corner.



3. Select the point. GE/200 prompts:

ENTER SECOND LINE END POINT

4. Move the cursor to the upper right corner of the work area. Notice that a "rubberband" line follows the cursor.



5. Select the point.

You've created your first picture object with GE/200. Because the LINE command is still active, GE/200 prompts you for a new starting point. Simply move the cursor to a new menu item to start a new operation.

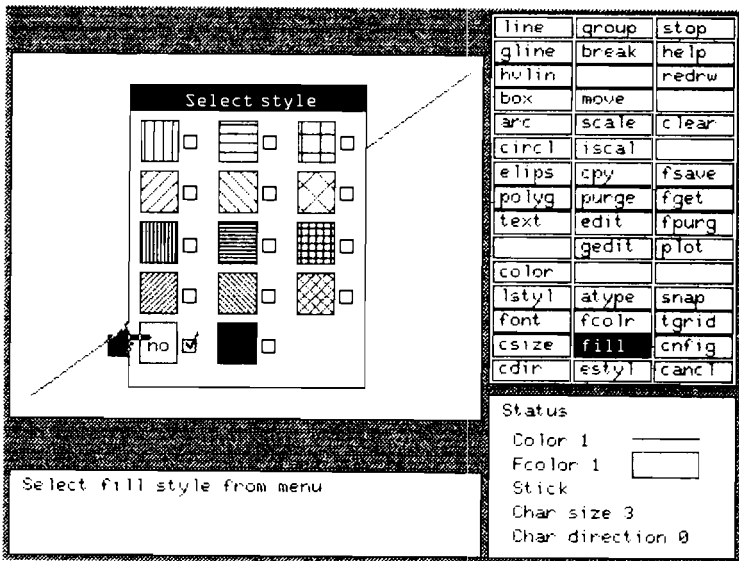
Setting An Object Attributes

Object attributes are variations on an object's appearance. They include color, line style, fill style, arc style, text font, and text character size.

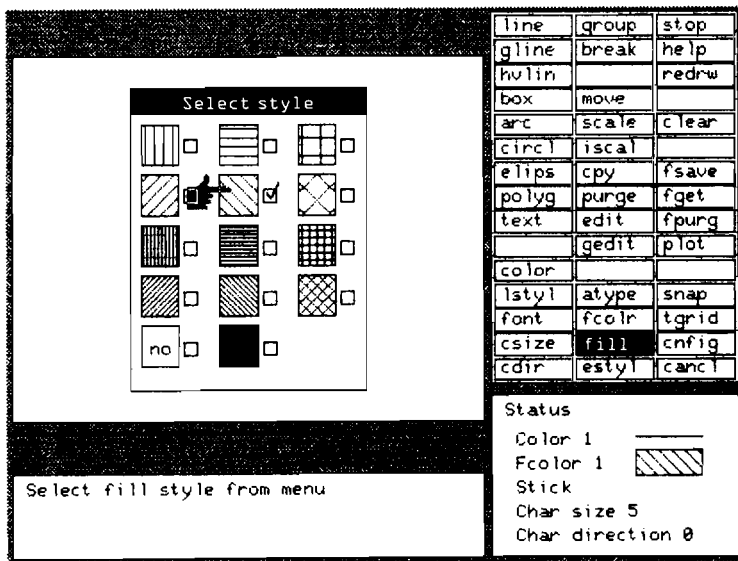
GE/200 provides default attributes for any object you create. If you want to change the attribute of an object, you must set the object attribute BEFORE you draw the object. A change in an object attribute does not affect objects already in the Work Area. In this example, you'll choose an object fill style and then draw a circle displaying the fill style.

1. Select the FILL command.

A pop-up menu appears displaying the available fill styles.



2. Move the cursor to the diagonal bar style. Make sure that the [check] appears in the small box next to the fill style. Select the FILL style.



The pop-up menu disappears. Notice that the new fill style now appears in the Status window. The fill style will appear in each closed object you draw until you change the fill attribute.

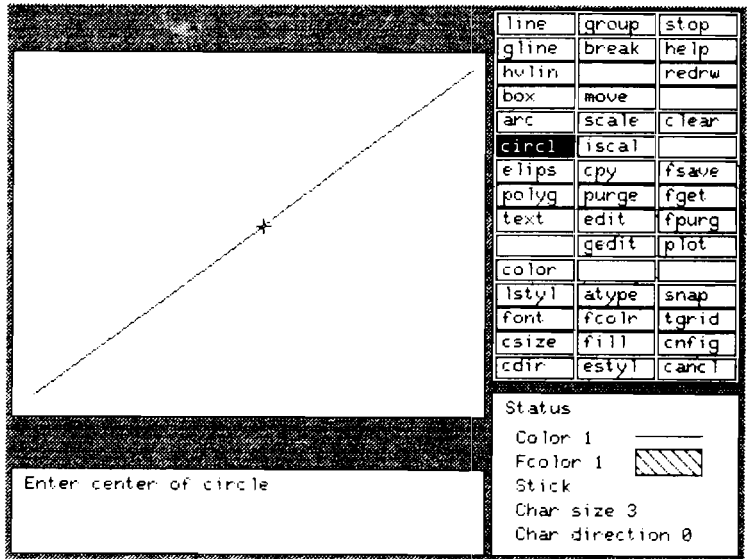
Draw A Circle

Now you'll draw a circle that uses the fill style you just selected.

1. Select the CIRCL command. GE/200 prompts:

ENTER CENTER OF CIRCLE .

2. Move the cursor to the midpoint of the line you created earlier.



3. Select the point. GE/200 prompts:

ENTER RADIUS OF CIRCLE .

4. Move the cursor until the circle looks like this.

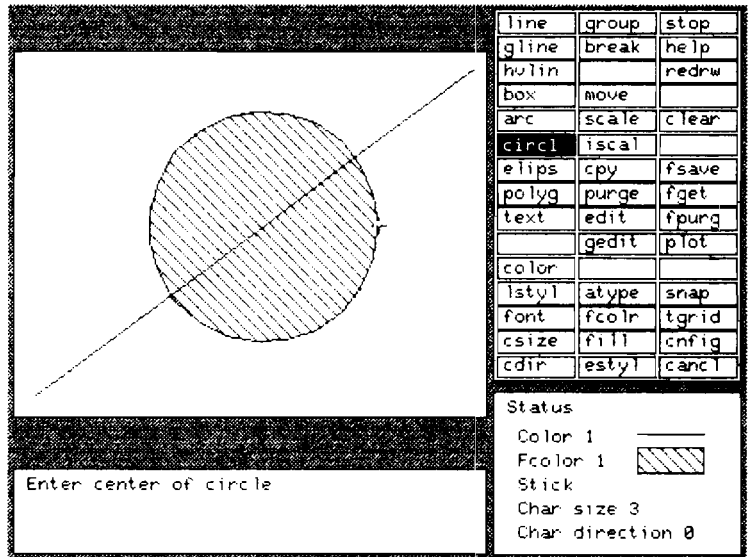
The screenshot shows a CAD software interface. On the left, a white workspace contains a circle with a horizontal radius line and a diagonal line passing through its center. A dashed rubberband line outlines the circle. Below the workspace is a text input field with the text "Enter radius of circle". On the right, a command palette is visible, listing various commands in a grid. The "circl" command is highlighted. Below the command palette is a status bar with the following information: Color 1 (represented by a white box), Fcolor 1 (represented by a hatched box), Stick, Char size 3, and Char direction 0.

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscale	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpurge
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	cancel

Status
Color 1
Fcolor 1
Stick
Char size 3
Char direction 0

A rubberband line outlines a circle.

5. Select the point. GE/200 "freezes" the circle and fills it with the fill style you chose.



Edit An Object

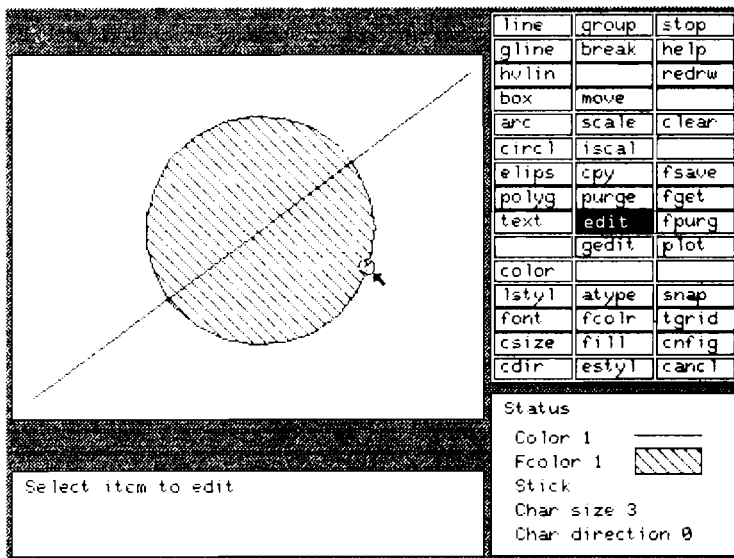
Editing an object allows you to change the appearance of an object AFTER it is drawn on the work area. In this example, you will change the fill style of the circle you created earlier.

1. Select the EDIT command. GE/200 prompts:

SELECT ITEM TO EDIT.

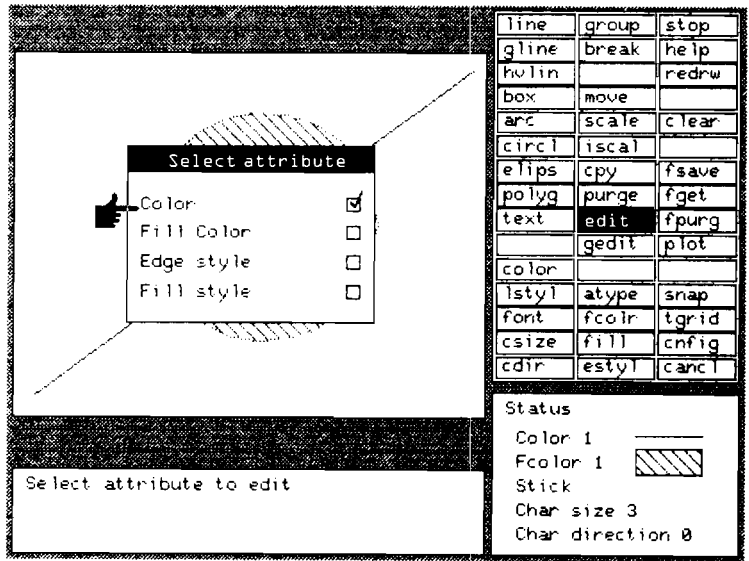


2. Move the cursor on to the Work Area. Notice that the cursor appears as a [bull's-eye]. Move the cursor to any point on the circle.



If you had performed the EDIT operation on an unfilled circle, you would have placed the cursor directly on the circumference edge line to select the circle. See **Editing Objects** in **Chapter 3** of this User's Guide for more information on selecting objects with EDIT.

3. Select the point. A pop-up menu appears and GE/200 prompts you to select the attribute you want to change.



4. Select the "Fill Style" menu item.

The FILL menu appears on the work area.

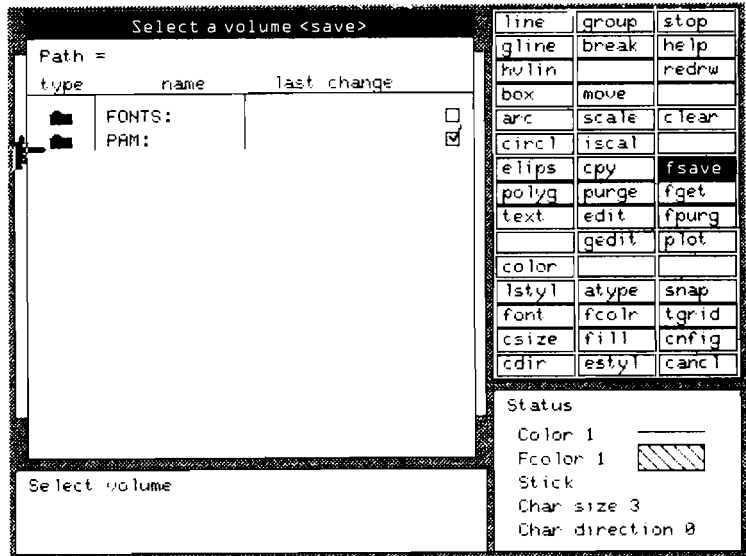
5. Select the solid grid style. The menu disappears and GE/200 redraws the circle, adding the new fill style.

Although you've changed the fill style of the circle, the fill attribute you set earlier in the tutorial is unchanged. The next time you draw a closed object, the fill will appear as horizontal lines - the set attribute. EDIT performs a "one-time-only" operation and does not set attributes.

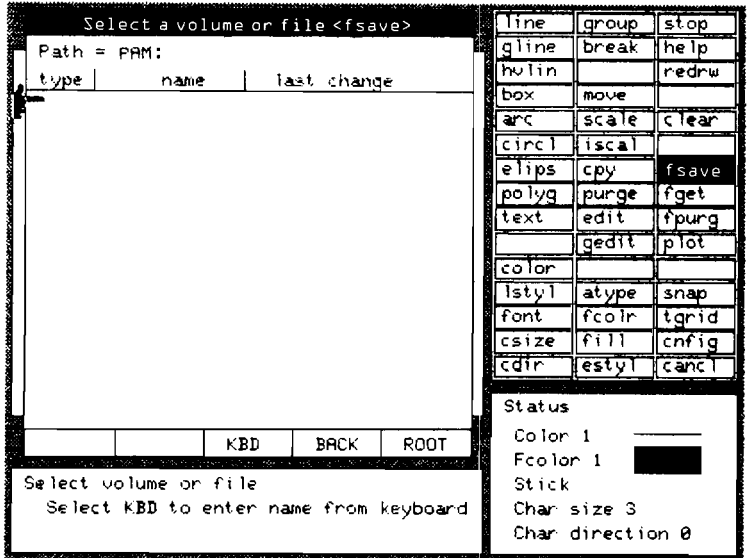
Save A Picture

Now you can save your drawing on disc for future review, editing, or output to a plotter or printer. Before you begin, insert a blank work disc in a drive. See **Creating A Work Disc** earlier in this section for information on creating a work disc on which to store picture files.

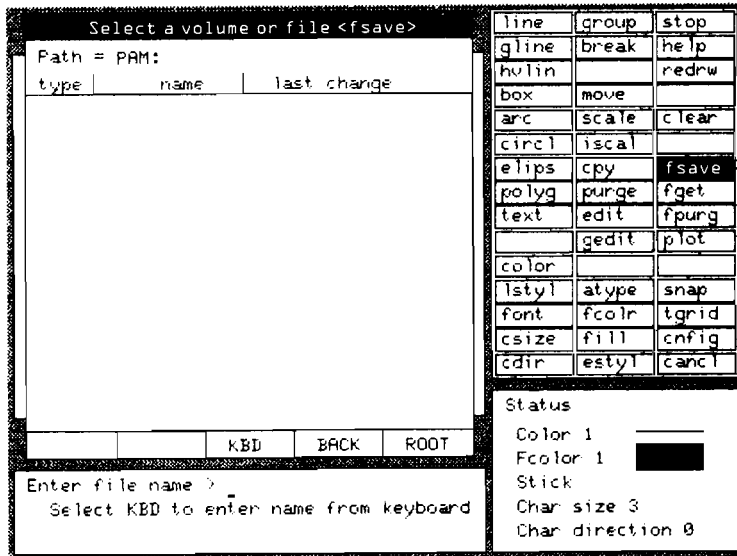
1. Select the FSAV command. A menu appears displaying the disc volumes available for storing pictures. GE/200 asks you to select a volume to save your picture in.



2. Select your work disc volume. A new pop up menu appears, listing picture files. Because your work disc is empty, no file names appear on the menu.



GE/200 prompts you to name and save the picture file by selecting the KBD cell so you can use the keyboard to enter a file name.



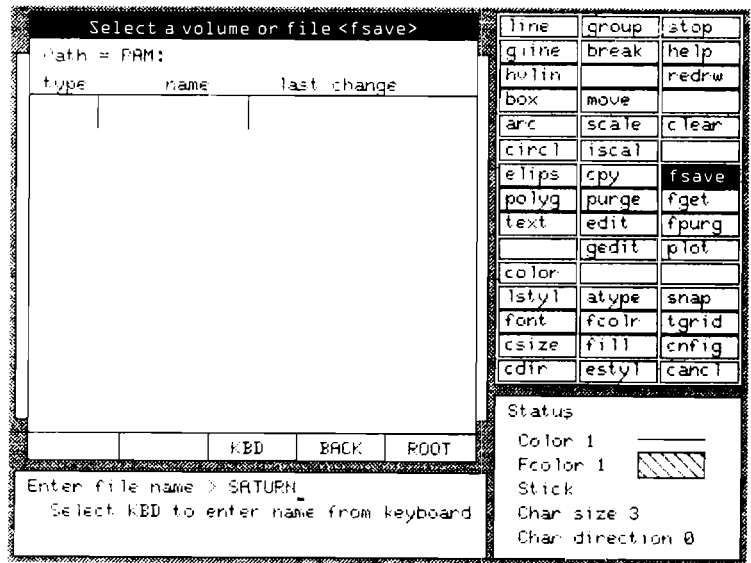
3. Move the cursor to the KBD cell and select. GE/200 prompts:

ENTER FILE NAME

4. Type

SATURN

As you type, the filename appears in the prompt window.



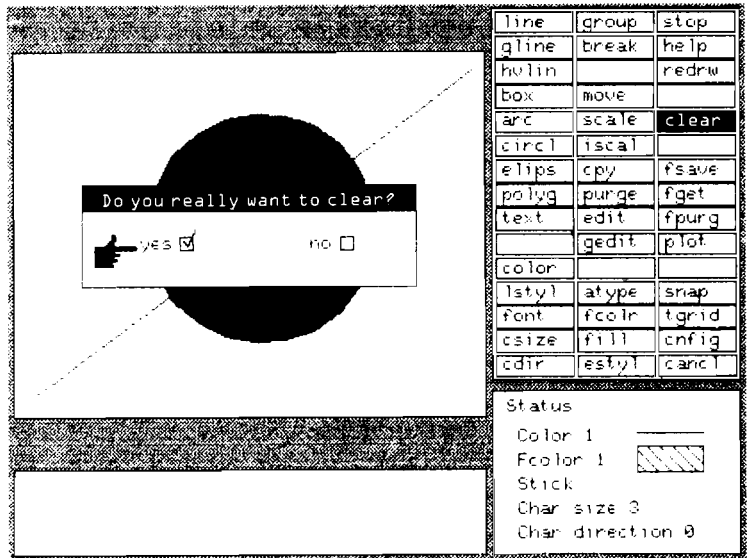
5. Press . GE/200 tells you that it is saving the file on the disc volume. When the operation is complete the picture returns to the work area. A copy of the picture is now stored on the work disc.

Clear the Work Area

Now you can add new objects to the current picture, clear the screen and start a new picture, or exit GE/200. If you make changes to the current picture, the saved file SATURN is unaffected. To replace the earlier version with an updated picture, save the new version as SATURN. To retain the earlier version as well as saving the changes, save the file under a new name.

Clear the screen before exiting GE/200.

1. Select the CLEAR command. A pop-up menu asks if you



2. Select YES. The current picture disappears and the work area is ready for a new drawing.

Practice creating another picture with some other GE/200 commands or exit GE/200.

Exit GE/200

When you're done, you can exit GE/200 and choose another application or turn off the system.

1. Select the STOP command.

The GE/200 screen disappears and the product command line appears.

COMMAND: GE200 FILER MEDIAINIT VERSION WHAT

If the Work Area contained picture objects when you selected STOP, GE/200 would have prompted you to confirm the command before exiting.

At this point you can turn off the system or run another application. To restart GE/200, type .

You've completed the example session, picking up some basic GE/200 skills in the process. Use the detailed explanations of GE/200 commands in **Chapter 3, Using GE/200**, to build on what you've already learned.



Using GE/200

Overview

You perform all GE/200 operations by selecting a GE/200 command from the Command window. Some GE/200 commands lead to pop-up menus of command options and prompts for information.

When selecting commands from the command window, make sure that the [finger] is directly over the command cell. A check in the cell tells you that selecting that cell will perform the command. If your pointer touches the boundary space between cells, no check will appear and you will be unable to select a command.

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpurg
	gedit	plot
color		
lstyl	atype	snap
font	fcoll	tgrid
cszse	fill	cnfig
cdir	estyl	canc1

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpurg
	gedit	plot
color		
lstyl	atype	snap
font	fcoll	tgrid
cszse	fill	cnfig
cdir	estyl	canc1

In pop-up menus, move the cursor until a check appears in the box beside each menu option. You can't select a command that doesn't have a check next to it.

See **Moving The Cursor** and **Selecting Menu Items** in **Chapter 2** of this User's Guide for more information on cursors and menu selection.

In this chapter, commands are grouped according to similarity of function. The groupings are:

HELP command

Gives you information on GE/200 commands

Drawing Objects

Tells you how to draw different objects on the Work Area

Specifying Object Attributes

Tells you how to assign object styles

Editing Objects

Tells you how to change and manipulate objects on the Work Area

Work Area Commands

Tells you how to perform operations on Work Area

Plot/Print

Tells you how to output pictures to a printer or plotter

Managing Files

Tells you how to save GE/200 pictures in files and perform operations on files

Control Commands

Tells you how to exit GE/200 and cancel commands

Configuration

Tells you how to set GE/200 functions

Output Procedures

Tells you how to plot and print from GE/200

Getting Information on GE/200 Commands [HELP]

The Help command provides detailed on-screen documentation for each GE/200 command.

1. Select the Help command. GE/200 prompts:

SELECT THE COMMAND YOU NEED INFORMATION ON.

2. Select the GE/200 command for which you want information.

A description of the command appears in the Work Area. If the text of the Help summary is larger than the Work Area, GE/200 asks you to press the space bar for more information.

At the end of the Help description, GE/200 prompts:

SELECT MENU ITEM FOR HELP OR SELECT RETURN TO EXIT HELP MODE.

If you want to see a summary of another GE/200 command, select the command and a new Help summary appears. If you want to leave the Help screen, move the cursor to the RETURN box and Select.

As long as you are in the HELP function, the selection of GE/200 commands provides you with a description of the command instead of activating the command. Select the RETURN cell to resume normal command functions.

Drawing Objects

GRAPHICS EDITOR 200 allows you to draw picture objects with a variety of shapes, lines, and text. You add objects to your drawing by selecting a draw command and then using the cursor to locate the element on the Work Area.

Before you draw an object, you can set styles like color and fill pattern with the commands from the section, **Setting Object Attributes**. See **Appendix A** for a complete listing of attribute commands and a brief description of each command.

Drawing Commands:

LINE
GLINE
HVLIN
BOX
ARC
CIRCL
ELIPS
POLYG
TEXT

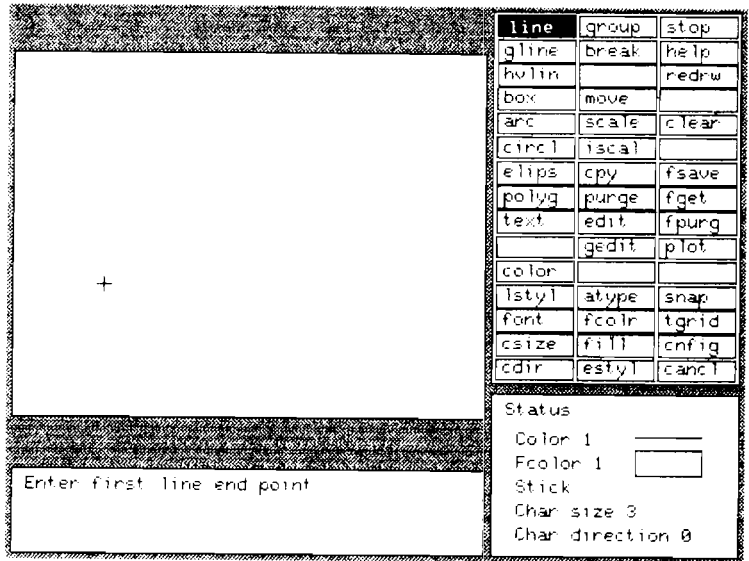
Drawing A Line [line]

Allows you to draw a line between any two points on the Work Area.

1. Select [line] from the Command Menu. GE/200 prompts:

ENTER FIRST LINE END POINT .

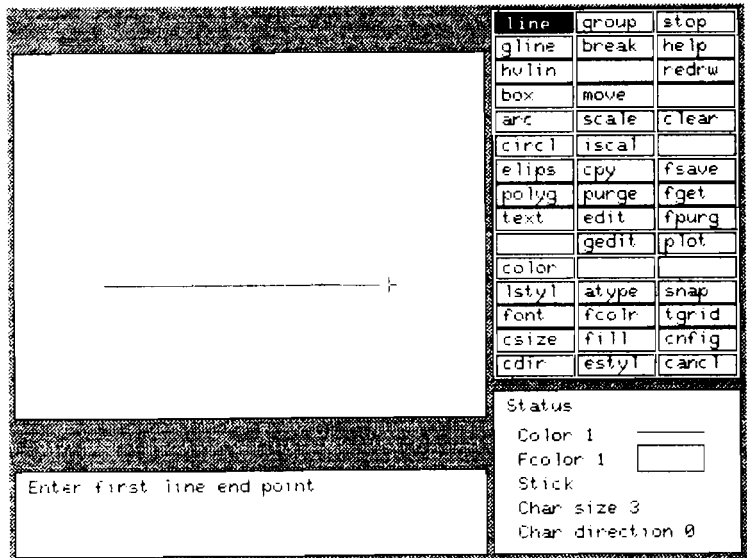
2. Move the cursor to the point on the Work Area where you want to begin the line segment. Select the point.



GE/200 prompts:

ENTER SECOND LINE END POINT .

3. Move the cursor to the end point of the line and SELECT the point. GE/200 completes the line.



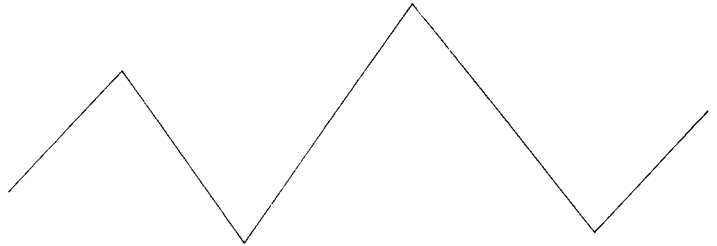
When you select the first endpoint of a line, GE/200 draws a "rubberband" line that follows your cursor as you move it across the Work Area. This allows you to visualize the complete line before you commit to selecting a second end point.

If you want to abandon the line creation, select CANCL to quit the LINE operation.

Style Attributes available for LINE: LSTYL
COLOR

Drawing A Grouped Line [gline]

Allows you to draw a continuous line of connected line segments.



- 1.** Select the GLINE command.

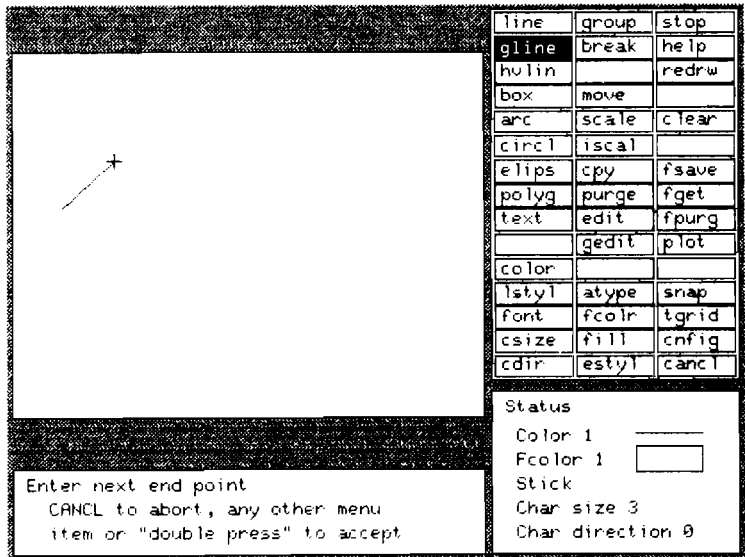
GE/200 prompts:

ENTER FIRST END POINT .

- 2.** Move the cursor to the starting point of the segmented line and select the point. GE/200 prompts:

ENTER NEXT END POINT .

3. Move the cursor to the end point of the first line segment and select the point.

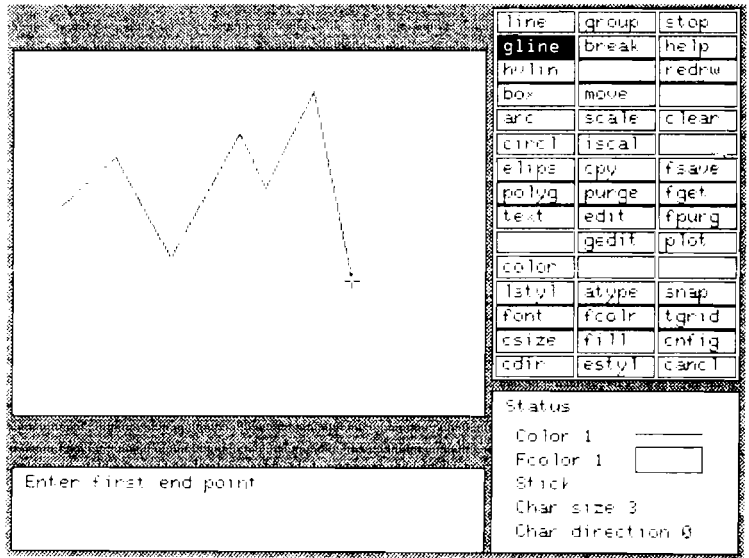


GE/200 prompts:

ENTER NEXT END POINT. CANCEL TO ABORT, ANY ANY OTHER MENU ITEM OR "DOUBLE PRESS" TO ACCEPT.

4. Move the cursor to the end of the next line segment and Select the point. GE/200 prompts you for another end point.

You can continue drawing line segments by selecting new end points. End the segmented line by selecting the final end point twice, rapidly, or by selecting a new menu item after selecting the last point.

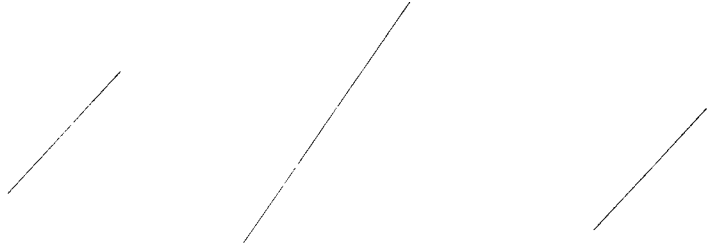


Select CANCEL to stop drawing in the middle of a line segment.

Like LINE, GLINE draws a "rubberband" line that follows your cursor across the Work Area.

Style Attributes available for GLINE: LSTYL
 COLOR

Advanced Features You can use another GE/200 command, BREAK, to divide a grouped line into individual line objects that you can delete or manipulate singly or in subsets. For more information, see **Breaking Groups [break]** under **Editing Objects** later in this chapter.



Drawing Vertical or Horizontal Lines [hvlin]

Allows you to draw lines that are parallel to any side of the Work Area.

line	group	stop
gline	break	help
hvlin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
ssize	fill	cnfig
edir	estyl	cancel

Status
 Color 1
 Fcolor 1
 Stick
 Char size 3
 Char direction 0

Enter first line end point

1. Select the HVLIN command. GE/200 prompts:

ENTER FIRST LINE ENDP0INT .

2. Move the cursor to the starting point of the line and select the point. GE/200 prompts:

ENTER SECOND LINE ENDP0INT .

3. Move the cursor to the endpoint. Notice that the rubberband line "snaps" to either the horizontal or vertical plane, depending on the direction you move the cursor.
4. Select the end point of the line.

HVLIN is useful for drawing perpendicular or parallel lines quickly without fine movement of the cursor.

Style Attributes available for HVLIN: LSTYL
COLOR

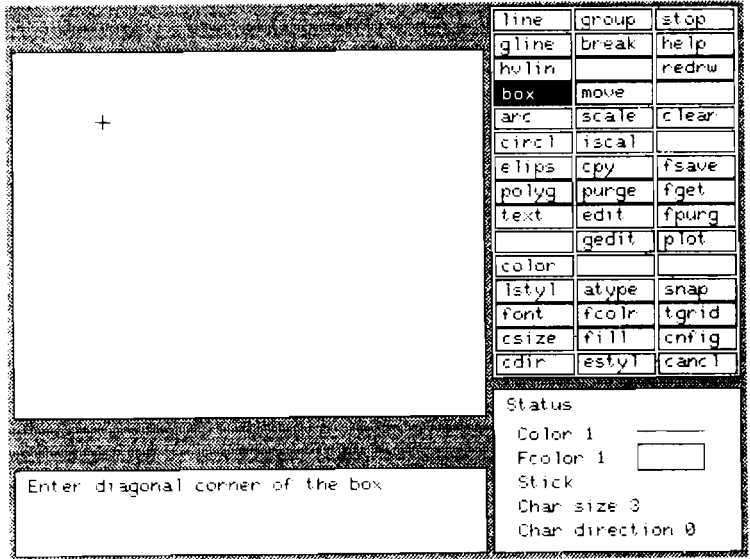
Drawing A Rectangle [box]

Allows you to draw a rectangle.

1. Select the BOX command. GE/200 prompts:

ENTER CORNER OF BOX .

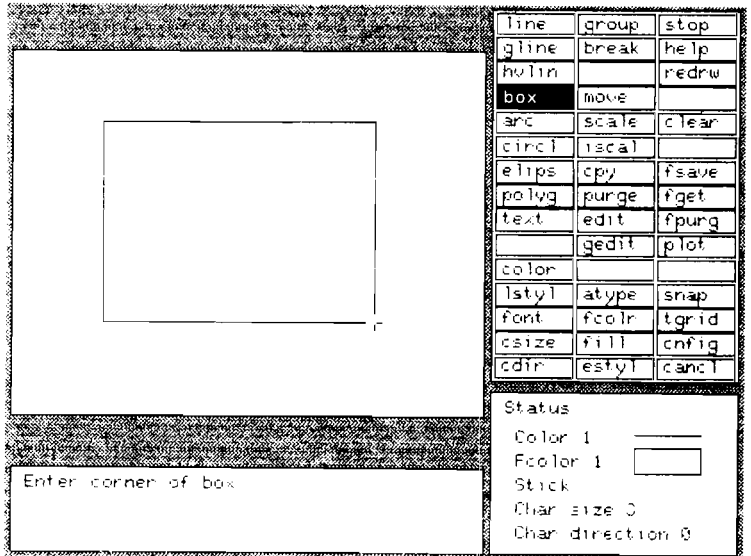
2. Move the cursor to the point at one corner of the rectangle and select the point.



GE/200 prompts:

ENTER DIAGONAL CORNER OF BOX.

3. Move the cursor to the point at the corner diagonally across from the first corner selected. The "rubberband" lines show the box's projected dimensions. Select the point.



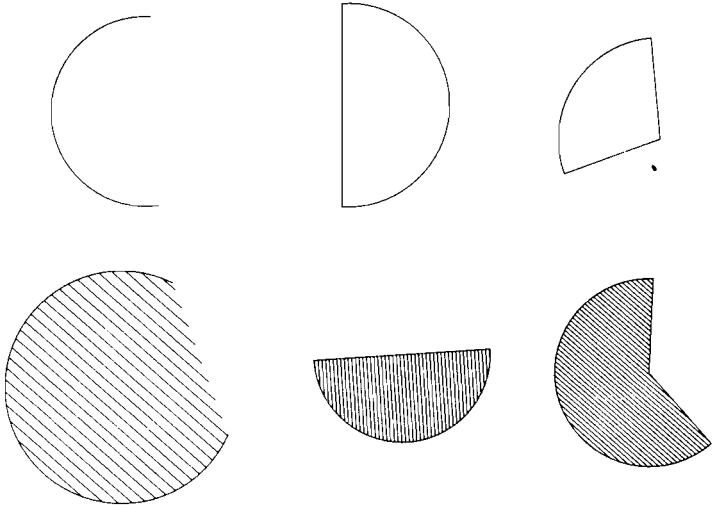
Select CANCL to quit the BOX operation.

Style Attributes available for BOX: FCOLR
 COLOR
 FILL
 ESTYL

Although an object created with BOX is similar to a grouped line created with GLINE, you can't break the rectangle's line segments into individual objects. GE/200 treats objects created with BOX as closed objects.

Drawing An Arc [arc]

Allows you to draw an arc: a curved line and segments of a circle defined by a curved line.



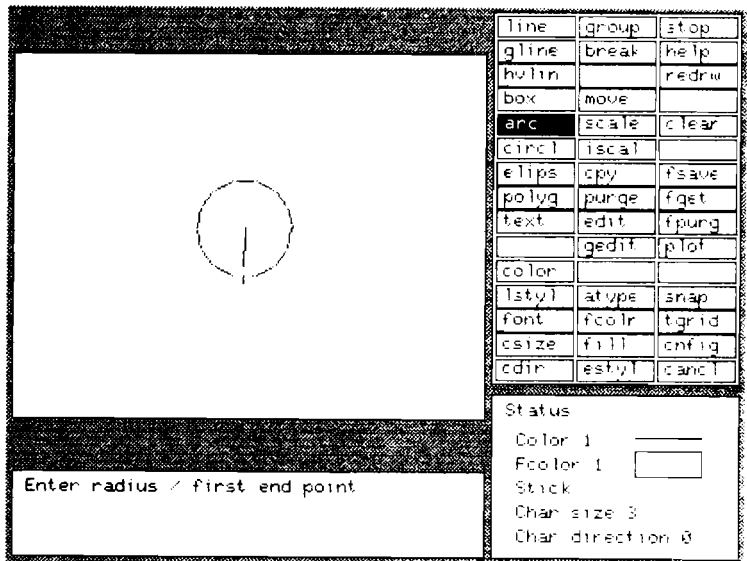
1. Select the ARC command. GE/200 prompts:

ENTER CENTER OF ARC

2. Move the cursor to the center point of the arc. Your arc will radiate out from this point. Select the point. GE/200 prompts:

ENTER RADIUS/FIRST END POINT

3. Move the cursor the desired length of the arc radius. The radius defines the distance between the center point and the curved line that forms the arc. A "rubberband" circle grows as you move the cursor. Select the point.



GE/200 prompts:

ENTER LAST END POINT

4. Move the cursor counter-clockwise around the circle to the arc endpoint. Select the point.

The circle disappears and GE/200 draws an arc.

Select CANCL to quit the operation and discard the incomplete object.

Style Attributes available for ARC: ATYPE
COLOR
FILL
FCOLR
ESTYL

Drawing A Circle [circl]

Allows you to draw circles of varying sizes.

1. Select the CIRCL command. GE/200 prompts:

ENTER CENTER OF CIRCLE .

2. Move the cursor to the center point of the circle. Select the point. GE/200 prompts:

ENTER RADIUS OF CIRCLE .

3. Move the cursor the length of the radius. A "rubberband" circle grows with the cursor movement. When the circle is the desired size, select the point.

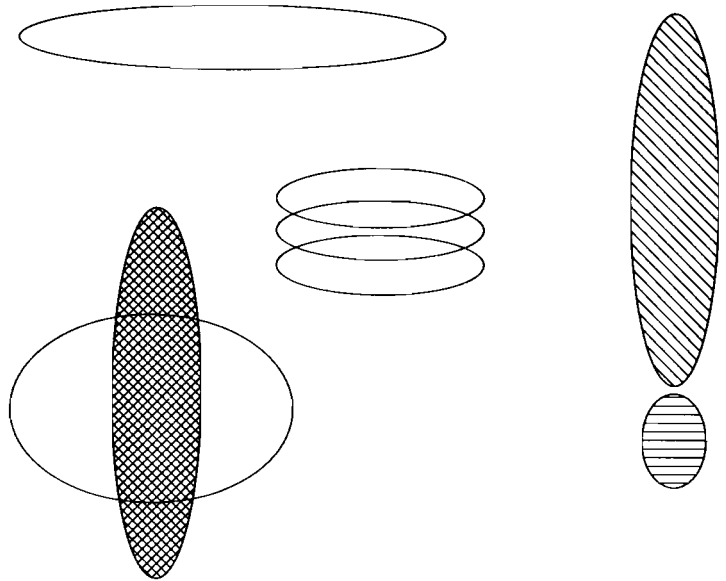
GE/200 "freezes" the circle on the Work Area.

Select CANCL before selecting the radius to quit the circle operation.

Style Attributes available for CIRCL: COLOR
FILL
FCOLR
ESTYL

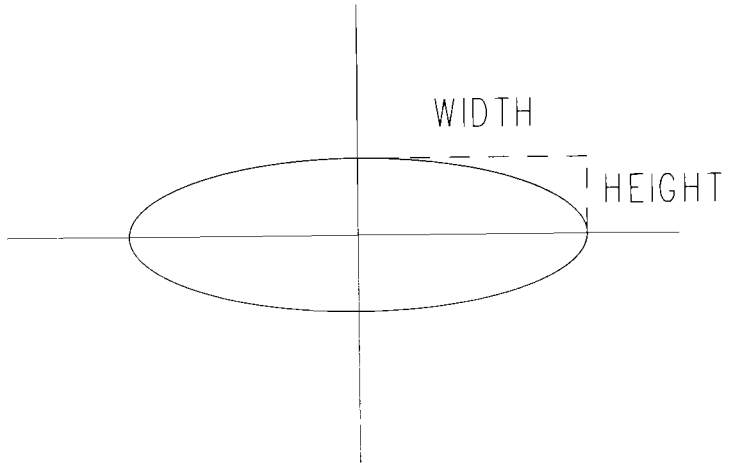
Drawing An Ellipse [elips]

Allows you to draw ellipses of various dimensions. The following objects are ellipses.



1. Select the ELIPS command. GE/200 prompts:
ENTER CENTER OF ELLIPSE .
2. Move the cursor to the point marking the center of the ellipse. Select the point. GE/200 prompts:
ENTER RADIUS OF ELLIPSE .

Because an ellipse does not have a constant radius like a circle, you move the cursor sideways and up or down to define the ellipse's dimensions. A rubberbanding ellipse shows the possible dimensions.



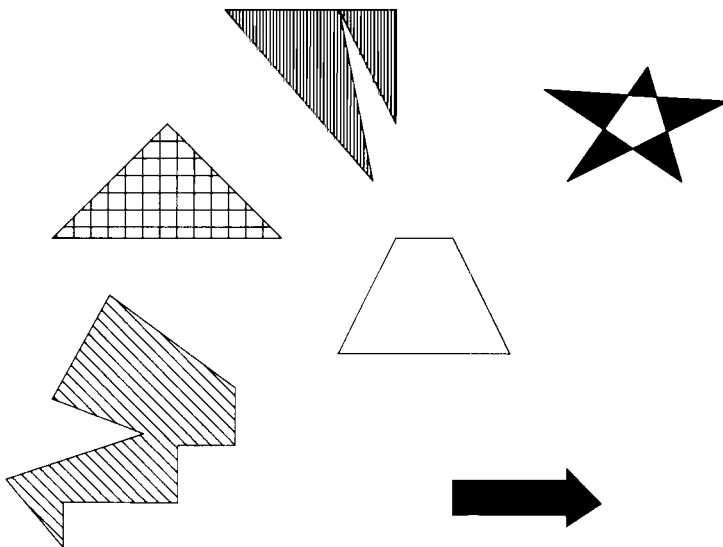
Select the point to complete the ellipse.

Select CANCL to quit the operation and discard the incomplete object.

Style Attributes available for ELIPS: FCOLR
FILL
COLOR
ESTYL

Drawing A Polygon [polyg]

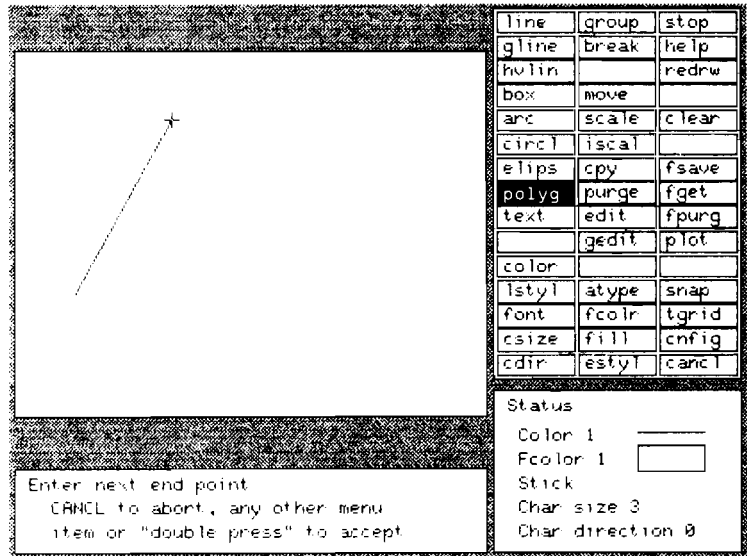
Allows you to draw a closed object bound by straight lines.
All of the following objects are polygons.



By selecting points on the Work Area, you specify how many sides the polygon will have.

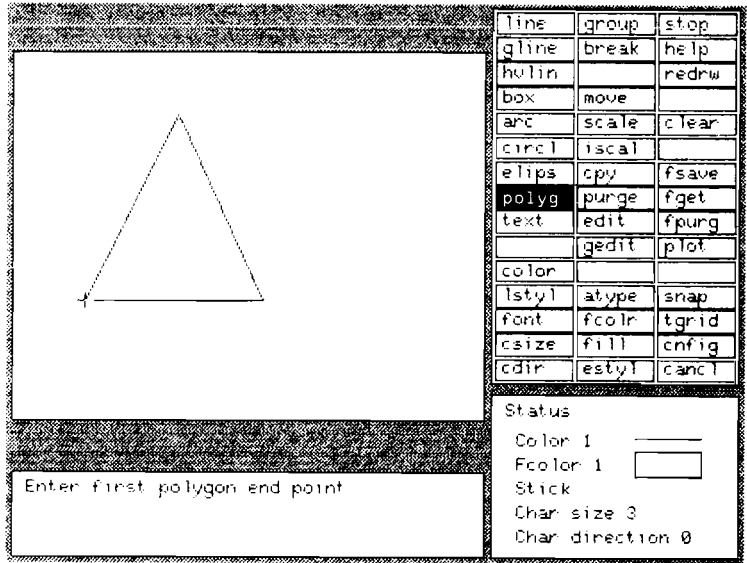
1. Select the POLY G command. GE/200 prompts:
ENTER FIRST POLYGON END POINT .
2. Move the cursor to the starting point of the polygon and select the point. GE/200 prompts:
ENTER NEXT ENDPOINT .

3. Move the cursor to the endpoint of the first polygon side and select the point.



GE/200 prompts you for the next endpoint.

4. Move the cursor to the endpoint of the second side. To complete the polygon, Select twice, rapidly. GE/200 draws a line from the first endpoint to the last point selected. The polygon is complete.



You can also complete a polygon by selecting another menu item after selecting the last point. To quit the operation, select CANCL from the command menu and GE/200 will delete the uncompleted polygon.

Style Attributes available for POLYG: FCOLLR
COLOR
FILL
ESTYL

Entering Text [text]

Allows you to add text to a drawing. GE/200 treats text like other picture objects and allows you to perform the same operations on text that you can perform on other objects.

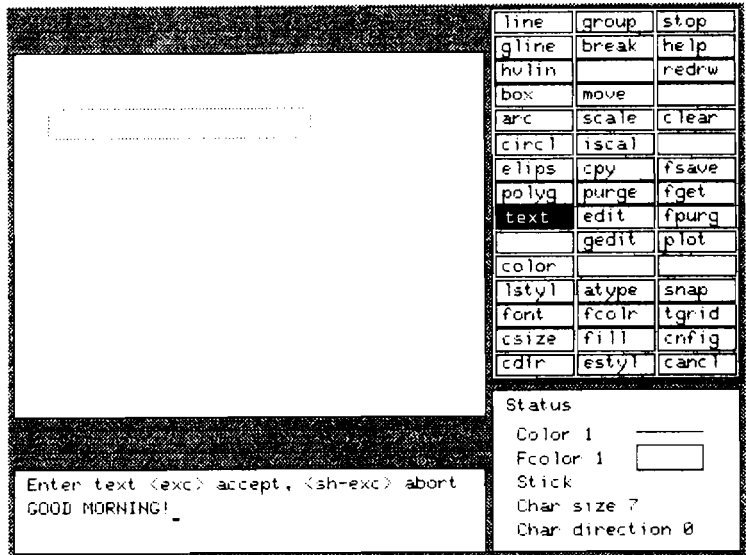
1. Select the TEXT command. GE/200 prompts:

MOVE CURSOR TO THE START OF THE STRING,
AND THEN TYPE TEXT.

2. Move the cursor to the point where you want the text to begin and select the point. GE/200 prompts:

ENTER TEXT, <EXC> ACCEPTS, <SHIFT-EXC>
ABORTS

3. Type the word or words you want to enter. As you type, the text string appears in the prompt window, and GE/200 draws a rubberband box on the Work Area that shows you the area the text string will occupy.

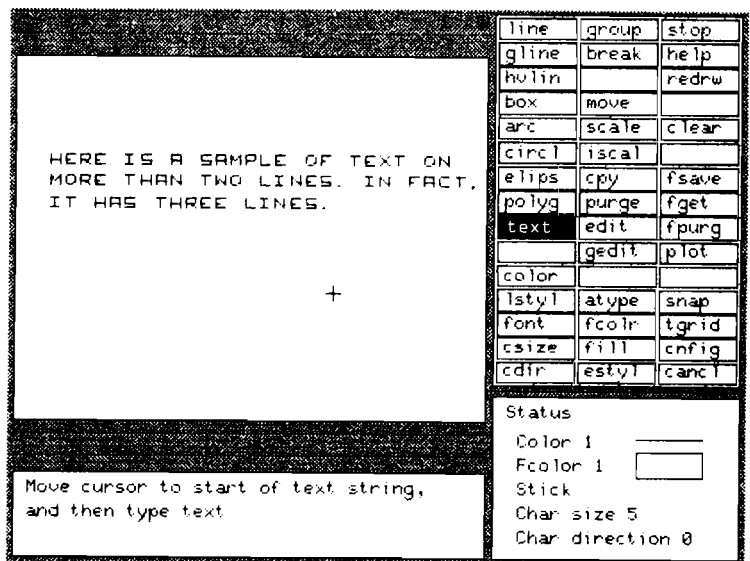


4. When the text string is complete, press . The text appears at the point you specified.

To quit the operation and discard the text string in the prompt window, hold down the SHIFT key and press

Execute .

When you enter text, you are not limited by the size of the prompt window. You can add additional lines of text by pressing the **Return** key and typing more characters. GE/200 provides a line editor that allows you to move backwards and forwards through a block of text and make changes. The following text block was created with TEXT.



The size of a TEXT object is only limited by the size of the Work Area. You can edit the text by using the following keyboard commands:

Move cursor left
Move cursor right
Move to line above current line
Move to line below current line
Move to line beginning

Left arrow key
Right arrow key
Up arrow key
Down arrow key
Shift-Left arrow key

Move to line end
Insert line above current line
Delete current line
Insert ON/Off
Delete character
Delete to end of line
Delete all lines

Shift-Right arrow key

INSLN

DELLN

INSCHR

DELCHR

CLR→END

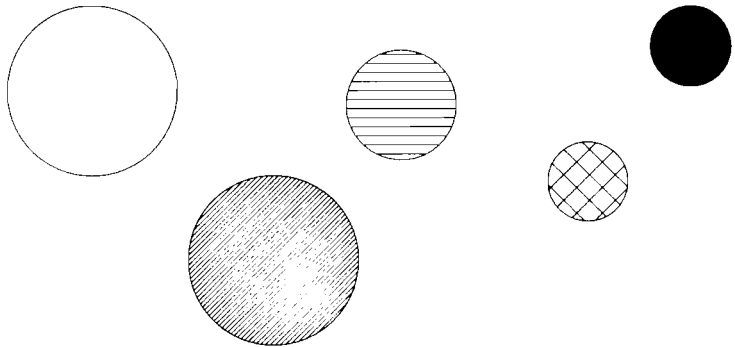
Shift CLRNL

Style Attributes available for TEXT: COLOR
FONT
CSIZE
CDIR

Setting Object Attributes

GE/200 provides attribute commands that allow you to select style attributes for each object you create with a DRAW command. When you set an attribute variable, that attribute appears every time you draw the object, or until you change the attribute.

The graphic below shows the same circle repeated with different style attributes.



If you want to create an object with a new attribute, set the object attribute *before* you draw the object on the work area. If you want to change the attributes of an object currently on the work area, you must use an EDIT command. See **Editing Objects** later in this chapter.

Attribute Commands:

COLOR
LSTYL
ATYPE
FONTS
CSIZE
CDIR
FCOLR
FILL
ESTYL

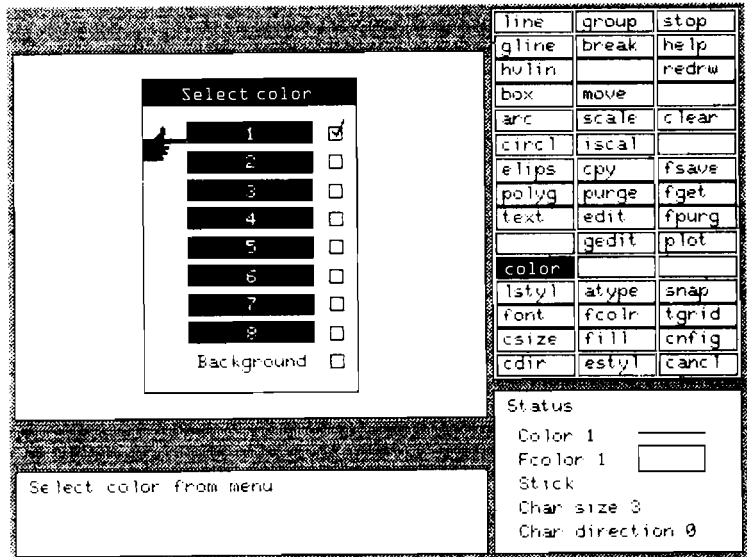


Color Menu [color]

Allows you to specify object colors for screen display or output to a plotter.

1. Select the COLOR command.

The Color menu pops up on the work area.



2. Move the cursor to the desired color and Select the color.

Select any other command to abort the operation.

Each menu selection on the Color menu contains a number that corresponds to pen number in a plotter. If you are plotting the drawing, GE/200 uses the pen number selected regardless of the actual color of the pen.

The COLOR command affects lines, text, and the edges of filled and non-filled objects.

Advanced Features If you select the "Background" item from the Color Menu, GE/200 draws the object in the same color as the background. This lets you "back out" picture elements after they have been drawn. You can use this feature to hide picture elements behind other elements rather than

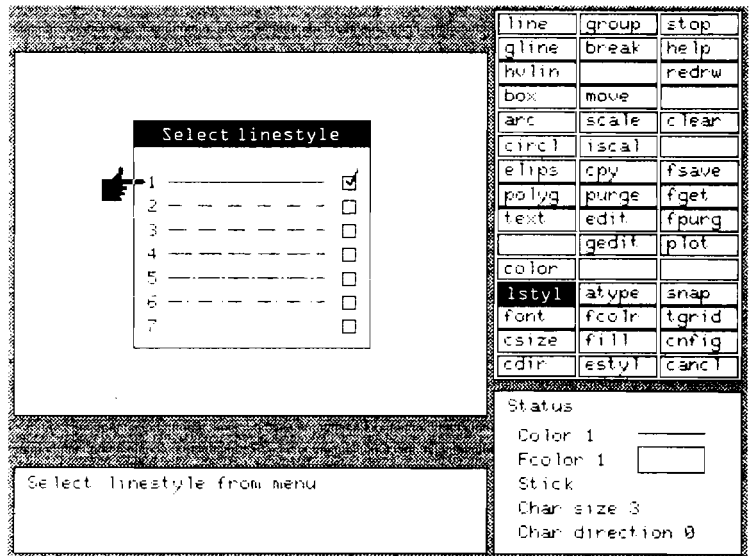
having background elements visible through foreground elements.

The background function only works on screen displays, not on output to plotters.

Line Styles [lstyl]

Allows you to specify different line styles for LINE, GLINE, and HVLIN.

1. Select the LSTYL command. The Line Style menu pops up on the work area.

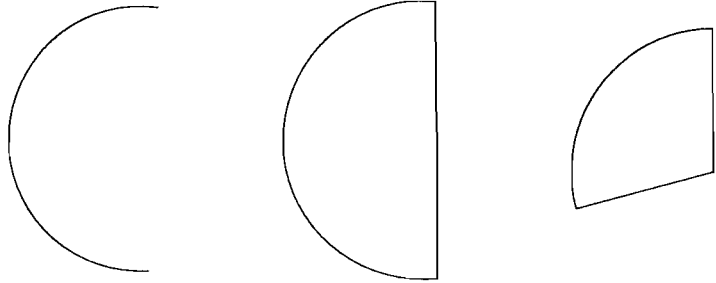


2. Select the linestyle you want to appear in future lines.

The LSTYL command only affects lines drawn with the line commands. Lines that form the boundaries of other objects like circles, polygons, ellipses, and rectangles can be set with another attribute command, ESTYL.

Arc Types [atype]

Allows you to set arc styles. GE/200 offers three distinct arc styles. Select the Arc style before you draw an arc.

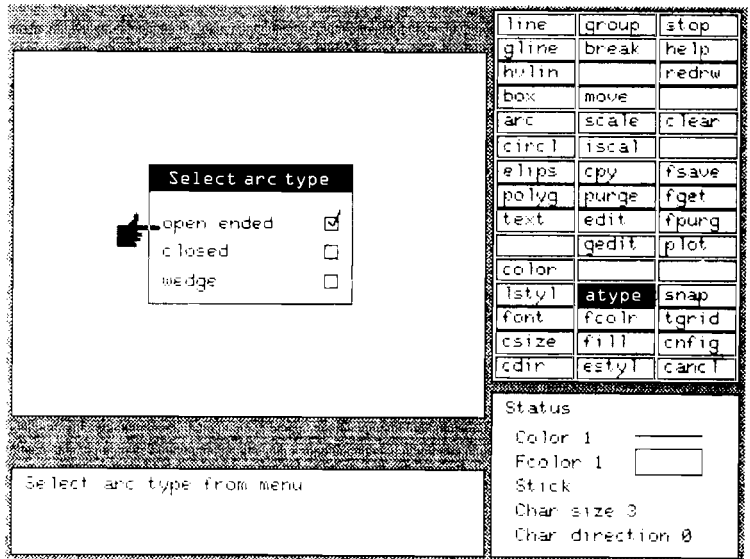


An **open** arc is a curved line; a segment of a circle circumference.

A **closed** arc is an **open** arc with a straight line, or chord, drawn between the endpoints of the curve.

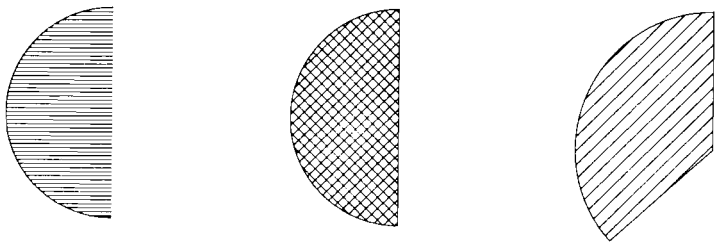
A **wedged** arc is a “pie” section enclosing the area between a segment of a circle’s circumference and the center of the circle.

1. Select the ATYPE command. The Arc Style Menu pops up on the work area and GE/200 prompts you to select a style.



2. Select an arc style to set the attribute for future arcs.

GE/200 treats all three arc styles as closed objects; you may specify a fill style for any of the arc types.



Text Fonts [fonts]

Allows you to specify a font style before you enter text.

The screenshot shows a terminal window with a dark background and light text. The main area displays several lines of text demonstrating different font styles and sizes. To the right is a command menu with a grid of options. Below the menu is a status bar with various settings.

Terminal content:

```
This is a sample of Smooth font
Type in size 6

Roman has this appearance
+
Let's try gothic size 7

Bold size 7 looks like this

Stick is the default
```

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcollr	tgrid
csiz	fill	cnfig
edir	estyl	canc1

Status

Color 1

Fcolor 1

Stick

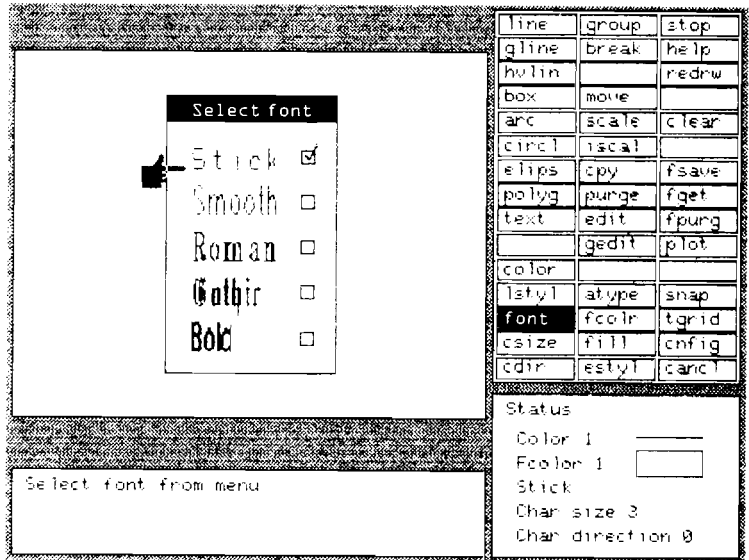
Char size 3

Char direction 0

Move cursor to start of text string,
and then type text.

1. Select the FONTS command.

2. The Fonts menu pops up on the work area.



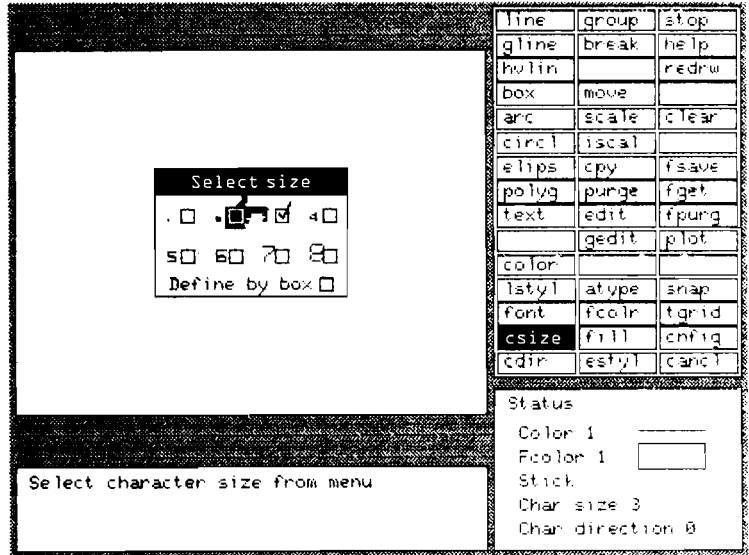
3. Select a font style for subsequent text entry.

The choice of a FONTS style also affects the speed with which GE 200 draws text. The STICK font draws rapidly and is useful when you want to add text quickly. The SMOOTH font is more pleasing to the eye but takes longer to draw. The BOLD font requires the longest time to draw on the Work Area or plotter.

Character Size [csize]

Allows you to set the character size of text created with GE/200. You may select character size from one of eight preset sizes or create your own size attribute.

1. Select the CSIZE command. A Character Size menu pops up on the work area.



Predefined

- 2.** Select a font size for future text entry.

Create you own

- 2.** Select the "Define by Box" option. GE/200 prompts you to:

DEFINE BASE OF
CHAR BOX

You will use the cursor to define a rectangle that will set character width and height.

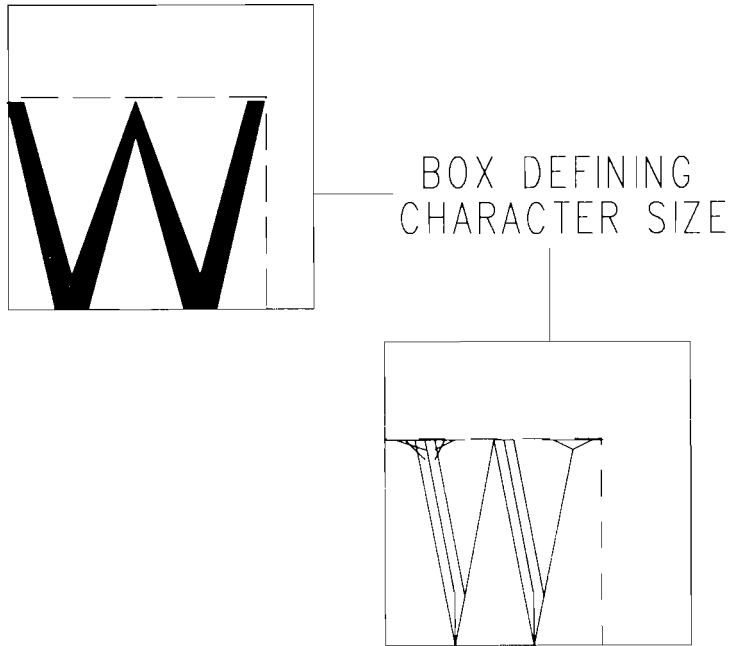
- 3.** Select a point on the work area. GE/200 prompts:

DEFINE TOP OF
CHAR BOX

Move the cursor diagonally across the work area until the rubberband lines define the character size you want.

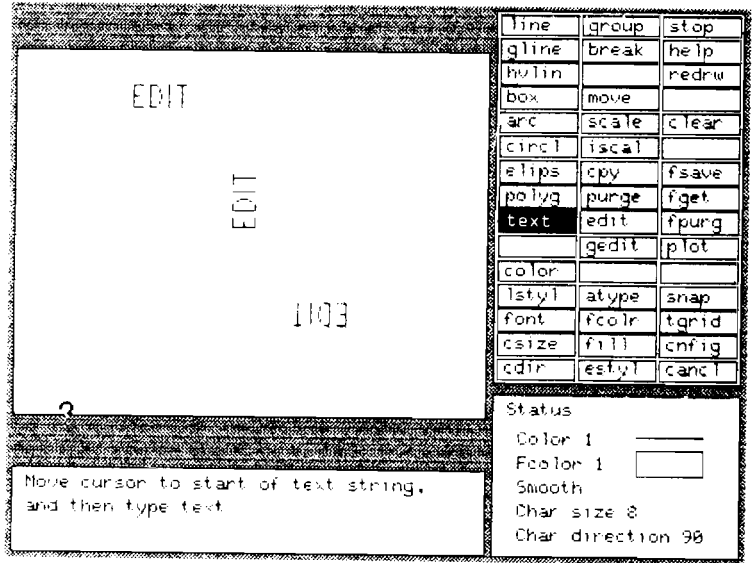
- 4.** Select the point to set character size for future text.

Because font styles feature different, preset character dimensions, text characters may not fit your personally defined size box. In this case, GE/200 attempts to "best-fit" the current font to your defined size. This is also true for predefined font sizes - the area that GE/200 outlines for text entry also includes spacing above and to the side of each character.

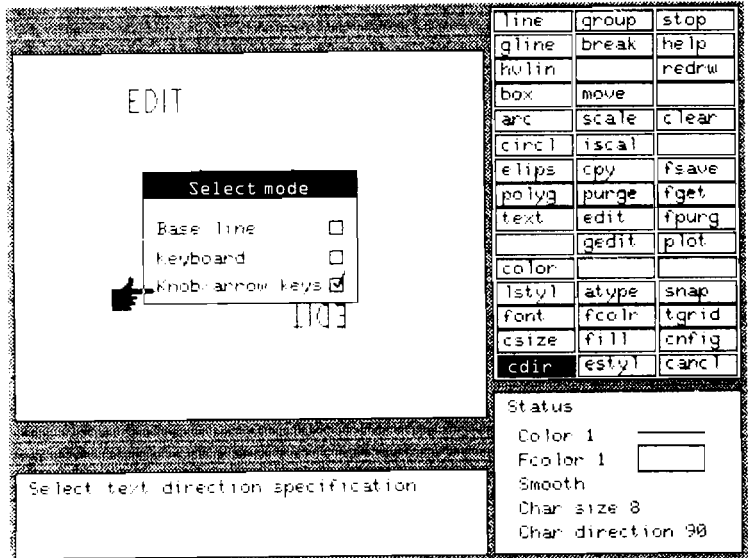


Character Direction [cdir]

Allows you to set a base angle for text. GE/200 offers three ways of entering an angle of direction.



1. Select the CDIR command. The Orientation menu pops up on the work area and GE/200 prompts you to select a mode for rotating the base angle.



Keyboard Method

2. Select the Keyboard option. GE/200 prompts:

ENTER TEXT ANGLE

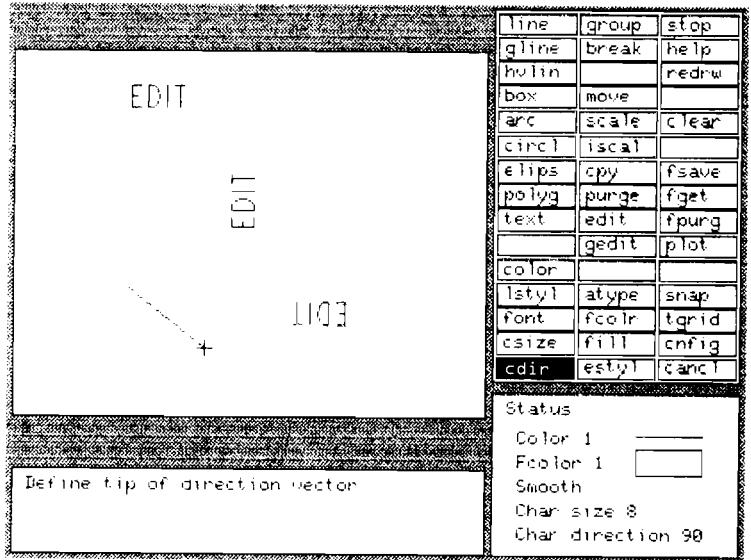
3. Enter the desired base angle in degrees (0-360) and press to set the direction angle for future text entry.

Baseline Method

2. Select **Baseline** from the Direction menu. GE/200 prompts:

DEFINE BASE OF DIRECTION VECTOR

To set character direction with Baseline you select two points on the work area and the angle defined by the vector of the two points becomes the angle of direction.



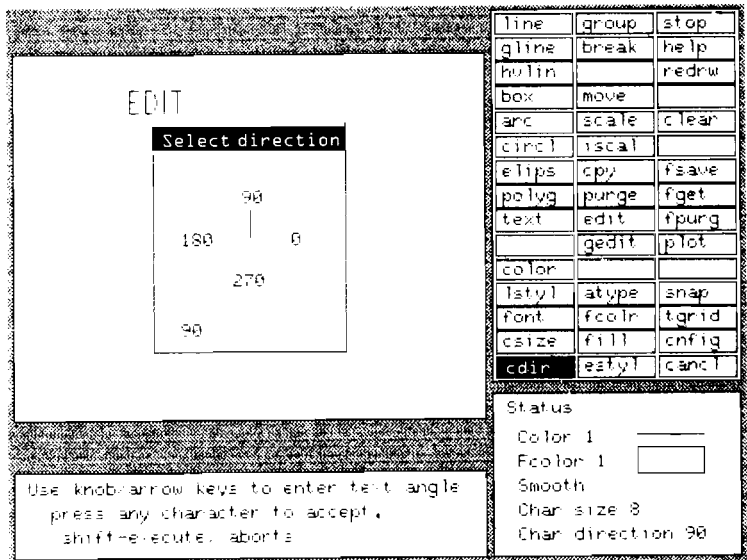
3. Select a point on the work area to be the vector origin.
GE/200 prompts:

DEFINE TOP OF DIRECTION VECTOR

4. Select a point on the work area. A line drawn between this point and the first point selected creates a base vector. The rotation angle formed by the vector is displayed in the status window.

Knob and Arrow Key Method

1. Select the **Knob/Arrow Key** option. A new menu pops up, showing a clock hand and angle markings.



When you turn the cursor knob, the clock hand sweeps in a circle. The angle formed by the clock hand appears in the lower left corner of the the pop up window.

2. Turn the cursor knob to the desired direction angle and select the angle by pressing the **Execute** key. If you want to abort the angle selection, hold the **Shift** key down and press **Execute**.

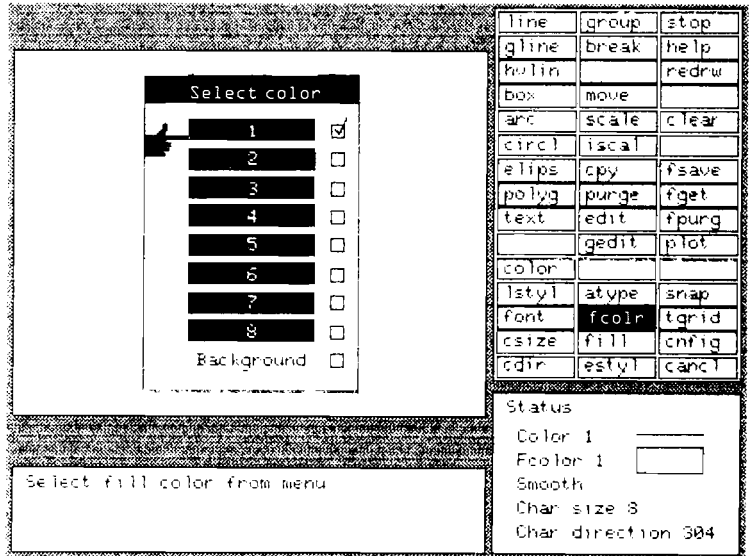
To move the sweep hand faster, hold down the shift key while turning the knob. The sweep hand moves around the circle in five-degree increments.

If you don't have a knob on your keyboard, you can still select the Knob method and move the sweep hand by pressing the arrow keys.

Fill Color [fcolr]

Allows you set a fill color attribute for closed objects: circles, polygons, ellipses, and rectangles.

1. Select the FCOLR command. A color palette pops up on the work area.



2. Select the color you want for future polygons.

Each menu selection on the Color menu contains a number that corresponds to pen number in a plotter. If you are plotting the drawing, GE/200 uses the pen number selected regardless of the actual pen color.

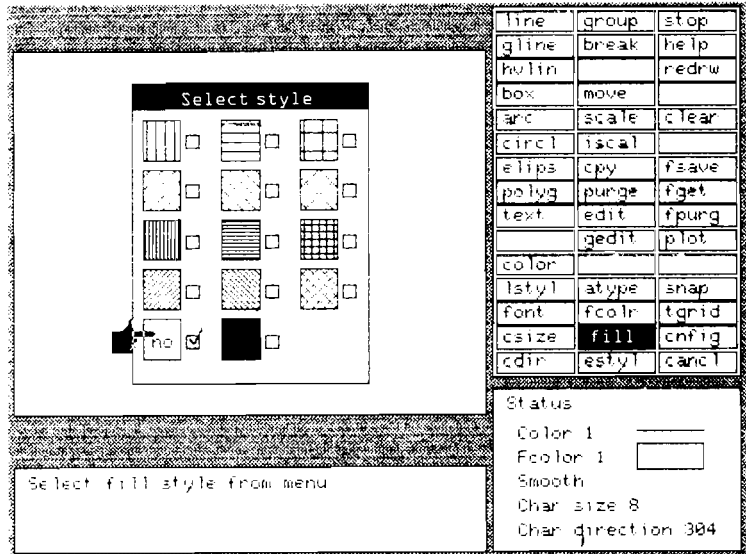
Advanced Features If you select the "Background" item from the Color Menu, GE/200 draws the fill in the same color as the background. This allows you to "back out" parts of picture elements after they have been drawn. You can use this feature to hide picture elements behind other elements rather than having background elements visible through foreground elements.

The background feature only works on color screen displays. You can't perform a background operation on a plotter.

Fill Styles [fill]

Allows you to set a fill style attribute for closed objects: circles, polygons, ellipses, and rectangles.

1. Select the FILL command. A pop-up menu of fill styles appears on the work area.

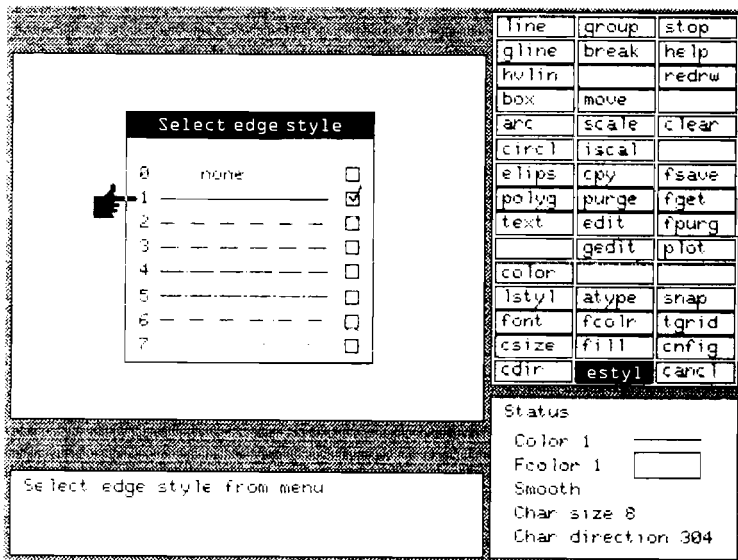


2. Select the fill style you want to include with future closed objects.

Edge Style [estyl]

Allows you to specify an edge line style before you draw closed objects.

1. Select the ESTYL command. A pop-up menu of edge styles appears in the work area.



2. Select an edge style to appear in future closed objects.

Editing Objects

GE/200 provides a series of editing commands that allow you to alter and manipulate objects appearing in the Work Area.

Using Edit commands, you can:

- Group objects into one "super object"
- Group "super object" groups into higher level groups
- Break "super objects" into individual objects

- Move objects around the Work Area
- Copy objects to another part of the Work Area
- Change the size of objects, both proportionally and non-proportionally
- Delete objects
- Change attributes of objects and groups of objects

When you select an Edit command, you are prompted to select an object from the Work Area. The bulls-eye cursor appears to help you target individual objects. When selecting an object, place the cursor over a point on the object.

If you are selecting a closed object without a fill, you must place the cursor directly over the edge line of the object. If you are selecting a closed object that features a fill style, you can select the object by placing the cursor anywhere within the object's boundaries.

Editing Commands:

- GROUP
- BREAK
- MOVE
- CPY
- SCALE
- ISCAL
- PURGE
- EDIT
- GEDIT

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	canc

Status

Color 1

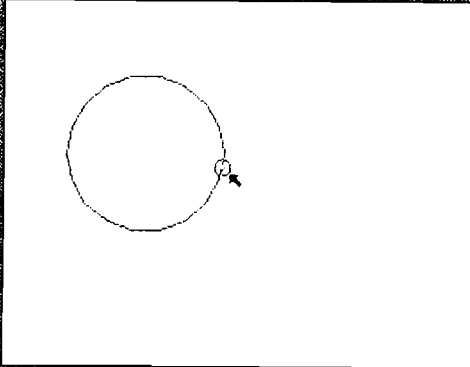
Fcolor 1

Stick

Char size 5

Char direction 0

Select item to edit



line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	canc

Status

Color 1

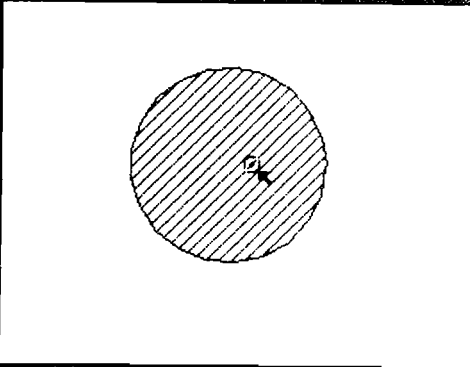
Fcolor 1

Stick

Char size 3

Char direction 0

Select item to edit



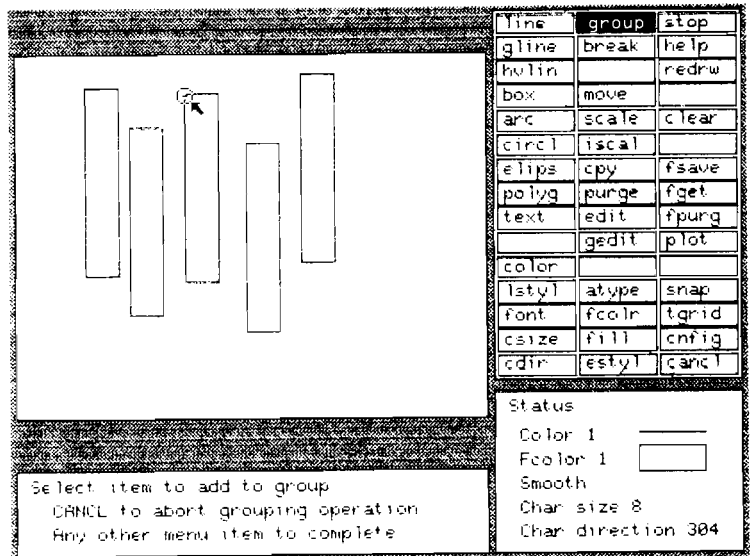
Grouping Objects [group]

Allows you to group different objects into a single "super object" that you can edit or manipulate in one operation.

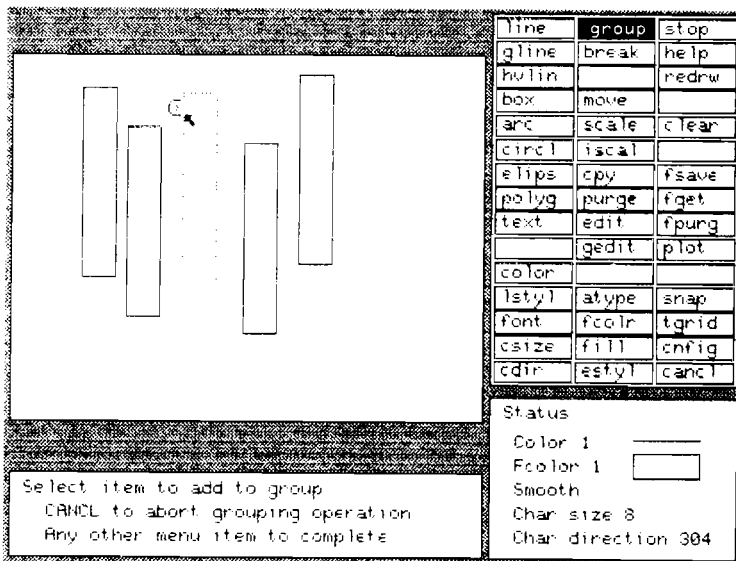
1. Select the GROUP command. GE/200 prompts:

```
SELECT ITEM TO ADD TO GROUP
CANCL TO ABORT GROUPING OPERATION
ANY OTHER MENU ITEM TO COMPLETE
```

2. Move the cursor directly over the object to be grouped.



3. Select a point on the objects. A dashed line appears on the perimeter of the object, indicating its inclusion into the group.



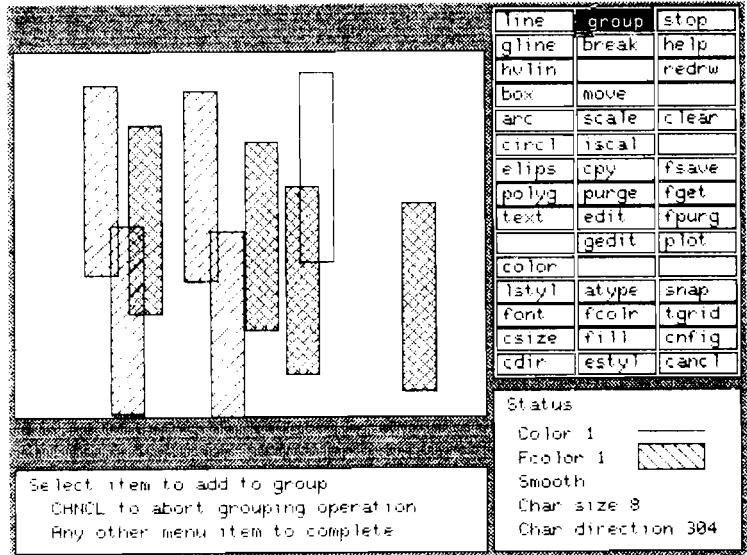
GE/200 prompts you to select another object.

4. Select another object. Another dashed line appears around the second object. Now both the first and second objects selected are part of a group.

You can continue adding objects to the group by selecting additional objects. Select GROUP again to start a new grouping operation.

End the group procedure by selecting another command. Quit the grouping process and discard the current grouping by selecting the CANCL command.

Advanced Features In addition to grouping individual objects, you can use GROUP to create higher level groups consisting of previously defined groups and new groups or objects. For example, you can define a group, select the GROUP command again, and add the previously defined group to a new group by selecting a point on any of its members.



When you use the BREAK command to break up a multi-level grouping, the selection of a point in the group breaks up the most recently created grouping.

To perform editing operations on objects created with GROUP, you use the GEDIT command. See **Changing Group Attributes**.

Breaking Groups [break]

Allows you to break a group into its component objects. BREAK undoes the operation you performed with GROUP, where objects were linked to form a "super object."


1. Select the BREAK function. GE/200 prompts:

SELECT GROUP TO BREAK APART



The screenshot shows a graphical user interface with a central window containing three vertical bars: one with a cross-hatch pattern, one with a diagonal line pattern, and one plain white. A dashed line encloses the two patterned bars. A mouse cursor is positioned over the top of the first bar. To the right is a command menu with a grid of options. Below the menu is a status area with labels and values.

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscale	
elips	cpy	fsave
polyg	punge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	styp	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	cancel

Status
Color 1
Color 1 
Smooth
Char size 8
Char direction 304

Select group to "break" apart
CANCEL to abort,
Any other menu item to complete

2. Select any object in the group. A dashed line marks the grouped objects to help make sure that you've selected the group you wanted.
3. Select another GE/200 command to complete the BREAK operation. If you want to abort the operation, select the CANCEL command.

If you used GROUP to create higher level groupings of previously created groups and objects, the BREAK command breaks one level of grouped objects at a time, starting with the most recently created group in the hierarchy of groups.

In addition to breaking up objects created with the GROUP command, BREAK also breaks segmented lines created with GLINE into individual line objects.

Moving Objects [move]

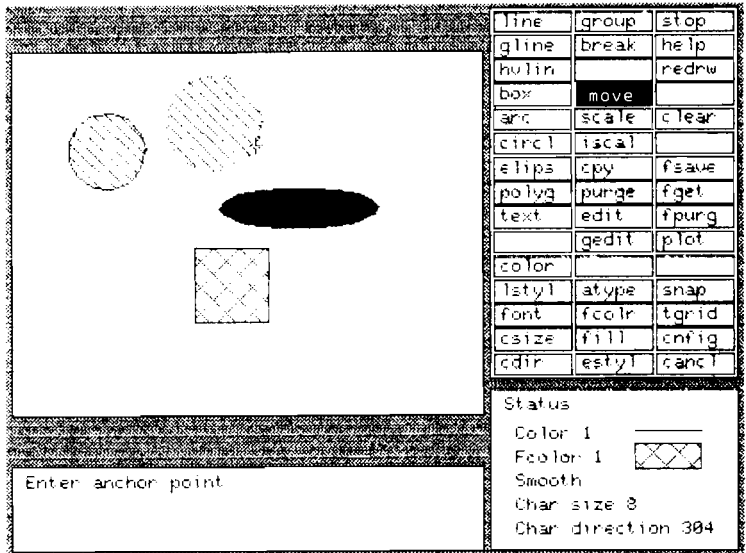
Allows you to move objects around the Work Area.

1. Select the MOVE command. GE/200 prompts:

SELECT AN ITEM TO MOVE

2. Select the object you want to move. A dashed line appears around the object to let you know that it is the current object. GE/200 prompts:

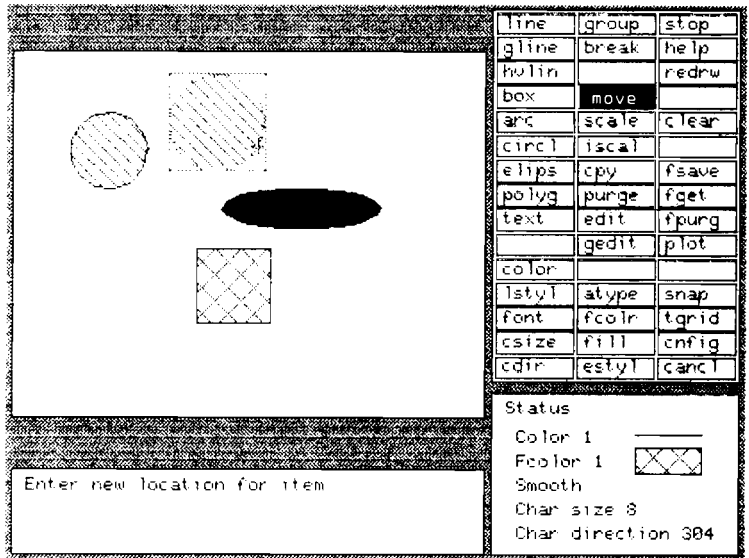
ENTER ANCHOR POINT .



The anchor point is the point on the object you "grab" to move to a new location.

3. Select the anchor point. A box defining the height and width of the object appears around the object. GE/200 prompts:

ENTER NEW LOCATION.



4. Move the cursor. The box follows the cursor to help you visualize the object in a new locale.
5. Select the new location. GE/200 redraws the object in the the new location.

Advanced Features On color screens, you can use MOVE to “bring forward” picture objects obscured by more recently created objects. For example, to bring an obscured triangle from behind a circle,

1. Select MOVE.
2. Select a point on the triangle object.

- In response to prompts for an anchor point and a new location, select the same point on the object.

GE/200 redraws the triangle in the same location, but in front of the circle.

Copying Objects [cpy]

Allows you to copy an object on the Work Area.

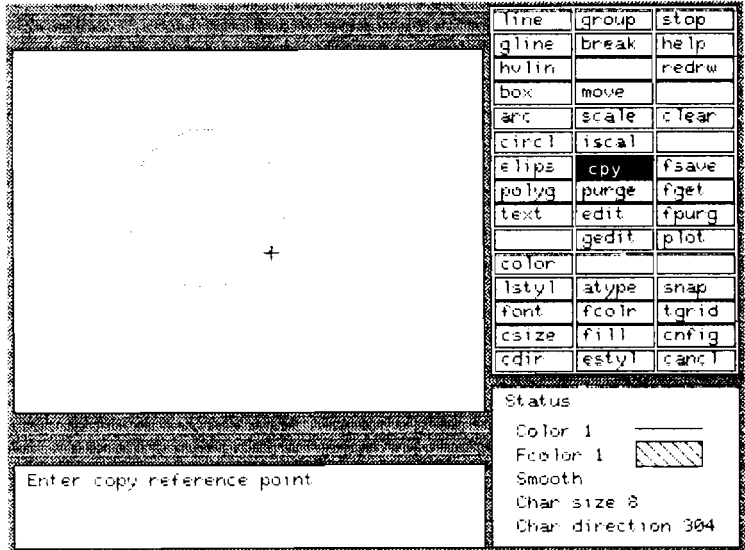
- Select the CPY command. GE/200 prompts:

SELECT AN ITEM TO COPY .

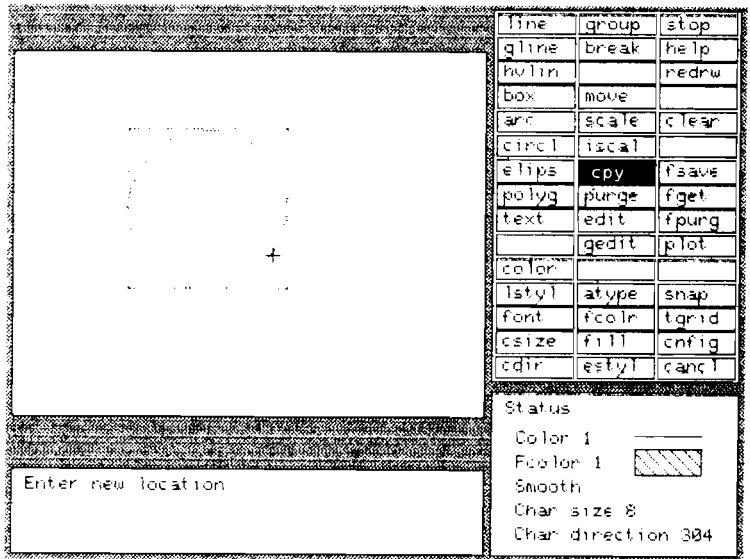
- Select the object you want to copy. A dashed line appears around the object to identify it as the current object. GE/200 prompts:

ENTER COPY REFERENCE POINT .

The anchor point provides a reference point on the object.



3. Select an anchor point. A box appears around the object, defining the object dimensions.



GE/200 prompts:

ENTER NEW LOCATION.

4. Move the cursor. The box follows the cursor to help you visualize the object in a new location.
5. Select the new location. GE/200 copies the object to the new location.

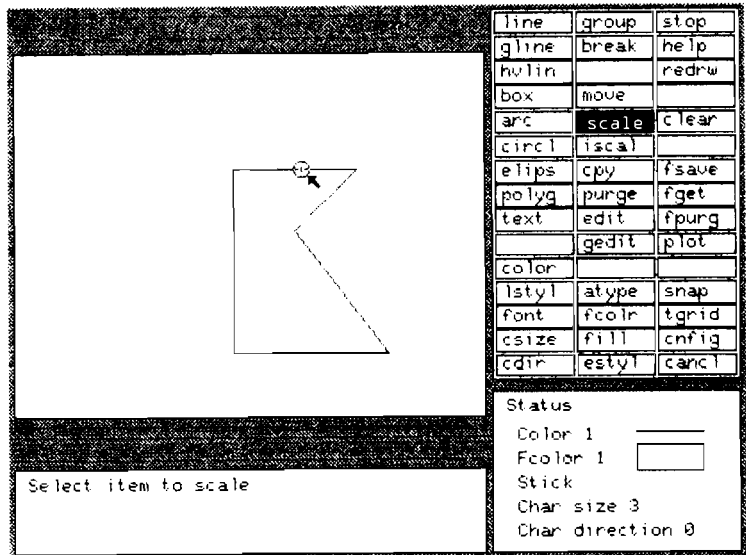
Scaling Objects (Non-relational) [scale]

Allows you to change the size, relative dimensions, and location of an object.

1. Select the SCALE command. GE/200 prompts:

SELECT AN ITEM TO SCALE .

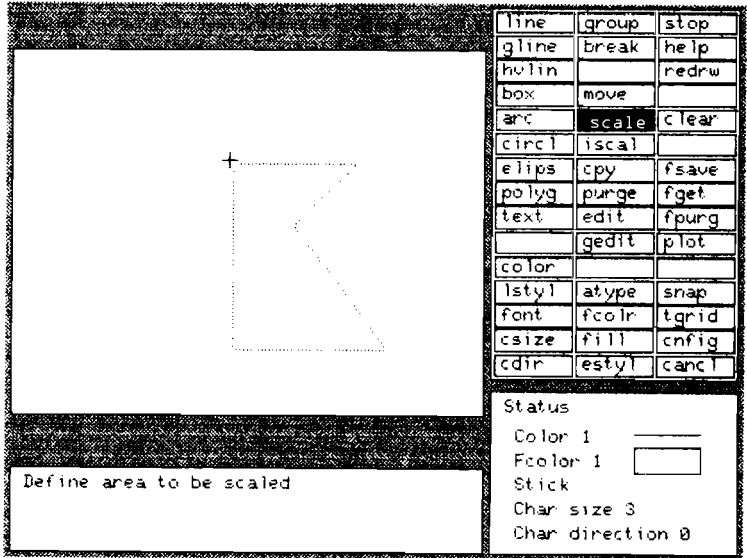
2. Select an object on the work area.



GE/200 prompts:

ENTER ANCHOR POINT .

- Choose a point on the Work Area to serve as a reference point. Select a point above and slightly to the left of the object.

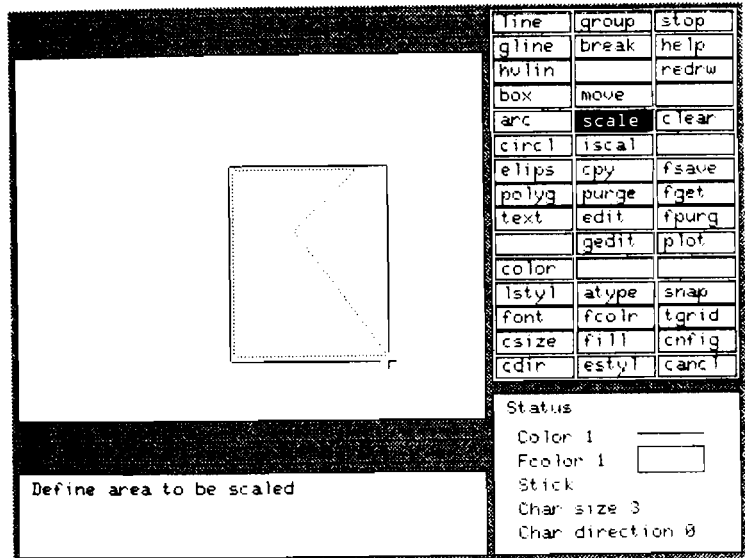


GE/200 prompts:

DEFINE AREA TO BE SCALED.

4. Move the cursor diagonally across the object to be scaled. A rubberband box appears.

Move the cursor until the box encloses the object.



5. Select the point.

GE/200 prompts:

ENTER NEW ANCHOR POINT.

6. Select the point where you want to move the previous anchor point,

GE/200 prompts:

DEFINE AREA TO SCALE TO

7. Move the cursor to draw a box defining the new area of the object.

line	group	stop
qline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	punge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcotr	tgrid
rsiz	fill	cnfig
cdir	estyl	cancl

Status

Color 1

Fcolor 1

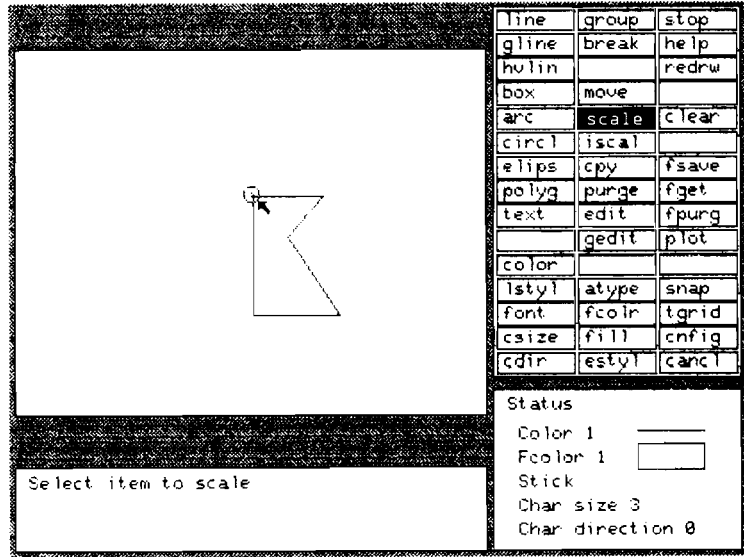
Stick

Char size 3

Char direction 0

Define area to scale to

8. Select the point. GE/200 redraws the object to fit the new dimensions of the box you defined.



Advanced Features In addition to moving and scaling an object, you can also use SCALE to “flop” an object, either vertically or horizontally.

To “flop” an object and create a scaled mirror image, enter a new anchor point and define an area in the opposite direction of the area you defined to enclose the original object.

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcoll	tgrid
csize	fill	cnfig
cdir	estyl	cancl

Status

Color 1

Fcolor 1

Stick

Char size 3

Char direction 0

Enter anchor point for area to be scaled

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcoll	tgrid
csize	fill	cnfig
cdir	estyl	cancl

Status

Color 1

Fcolor 1

Stick

Char size 3

Char direction 0

Define area to be scaled

line	group	stop
qline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	cancel

Enter new anchor point

Status
Color 1
Fcolor 1
Stick
Char size 3
Char direction 0

line	group	stop
qline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	t
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	cancel

Define area to scale to

Status
Color 1
Fcolor 1
Stick
Char size 3
Char direction 0

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	isca	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
cszize	fill	cnfig
cdir	estyl	canc1

Status

Color 1

Fcolor 1

Stick

Char size 3

Char direction 0

Select item to scale

You can "flop" an object, by selecting a new anchor point directly across from the original anchor point.

Enter new anchor point.

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	cancel

Status
 Color 1
 Fcolor 1
 Stick
 Char size 3
 Char direction 0

Select item to scale

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	cancel

Status
 Color 1
 Fcolor 1
 Stick
 Char size 3
 Char direction 0

To reverse an object from top to bottom, select a new anchor point on the lower left corner of new scaling area.



line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	canc1

Status
 Color 1
 Fcolor 1
 Stick
 Char size 3
 Char direction 0

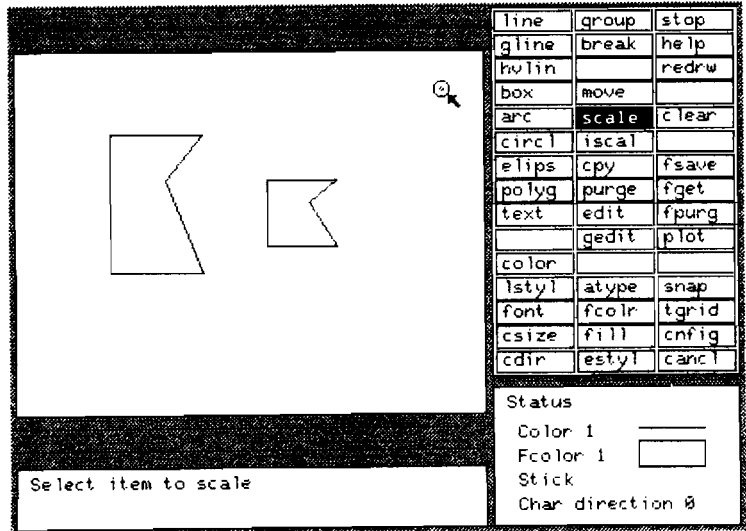
Enter new anchor point

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	canc1

Status
 Color 1
 Fcolor 1
 Stick
 Char size 3
 Char direction 0

Select item to scale

If you want to retain the original object on the Work Area while you create a scaled version, use CPY to create a copy of the object directly over the original. GE/200 will perform the scaling function on one of the two identical objects and leave a copy of the original object on the Work Area.



When you flop or reverse a filled object with SCALE, the fill pattern will remain unchanged.

Also, flopping and reversing some objects with SCALE may not produce reverse or mirror images because of predefined object sizes and relationships. These exceptions are especially apparent when you try to flop and reverse character strings. Experiment with the SCALE command to become acquainted with its capabilities and limitations.

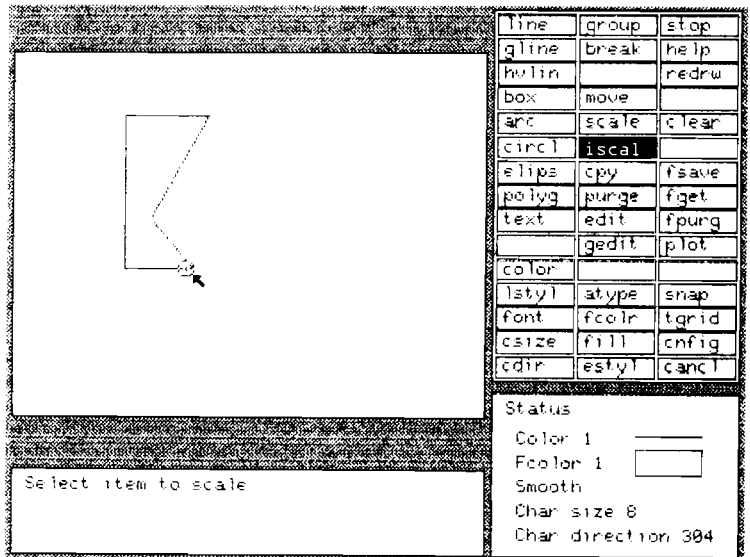
Scaling Objects (Relational) [iscal]

Allows you to change the size and location of an object while retaining the object's relative dimensions.

1. Select the ISCAL command. GE/200 prompts:

SELECT AN ITEM TO SCALE .

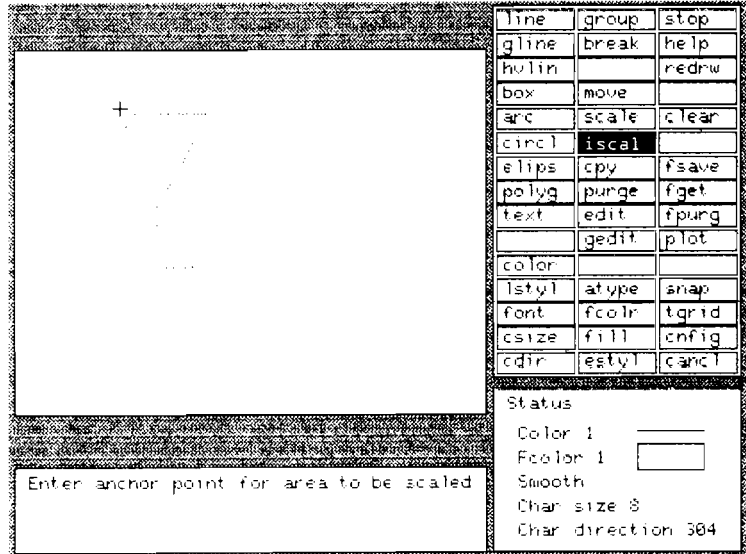
2. Select an object on the Work Area.



GE/200 prompts:

ENTER ANCHOR POINT .

- Choose a point on the Work Area to serve as a reference point. Select a point above and slightly to the left of the object.

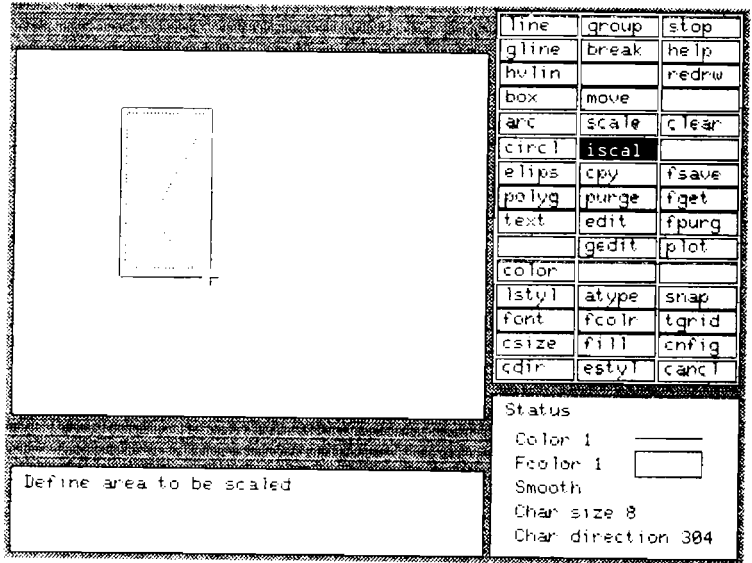


GE/200 prompts:

DEFINE AREA TO BE SCALED.

4. Move the cursor diagonally across the object to be scaled.
A rubberband box appears.

Move the cursor until the box encloses the object.

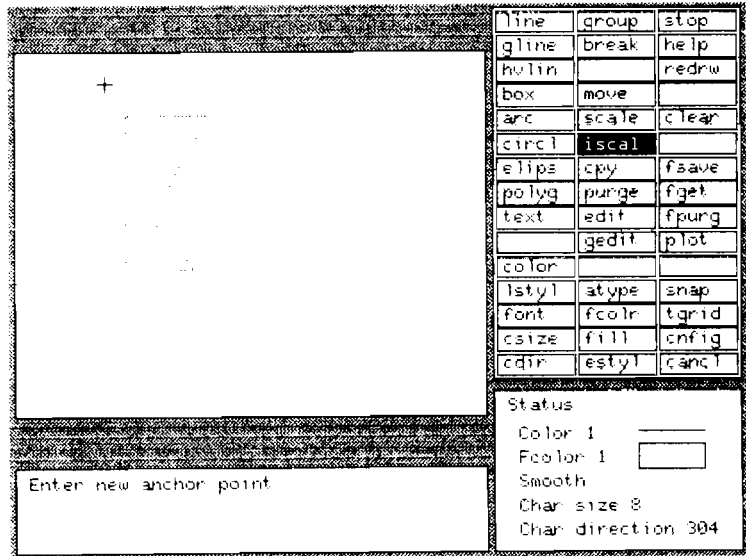


5. Select the point.

GE/200 prompts:

ENTER NEW ANCHOR POINT.

6. Select the point where you want to move the previous anchor point.



GE/200 prompts:

DEFINE AREA TO SCALE TO

7. Move the cursor to draw a box defining the new area of the object. GE/200 only draws a box that retains the same relative dimensions of the first box you defined.

The screenshot shows the GE/200 software interface. On the left is a drawing window containing a dashed rectangular box. To the right is a command menu with the following items:

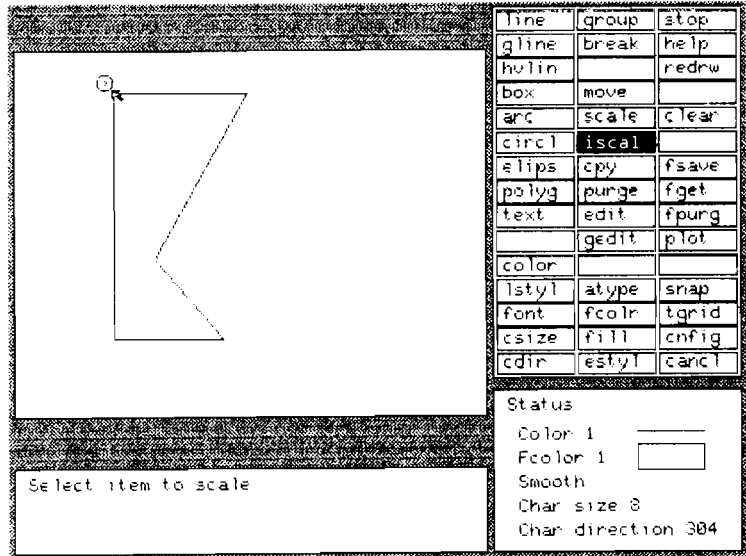
line	group	stop
gline	break	help
hwlin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	copy	fsave
polyg	purge	fget
text	edit	fpurg
	qedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	canci

Below the menu is a 'Status' section with the following information:

- Color 1
- Fcolor 1
- Smooth
- Char size 8
- Char direction 304

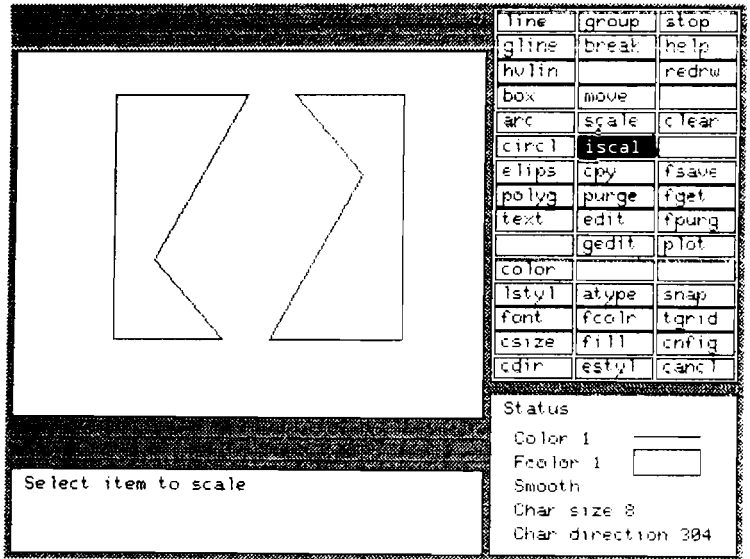
At the bottom of the interface, there is a text field containing the text: "Define area to scale to".

8. Select the point. GE/200 redraws the object to fit the new dimensions of the box you defined.



Advanced Features Like SCALE, you can use ISCAL to “flop” and reverse objects. Remember, the objects you perform these operations on with ISCAL will retain their original relative dimensions. See the discussion of **Advanced Features** under the previous heading, **Scaling Objects (Relational)**.

If you want to retain the original object on the Work Area while you create a scaled version, use CPY to create a copy of the object directly over the original. GE/200 will perform the scaling function on one of the two identical objects and leave a copy of the original object on the Work Area.



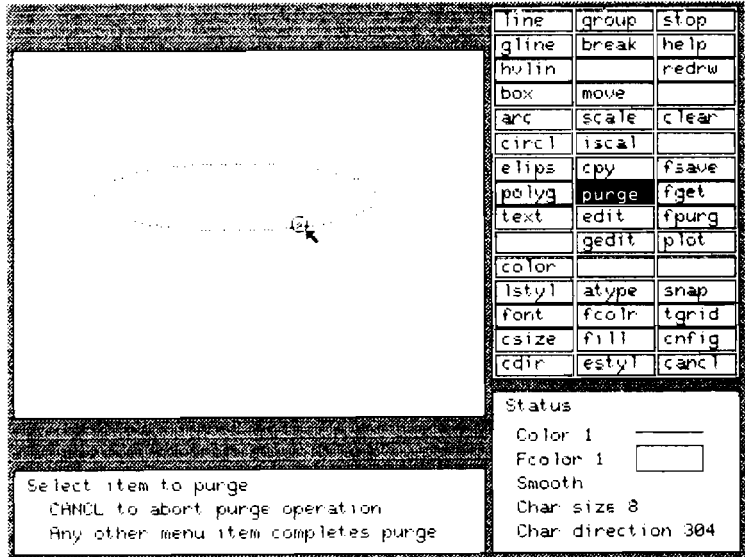
Deleting Objects [purge]

Allows you to delete objects from the Work Area. You can delete any number of objects or groups of objects with a single PURGE operation.

1. Select the PURGE command. GE/200 prompts:

SELECT ITEM TO PURGE .
 CANCL TO ABORT THE COMMAND .
 ANY OTHER MENU ITEM TO COMPLETE .

2. Select an object to delete. A dashed line on the perimeter of the object marks it as the current object.



3. Select any other objects you want to delete.
4. Select any command to delete the object(s). All the outlined objects disappear.

Select CANCL to quit the PURGE operation and retain the outlined object or objects.

Editing Attributes [edit]

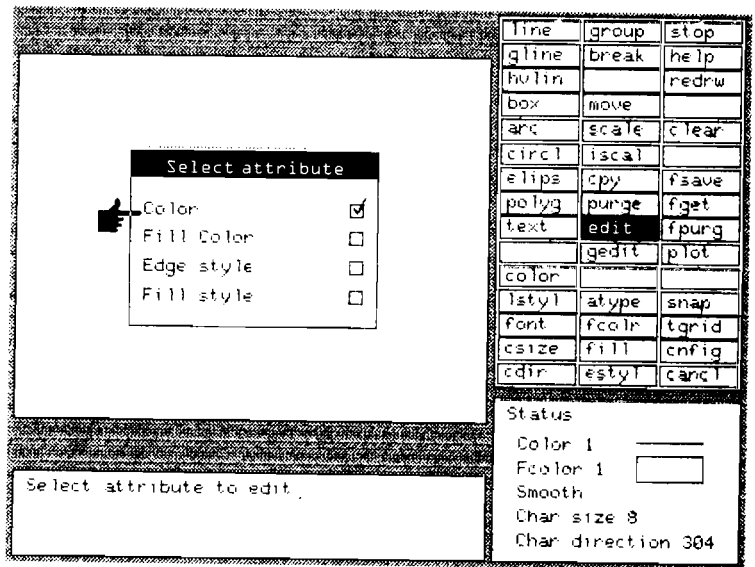
Allows you to change the attributes of objects appearing in the work area. When you select an object to edit, GE/200 provides a pop up menu listing that object's attributes. Selection of an attribute brings up another menu of attribute styles. When you select a style from this menu, GE/200 redraws the screen, changing the selected object's attribute style.

EDIT does not change the set attribute of an object - it only performs a "one time only" change on the appearance of an object in the Work Area.

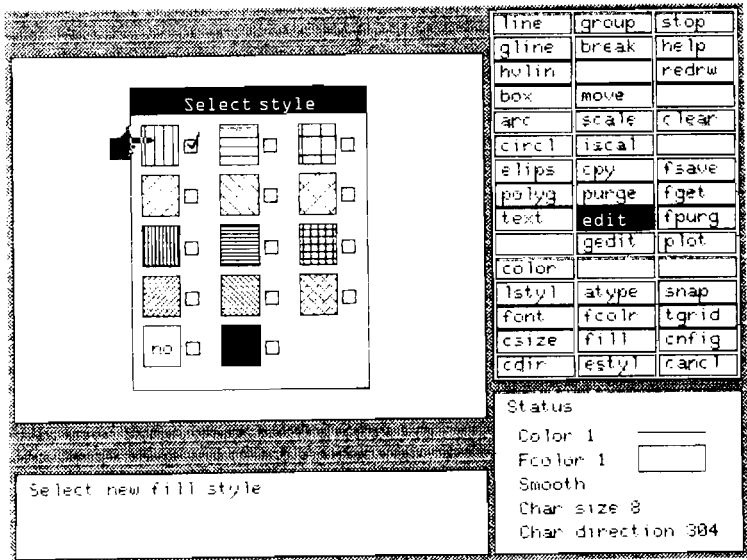
1. Select the EDIT command. GE/200 prompts:

SELECT ITEM TO EDIT .

2. Select the item you want to edit. A pop up menu appears, listing all attributes of the object.

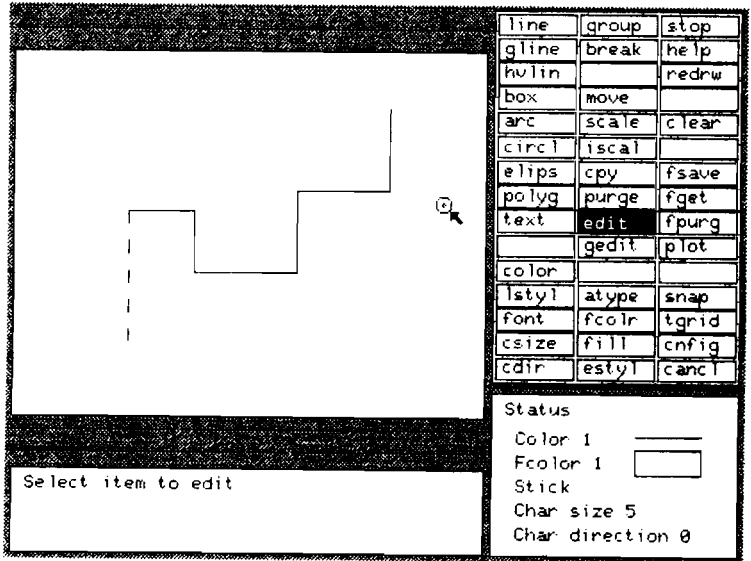


3. Select an attribute. The appropriate pop up menu appears.



4. Select the attribute style. GE/200 redraws the object, substituting the new attribute style.

You can use EDIT to change attributes of individual objects within a group of objects. For example, if you use EDIT to select a line segment in a grouped line created with GLINE, a change in line style only affects the selected line.



To make a global change in the attributes of grouped objects, see the procedure under the next heading, **Changing Group Attributes [gedit]**.

For more information on attribute styles and menus, look for specific attributes under **Setting Object Attributes**.

Changing Group Attributes [gedit]

Allows you to change attributes of grouped objects appearing in the Work Area.

1. Select the GE/200 command. GE/200 prompts:

SELECT ITEM TO EDIT.

First, you have to have a group to edit.

2. Select any item within the group. A pop up menu appears, listing the style attributes of the group.
3. Select the attribute you want to change. The appropriate menu pops up.
4. Select the new attribute style. GE/200 redraws the object group, changing the attribute style on all objects featuring the attribute.

If you used GROUP to create higher level groups of previously grouped objects, GEDIT will also perform global changes on all individual objects in the grouping.

If you use GEDIT to edit a group of text objects, you can only change the content of text in the string selected with the bulls-eye cursor. To change the text content in all the grouped strings, you must perform subsequent edit operations.

Work Area Commands

Work Area commands perform operations on the work area. These commands do not manipulate individual GE/200 objects.

Work Area Commands:


REDRW
CLEAR
SNAP
TGRID

Redrawing the Work Area [redrw]

Tells GE/200 to clear the Work Area and redraw the picture objects. This command is useful when all or part of an object is deleted when an overlapping object is purged or moved. If AUTO REDRAW is off, an object purge like the one below will result in a "bite" taken out of a background object.

A screenshot of the GE/200 Work Area. The main window contains a pie chart with a slice removed. To the right is a command menu with a grid of options. Below the menu is a status bar with various settings.

line	group	stop
qline	break	help
hulin		redrw
box	move	
arc	scale	rlear
circ1	lscal	
slips	copy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	canc1

Status
Color 1 _____
Fcolor 1 
Smooth
Char size 8
Char direction 304

Select item to purge
CANCEL to abort purge operation
Any other menu item completes purge

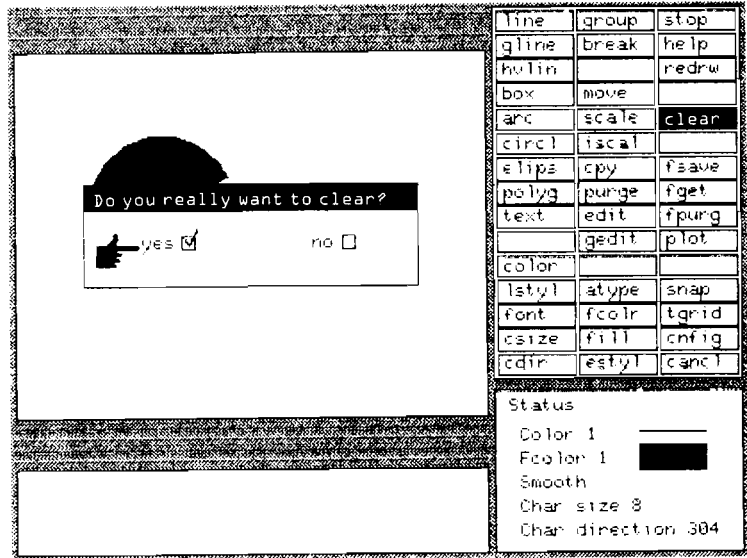
Normally, GE/200 automatically redraws the Work Area after you make a change. The AUTO Redraw function can be turned off and on through the CNFIG command. See **Control Commands** for more information on the CNFIG command.

1. Select the REDRW command. GE/200 clears the screen and redraws all picture objects in the order in which they were added to the Work Area.

Clearing the Work Area [clear]

Allows you to clear the Work Area of all picture objects. If you want to keep a picture, you must save it in a picture file before you clear the screen. See **Managing Files** for information on saving files.

1. Select the CLEAR command. GE/200 asks if you really want to clear the Work Area.



2. Select YES. GE/200 clears the Work Area.

GE/200 only prompts you for confirmation of the CLEAR command if objects appear in the Work Area.

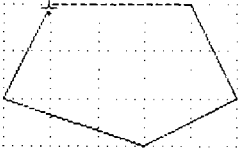
Advanced Features If you are using a mouse or graphics tablet, you can clear the Work Area by selecting CLEAR twice instead of selecting YES from the pop up menu.

Snap (On/Off) **[Snap]**

Allows you to turn on and off the SNAP feature that makes the cursor "jump" to an endpoint on an object. SNAP is useful for selecting an endpoint on an object without having to locate the cursor directly over the desired point.

With SNAP on, you only have to move the cursor to a distance half the width of the cursor from the desired point.

IN THIS FIGURE, THE "SNAP" FUNCTION IS READY TO TAKE PLACE. THE CURSOR IS HALF A CURSOR WIDTH FROM THE FIRST LINE.



line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcclr	tgrid
csize	fill	cnfig
cdir	estyl	canc1

Status

Color 1

Fcolor 1

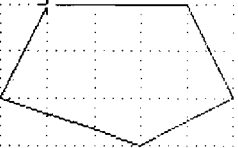
Stick

Char size 4

Char direction 0

Enter next end point
 CANCL to abort, any other menu item or "double press" to accept

IN THIS FIGURE, THE "SNAP" FUNCTION HAS BEEN COMPLETED. THE CURSOR MOVED TO THE STARTING POINT OF THE FIRST LINE.



line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circl	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcclr	tgrid
csize	fill	cnfig
cdir	estyl	canc1

Status

Color 1

Fcolor 1

Stick

Char size 4

Char direction 0

Enter first polygon end point

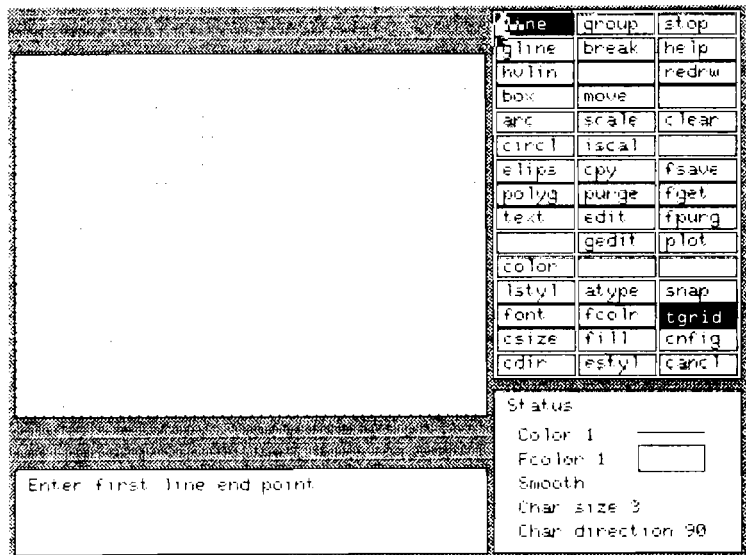
1. Select the SNAP command. GE/200 highlights the command cell so you know that SNAP mode is on.

To turn SNAP off, select the cell again.

SNAP only “snaps” the cursor to endpoints on objects drawn with straight lines - lines, polygons, and rectangles. You can’t “snap” to points on arcs, ellipses, or circles.

Grid [tgrid]

Allows you to display a grid on the Work Area. Selecting TGRID also tells GE/200 to “snap” selected points to an invisible grid on the Work Area.



1. Select the TGRID command. A grid of intersecting lines appears in the work area. GE/200 highlights the command to indicate that the grid mode is on.

To remove the grid, select the TGRID command again.

A grid is useful for aligning picture objects in the Work Area. You may specify one of three grid sizes with the CNFIG command. See **Control Commands** for more information.

Managing Files

GE/200 drawings are saved in picture files supported by the Pascal Workstation's file system.

Saving a picture file is like putting a picture in a file folder and naming the folder to distinguish it from other folders.

With GE/200, picture folders are stored in *volumes* that can be compared to filing cabinet drawers where related files are stored.

A single flexible disc holds one volume. When picture files are stored on a disc they are saved in that disc volume. Fixed discs have a larger storage capacity and can contain a series of volumes.

For a more detailed explanation of volumes and the Filer system in general see **Understanding the File System** in the *Application System User's Guide* that accompanies this product.

File Commands:

FSAV
FGET
FPURG

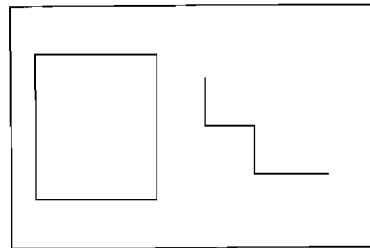
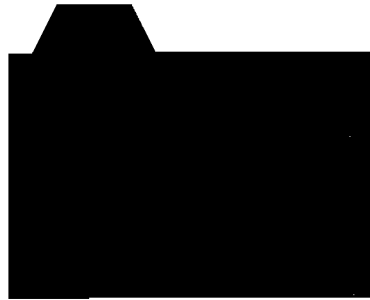
Backing Up Data Diskettes

It is important that you back up your picture file volumes on separate discs. To copy work diskettes containing picture files, follow the procedure in **Making Backup Copies** in **Chapter 2** of this User's Guide. When following the procedure, simply substitute work discs for program discs to copy the picture file volumes.

GE/200 File Menus

A file menu appears wherever you select a GE/200 filing command: FSAV, FGET, or FPURG.

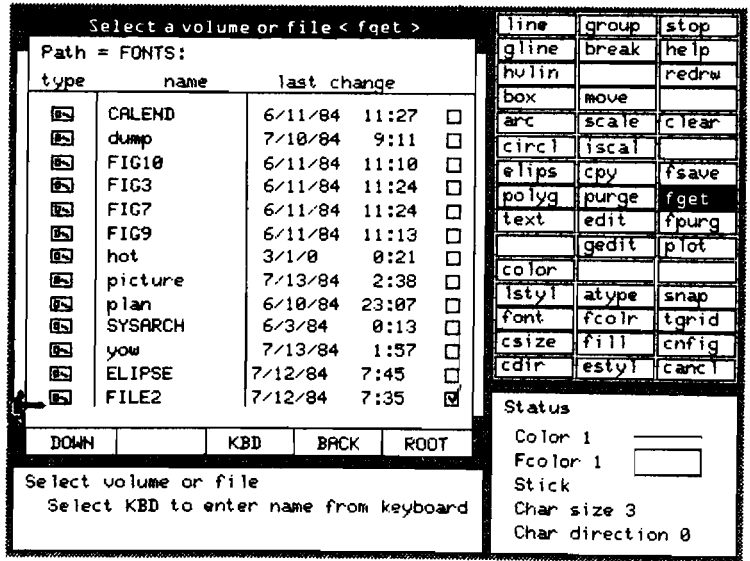
The file menu lists two kinds of files: volumes and picture files. GE/200 identifies a file as a volume or picture file by placing an icon beside the file name. To select a volume or picture file, move the pointer to the filename and select.



To perform file operations, you select a volume and GE/200 provides a list of picture files stored in the volume.

When you select a volume, GE/200 provides a listing of picture files currently saved on that volume.

The banner message, PATH = VOLNAME reminds you which volume contains the picture files listed on the menu.



In addition to the filename, GE/200 provides the date and time when the picture file was last saved in the volume.

When you select a file command, the pointer appears on the name of the last picture file you manipulated. For example, if you saved a file named STATS and then selected FGET to retrieve a file, a menu of picture files would appear and the pointer would be located on the picture filename, STATS.

Three command cells appear at the bottom of the Picture File Menu: [KBD], [BACK], and [ROOT]

To perform this operation:**Select:**

Type filenames in response to GE/200 filing prompts.

KBD

Return to the previous level of your file directory.

BACK

Return to the root directory of volumes. On most systems, performs the same function as BACK.

ROOT

You can erase the File Menu at any time by selecting the CANCL command.

If your listing of volumes or picture files “overflows” the file menu, two other command cells, [UP] and [DOWN]. Select one of these cells to scroll up and down the file menu.

The File Menu and Shared Resource Manager If you are using a Shared Resource Manager, you can use the KBD command to enter passwords and directory pathways. See your *Shared Resource Manager User's Guide* for more information on passwords and command formats.

Filing Commands GE/200 filing commands allow you to save and manipulate picture files. With GE/200 filing commands, you can:

Name and save a picture file

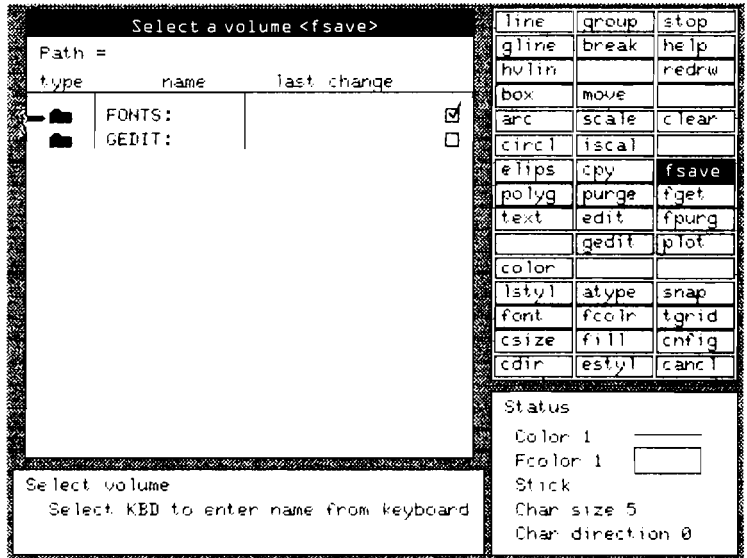
Retrieve and display a saved file

Delete a saved picture file

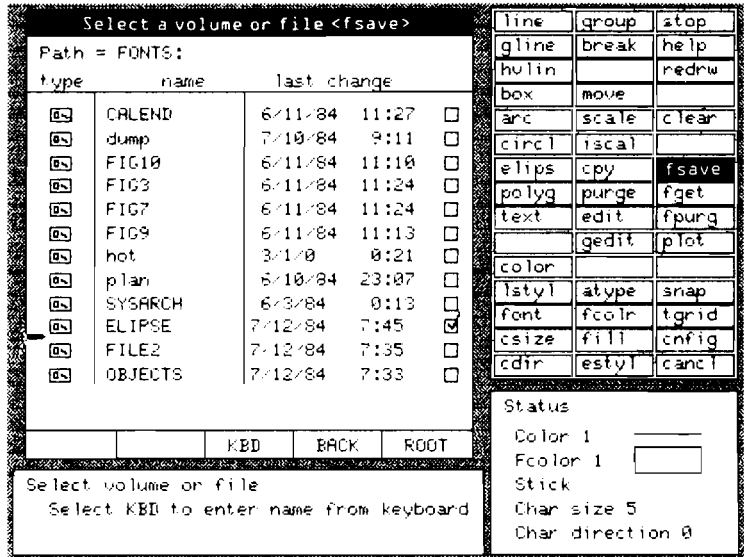
Saving A File [fsav]

Allows you to save the picture file currently displayed.

1. Select the FSAV command. GE/200 provides a pop up menu of picture file volumes available for storage.



2. Select the volume in which you want to save the picture file. Another menu appears, giving you a list of files currently saved on the volume you selected.



GE/200 prompts:

ENTER FILENAME OR SELECT FILE TO REPLACE.

You have a choice of replacing a file with the current file or saving the picture in a new file.

To replace a file:

3. Select a filename on the filename menu. GE/200 prompts:

To create a new file:

3. Select the KBD cell to enter a filename from the keyboard.

Select a volume or file <fsave>

Path = FONTS:

type	name	last change	
<input type="checkbox"/>	CALEND	6/11/84 11:27	<input type="checkbox"/>
<input type="checkbox"/>	dump	7/10/84 9:11	<input type="checkbox"/>
<input type="checkbox"/>	FIG10	6/11/84 11:10	<input type="checkbox"/>
<input type="checkbox"/>	FIG3	6/11/84 11:24	<input type="checkbox"/>
<input type="checkbox"/>	FIG7	6/11/84 11:24	<input type="checkbox"/>
<input type="checkbox"/>	FIG9	6/11/84 11:13	<input type="checkbox"/>
<input type="checkbox"/>	hot	3/1/8 0:21	<input type="checkbox"/>
<input type="checkbox"/>	plan	6/10/84 23:07	<input type="checkbox"/>
<input type="checkbox"/>	SYSARCH	6/3/84 0:13	<input checked="" type="checkbox"/>

KBD BACK ROOT

Select volume or file
Select KBD to enter name from keyboard

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	plunge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcollr	tgrid
cszize	fill	cnfig
cdir	estyl	canc

Status

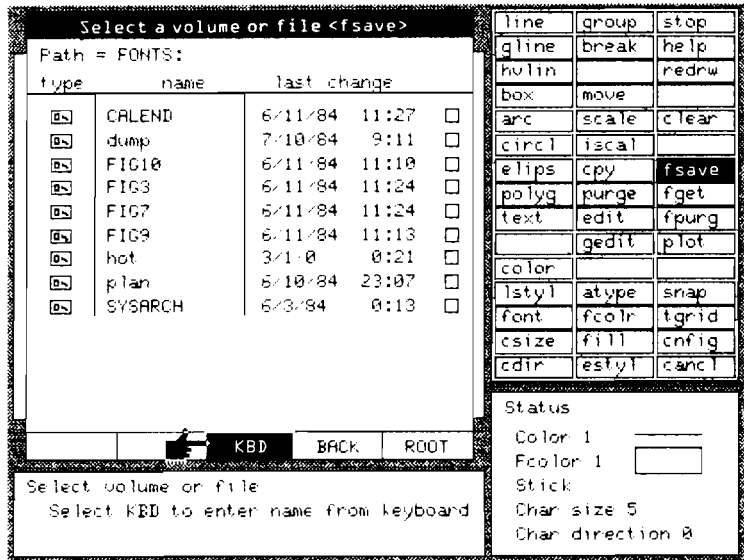
Color 1

Fcolor 1

Stick

Char size 5

Char direction 0



4. Select **YES**. GE/200 tells you that it is saving the current drawing under the filename you selected. The previous picture saved under the filename is discarded.

The file menu disappears and the current drawing returns to the Work Area.

4. Type a filename and press **Enter** .

>WHIMSY

GE/200 prompts:

SAVING AS FILE
VOLUMENAME:
WHIMSY

When the operation is complete, the menu disappears and the current drawing returns to the Work Area.

If you select the [KBD] cell and enter a filename that duplicates another filename in the volume, GE/200 will ask you if you want to clear the file already existing under that name.

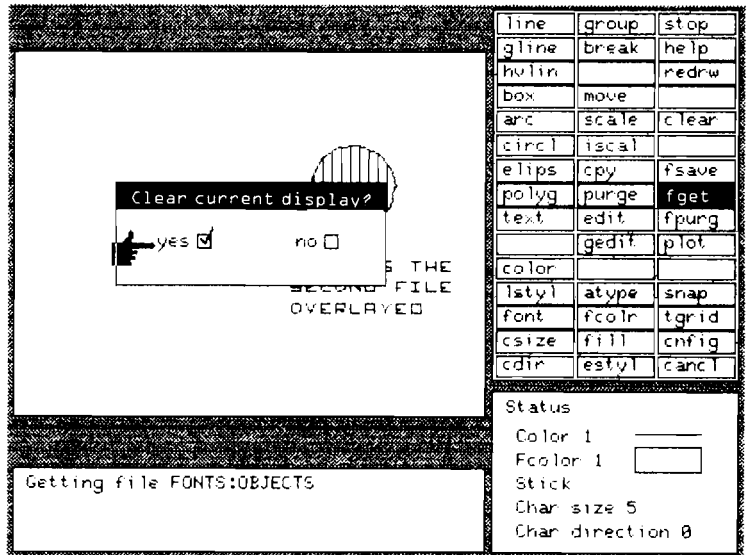
Retrieving A File [fget]

Allows you to retrieve a previously saved file.

1. Select the FGET command. The file menu appears and GE/200 prompts:

SELECT A FILE OR VOLUME .

2. Select the volume containing the picture file you want to retrieve. A list of filenames currently saved in the volume appears in the file menu.
3. Select the picture file you want to retrieve. A pop up menu appears and GE/200 asks if you want to clear the current picture from the Work Area.

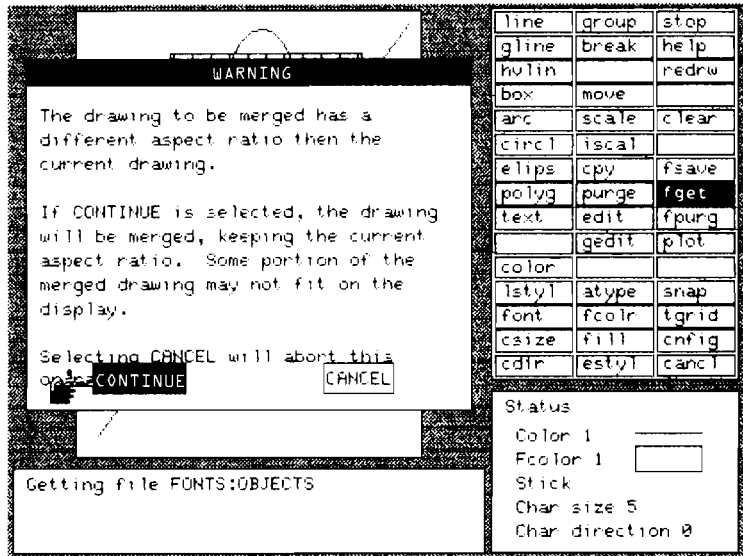


4. Select YES to clear the screen and display the retrieved file. The file menu disappears. GE/200 clears the current picture and displays the retrieved file in the Work Area. If the retrieved file features a different aspect ratio, the Work Area is redrawn.

If you wish you can edit the file and save the changes by storing the file under a new file name.

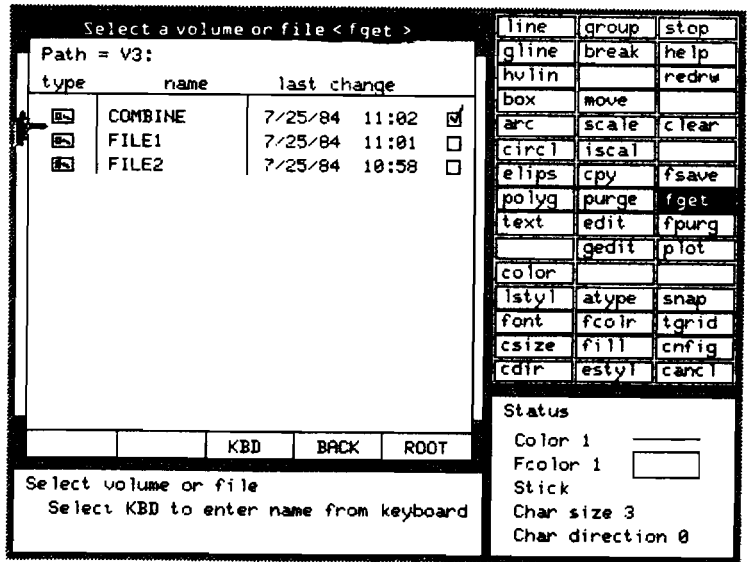
By using FSAV and FGET, you can combine two or more files into a single file or layer files onto the current picture. Use FGET to retrieve a file and Select **NO** when GE/200 asks if you want to clear the current picture.

If the file you are retrieving has a different aspect ratio than the current Work Area, GE/200 asks if you want to continue the merging operation or abort.



If you choose to continue, GE/200 merges the two pictures using the current Work Area. By combining picture files with different aspect ratios you may lose part of one picture.

If you retrieve without clearing, GE/200 will overlay the current picture with the retrieved picture. To save the combined picture, use FSAV and give the hybrid picture a new filename.

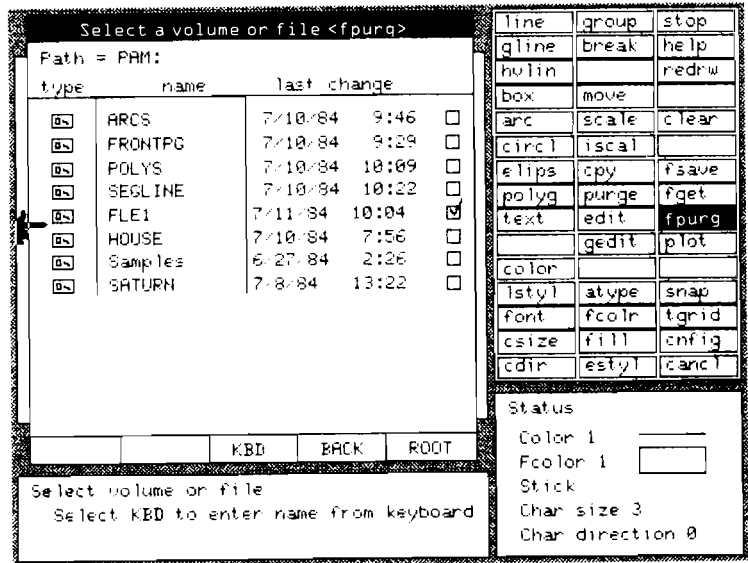


Use the keyboard to select a file to retrieve by selecting the KBD cell. When GE/200 prompts you for a filename, type the filename and press Enter .

Deleting A File [fpurg]

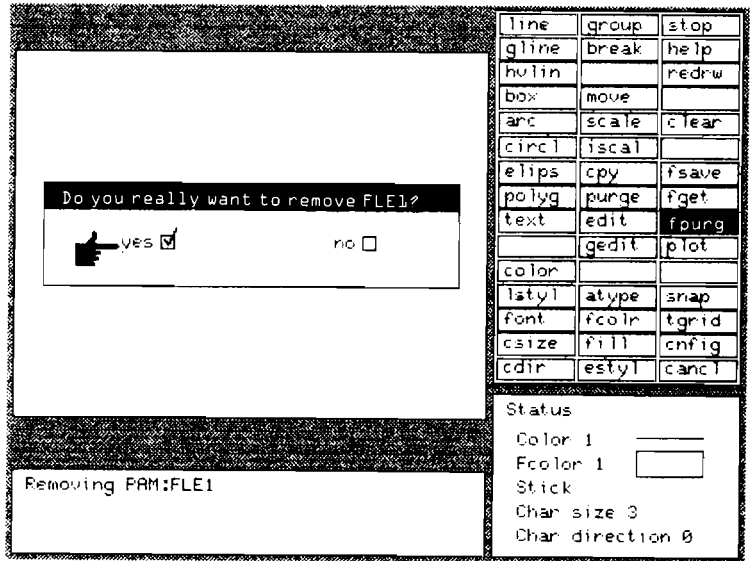
Allows you to delete a picture file from a volume.

1. Select the FPURG command. The file menu appears and GE/200 prompts you to select a filename.



2. If a list of volumes appears, select the volume containing the file you want to delete. If the file list appears, go to step 3.

- From the picture file list, select the file you want to purge. To safeguard accidental deletion, GE/200 asks if you really want to remove the file.



- Select **YES** to delete the file. GE/200 prompts:

REMOVING VOLNAME:FILENAME

When the purge operation is complete, the file menu disappears and the current picture returns to the Work Area.

Control Commands

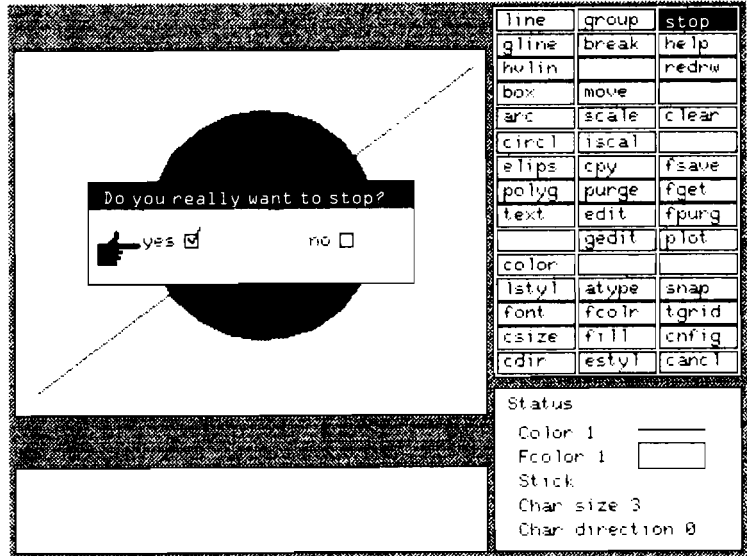
Control commands allow you to exit GE/200 and cancel commands you've selected.

STOP Exits the GE/200 program
 CANCL Cancels the current GE/200 command

Leaving GE/200 [stop]

Allows you to exit the GE/200 program.

1. Select the STOP command. GE/200 asks if you really want to stop.



2. Select YES. The GE/200 screen disappears and is replaced by the Graphics Editor /200 Command Line.

COMMAND: GE200 FILER MEDIAINIT VERSION WHAT

To return to GE/200, type **[G]** and the GE/200 screen appears.

If there are no picture objects on the Work Area when you select STOP, GE/200 bypasses the confirmation prompt and leaves the GE/200 screen immediately.

If objects appear on the screen and you want to stop GE/200 without receiving the confirmation prompt, hold down the **[Shift]** key while selecting STOP.

Cancelling Commands [cancel]

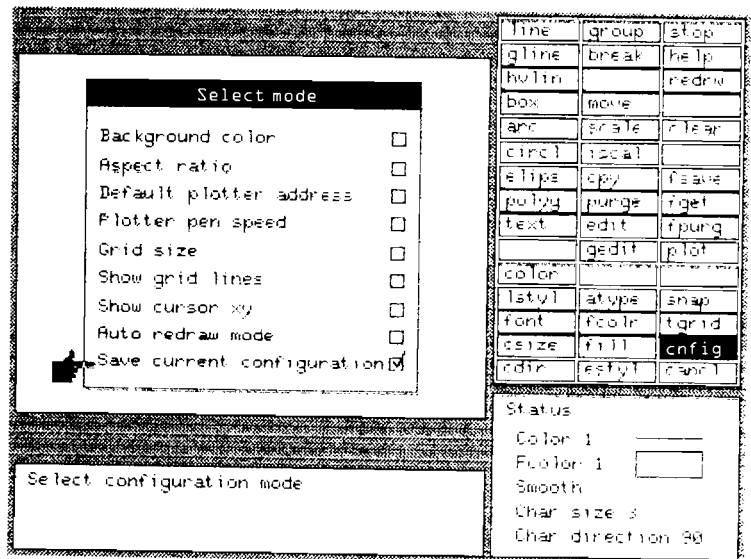
Allows you to cancel GE/200 commands and discard incomplete operations. If you select CANCL before completing a picture object, the portion on the object on the screen will vanish.

1. Select the CANCL command. GE/200 returns to the previously selected command and discards any incomplete objects.

Configuration Commands [cnfig]

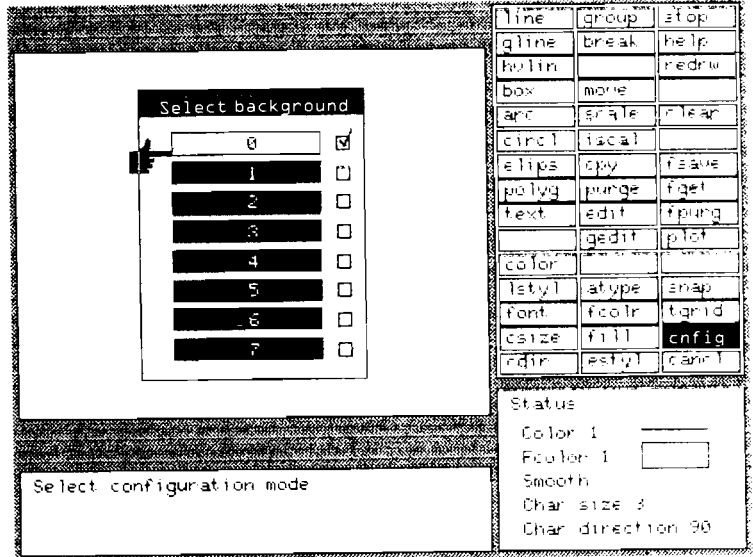
Allows you to set GE/200 screen functions and output variables. CNFIG calls up a menu of configuration choices.

1. Select the CNFIG command. The configuration menu appears in the Work Area and GE/200 prompts you to select a configuration mode.



Background Color

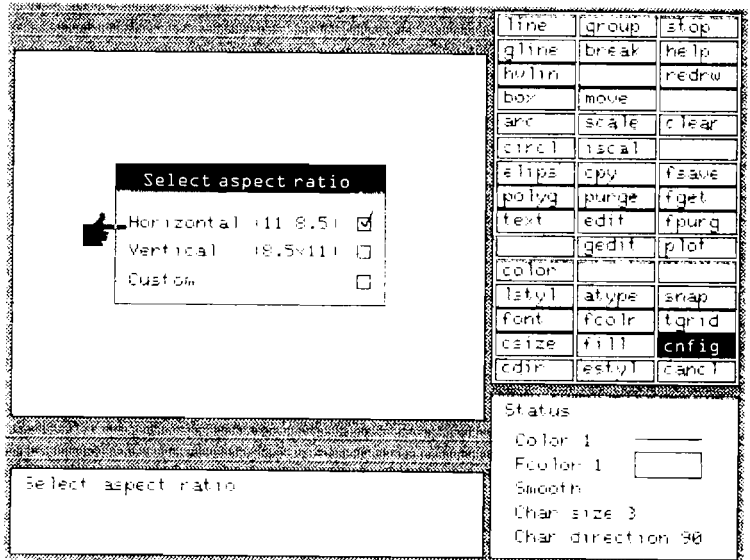
Allows you to set a background color for the Work Area.



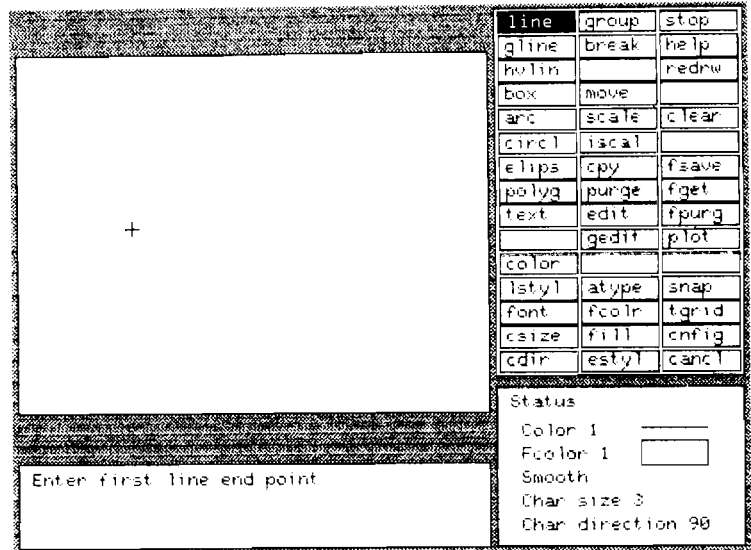
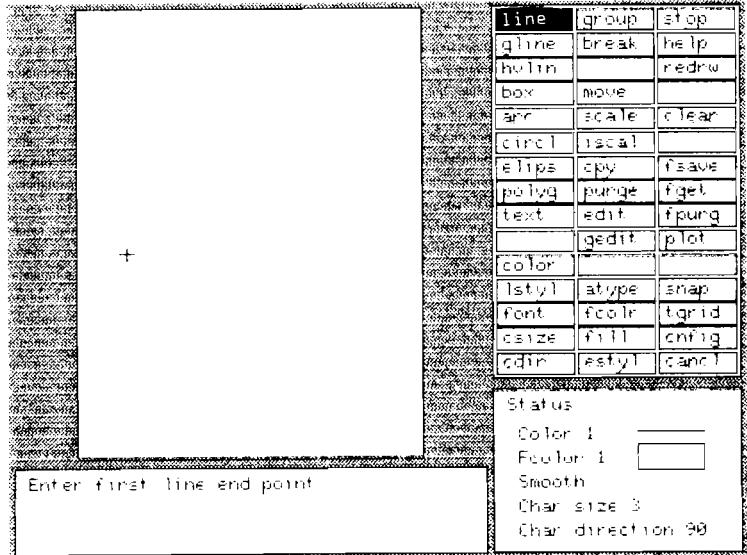
The background function does not apply to plotter output.

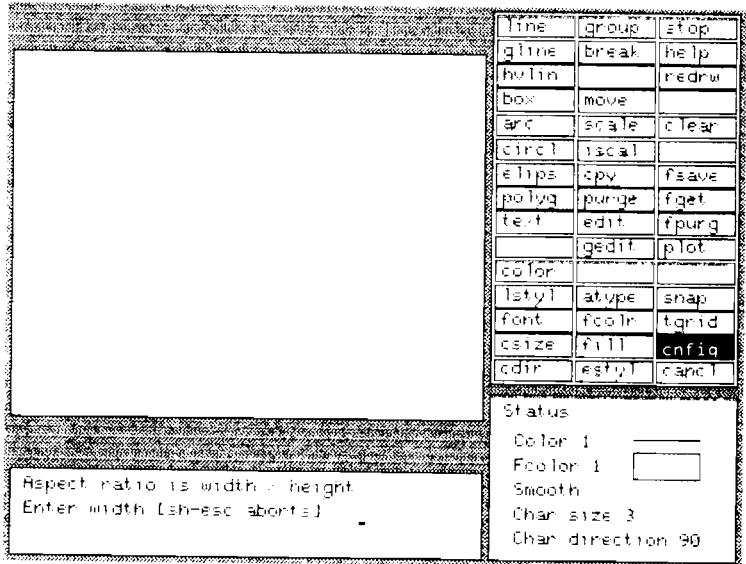
Aspect Ratio

Allows you to specify a format size for the work area.



The menu offers a choice of horizontal or vertical formats. In addition, you can select the **Custom** option to define your own Work Area.



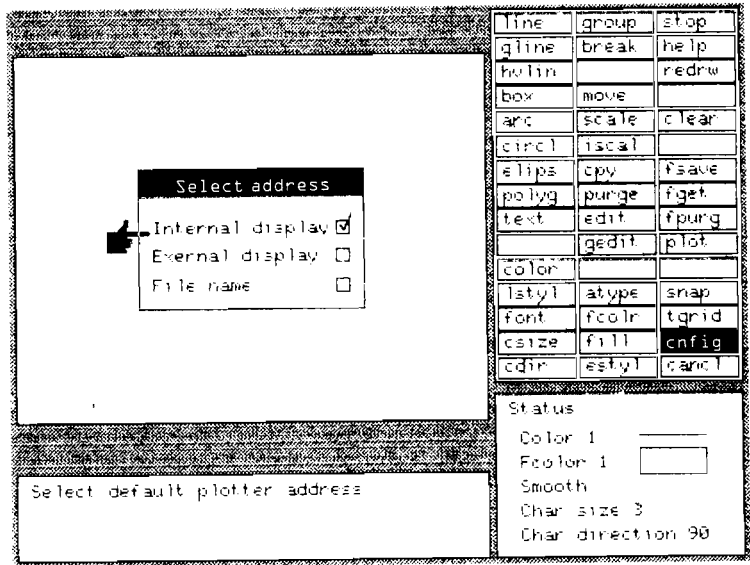


If you select the **Custom** option, GE/200 prompts you to define the dimensions of the new Work Area.

If there are picture objects on the Work Area when you select a new aspect ratio, GE/200 will ask if you want to clear the Work Area before changing the aspect ratio. If you don't clear, part of the current picture may be cut off.

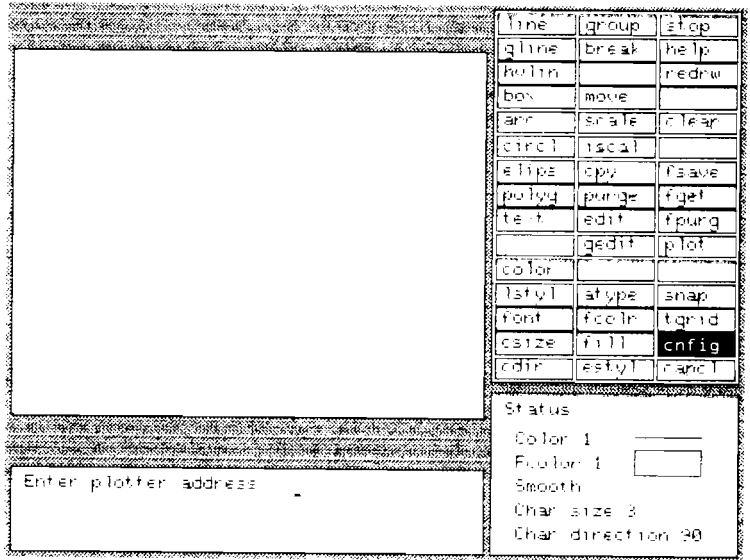
Default Plotter Address

Allows you to specify a default plotter address or specify output to the display screen or a file.



Select **Internal Display** if you want to display a picture on the screen without the GE/200 desktop and windows.

Select **External Display** if you want to output pictures to a plotter. If you select **External**, GE/200 prompts you for a default plotter address.



See your plotter manual or computer manual for more information on addresses.

Enter a plotter address or press to use the default plotter address.

If you are using the **Shared Resource Manager**, Select **File Name** to name the file that will be output to a spooler to await plotting. If you select **File Name**, GE/200 prompts you to enter a file name.

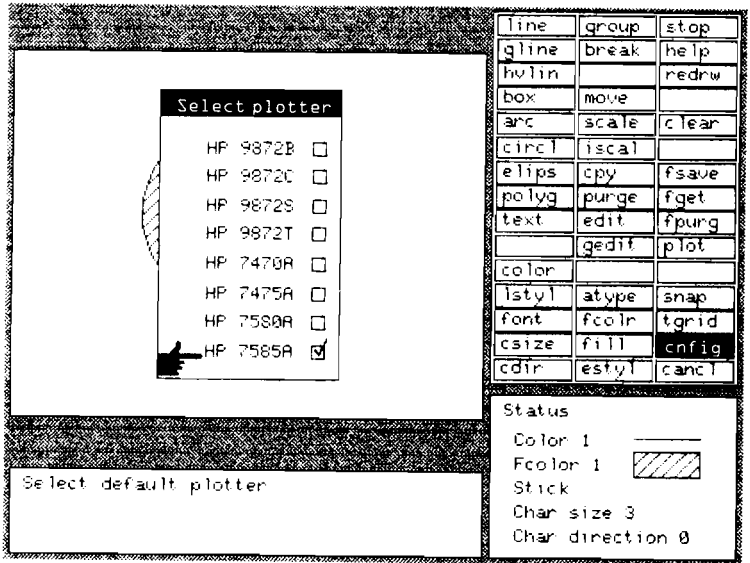
The screenshot displays the GE/200 Shared Resource Manager interface. On the left is a plot window showing a dashed line and an ellipse. Below the plot is a text input field with the prompt "Enter plot file name [sh-esc to abort] >" and a cursor. To the right is a command menu with the following items:

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpung
	gedit	plot
color		
lstyl	atype	snap
font	fcotr	tgrid
rsize	fill	cnfig
cdir	estyl	cancel

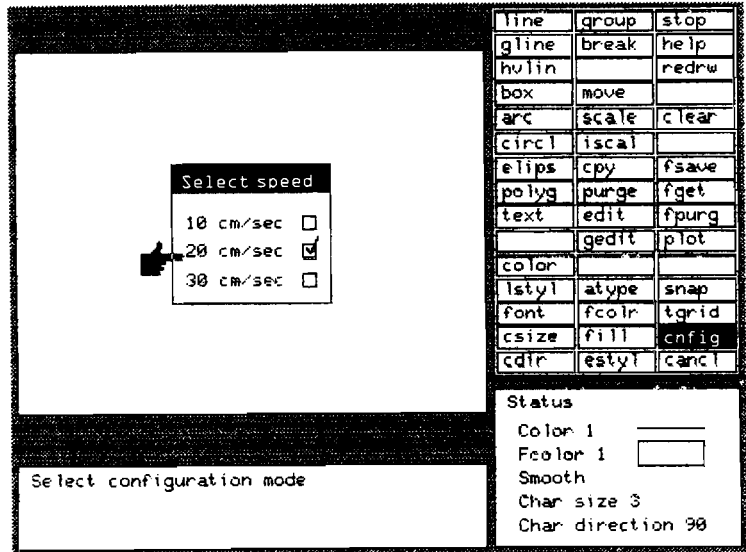
Below the command menu is a status area with the following information:

Status
 Color 1
 Fcolor 1
 Stick
 Char size 5
 Char direction 0

After you enter a file name, GE/200 prompts you to select a plotter from a menu of devices.



Plotter Pen Speed Allows you to specify plotter pen speed.



Select **10 cm/sec** for plotting on transparencies or producing high-quality plots on paper.

Select **30 cm/sec** to quickly plot review copies that lack the line quality of plots produced with a slower pen speed.

Not all plotters feature variable pen speed. Check your plotter manual before using this feature.

Grid Size

Allows you to select the size grid displayed when TGRID is activated. GE/200 offers three different grid sizes.

The screenshot shows a software interface with a main window, a dialog box, a command menu, and a status bar.

Select grid dialog box:

- Fine
- Medium
- Coarse

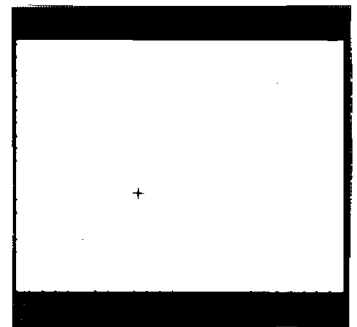
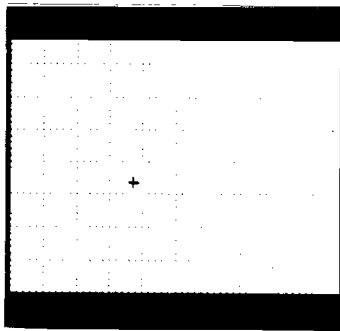
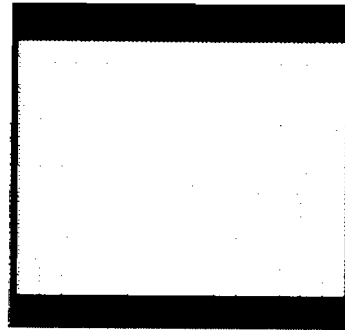
Command Menu:

line	group	stop
gline	break	help
hulin		redrw
box	move	
arc	scale	clear
circ1	iscal	
elips	cpy	fsave
polyg	purge	fget
text	edit	fpurg
	gedit	plot
color		
lstyl	atype	snap
font	fcolor	tgrid
csize	fill	cnfig
cdir	estyl	cancel

Status bar:

- Status
- Color 1
- Fcolor 1
- Smooth
- Char size 3
- Char direction 90

Main window: Select configuration mode



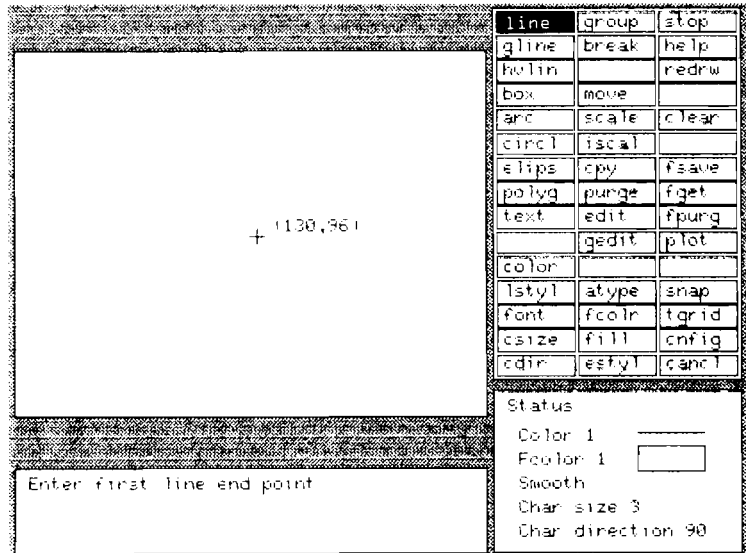
The grid you select does not appear on the screen unless the TGRID cell is highlighted.

Show Grid Lines

Allows you to display a grid in the Work Area. If you use CNFIG to turn off the grid, you cannot draw a grid by selecting TGRID from the Command Menu. However, if you do select TGRID after turning off the grid display with CNFIG, selected points will still “snap” to an invisible grid.

Show Cursor XY

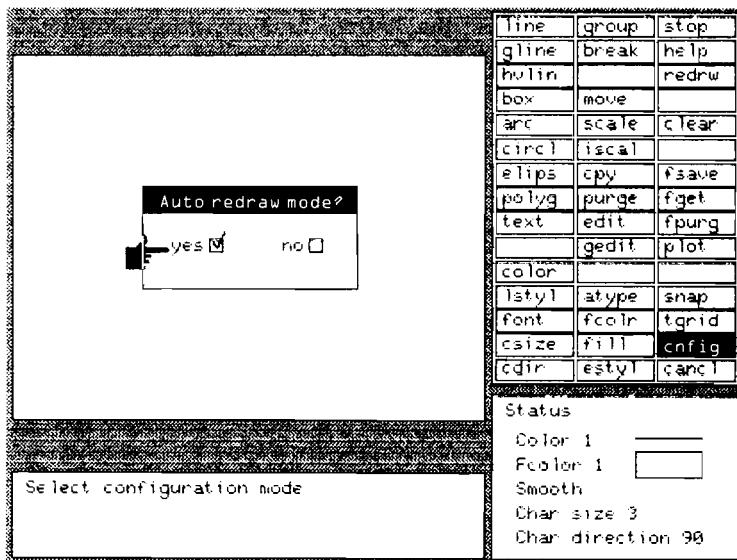
Tells GE/200 to display x-y coordinates of cursor position on Work Area. This command is useful for producing technically accurate drawings.



The x-y coordinates appear whenever the cursor is in the Work Area. The coordinates change as you move the cursor.

Auto Redraw Mode

Allows you to turn the Automatic Redraw feature off and on.



Automatic redraw defaults to ON when you run GE/200. Sometimes, you may want to turn the feature off, especially when there are many picture objects in the work area and redraw is time-consuming.

Save Current Configuration

Tells GE/200 to save all the configuration choices you made with the CNFIG command. The next time you start up GE/200, the saved configurations become current. This feature is especially useful if you have to make the same CNFIG selections everytime you start up GE/200.

This command also saves the input device configuration you specified when you started GRAPHICS EDITOR 200.

Creating Plotter or Printer Output

Plot a Picture [plot]

Allows you to output a GE/200 picture to a plotter. To plot the picture you want to output must currently appear in the Work Area. Use FGET to recall a picture from a file and output it with PLOT. See **Managing Files** for more information on retrieving files.

1. Select the PLOT command. GE/200 prompts:

```
PRESS STOP KEY TO ABORT PLOT  
PLACE PAPER IN PLOTTER  
PRESS ANY KEY TO CONTINUE
```

2. Check if your plotter or printer is on and loaded with paper. Make sure the paper size is correct for the plotting format.
3. Press any key. GE/200 prompts you for a plotter address and provides a default address.

See your plotter manual or computer manual for more information on addresses.

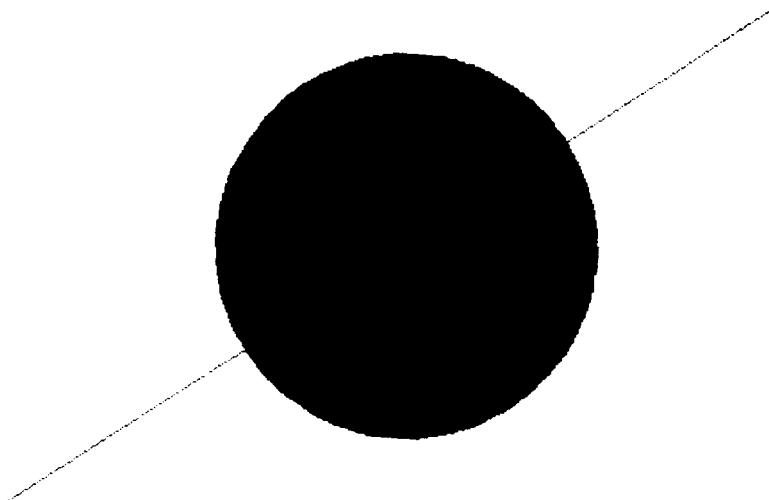
4. Type the plotter address and press . If the default address is correct, just press .

The current picture is produced on the plotter, or, if you are operating on the **Shared Resource Manager**, sent to the SRM Plotter Spooler.

Abandon the output operation by pressing .

Screen Display of a Picture

You can also use PLOT to display Work Area objects in a screen format.



1. Select the CNFIG command.
2. From the Configuration Menu, select **Default Plotter Address**.
3. Select the **Internal Display** option.
4. Select the PLOT command. GE/200 prompts:

```
PRESS STOP KEY TO ABORT PLOT  
PLACE PAPER IN PLOTTER  
PRESS ANY KEY TO CONTINUE
```

5. Press any key. GE/200 prompts you for an address and provides a default address.
6. Type the plotter address and press . If the default address is correct, just press .

GE/200 removes all windows and displays the current picture in a full screen format.

Return to the GE/200 screen by pressing the Space bar.

Printing A Picture

If a printer is attached to your system, you can print the current screen display at any time by holding down the **[Shift]** key and pressing **[Dump Graphics]** .

To obtain the "dump graphics" function, there is a keyboard dependency.

Function	Large Keyboard	Small Keyboard	ITF Keyboard
Dump	[Shift]	[Shift]	[Shift]
Graphics	[Graphics]	[INSC]	[Graphics]*

*On the ITF keyboard, "Graphics" is an unlabeled key. It is the third unlabeled key above the numeric keypad.

Summary of GRAPHICS Editor/200 Commands

The HELP Command

[help] Provides detailed on-screen documentation for each GE/200 command.

Drawing Objects

[line] Draws a line between two points on the Work Area.

[gline] Draws a continuous line of connected line segments.

[hvlin] Draws lines that are perpendicular or parallel to Work Area frame.

[polyg] Draws a closed figure bound by straight lines.

[box] Draws a rectangle.

[arc] Draws an arc.

[circl] Draws a circle.

[elips] Draws an ellipse.

[text] Allows you to enter text to a drawing.

Setting Object Attributes

[color] Sets color attribute.

[lstyl] Sets line style for LINE, GLINE, HVLINE.

[atype] Sets arc style for ARC.

[fonts] Sets character font for TEXT.

[csize] Sets character size for TEXT.

[cdir] Sets base angle for TEXT characters.

[fcolr] Sets color for closed objects: CIRCLE, BOX, ELLIPSE, POLYGON

[fill] Sets fill style for closed objects.

[estyl] Sets boundary line style for closed objects.

Editing Commands

[group]	Groups picture objects into a single object for editing operations.
[break]	Breaks a group into component objects.
[move]	Moves objects around the Work Area.
[cpy]	Copies objects in the Work Area.
[scale]	Changes the size, relative dimensions, and location of an object in Work Area.
[iscal]	Changes size and location of an object on Work Area.
[purge]	Deletes objects from Work Area.
[edit]	Changes attributes of objects in the Work Area.
[gedit]	Changes attributes of grouped objects in the Work Area.

Work Area Commands

[redrw]	Clears Work Area and redraws picture objects and text.
[clear]	Clears Work Area and discards picture objects.
[snap]	Turns grid point snap feature on and off.
[tgrid]	Turns grid display on and off.

Managing Files

[fsav]	Saves current picture in picture file.
[fget]	Retrieves picture from file and displays in Work Area.
[fpurg]	Deletes picture file from volume.

Control Commands

[stop]	Exits GE/200.
[cancl]	Cancels a GE/200 command in progress.

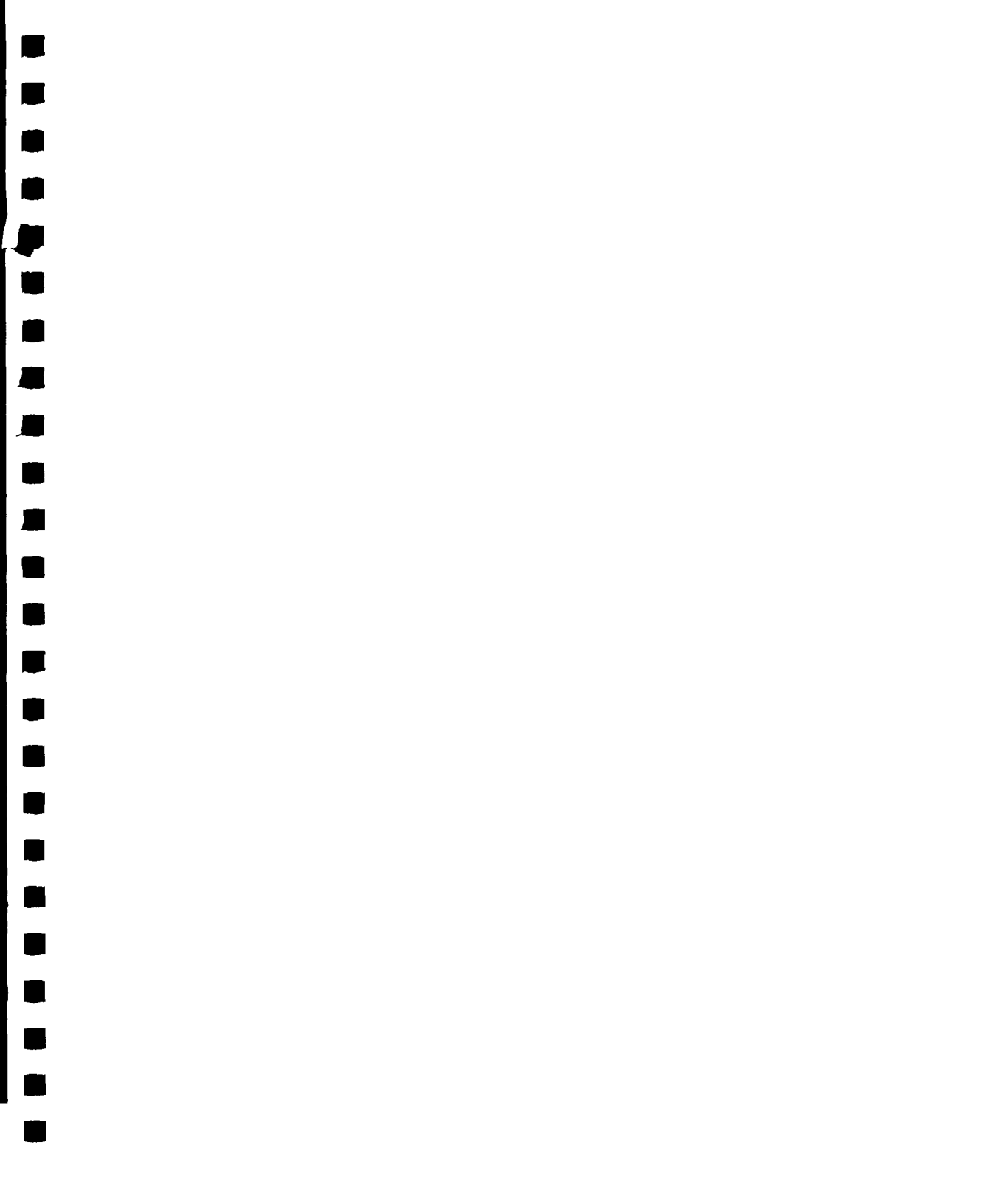
Configuration Command

[cnfig]	Sets GE/200 features and output device configurations.
---------	--

Summary of GRAPHICS EDITOR 200 Commands (Alphabetical)

[arc]	Draws an arc.
[atype]	Sets arc style for ARC.
[box]	Draws a rectangle.
[break]	Breaks a group into component objects.
[cancl]	Cancels a GE/200 command in progress.
[cdir]	Sets base angle for TEXT characters.
[circl]	Draws a circle.
[clear]	Clears Work Area and discards picture objects.
[cnfig]	Sets GE/200 features and output device configurations.
[color]	Sets color attribute.
[cpy]	Copies objects in the Work Area.
[csize]	Sets character size for TEXT.
[edit]	Changes attributes of objects in the Work Area.
[elips]	Draws an ellipse.
[estyl]	Sets boundary line style for closed objects.
[fcolr]	Sets color for closed objects: CIRCLE, BOX, ELLIPSE, POLYGON

[fget]	Retrieves picture from file and displays in Work Area.
[fill]	Sets fill style for closed objects.
[fonts]	Sets character font for TEXT.
[fpurg]	Deletes picture file from volume.
[fsav]	Saves current picture in picture file.
[gedit]	Changes attributes of grouped objects in the Work Area.
[gline]	Draws a continuous line of connected line segments.
[group]	Groups picture objects into a single object for editing operations.
[help]	Provides detailed on-screen documentation for each GE/200 command.
[hvlin]	Draws lines that are perpendicular or parallel to Work Area frame.
[iscal]	Changes size and location of an object on Work Area.
[line]	Draws a line between two points on the Work Area.
[lstyl]	Sets line style for LINE, GLINE, HVLINE.
[move]	Moves objects around the Work Area.
[polyg]	Draws a closed figure bound by straight lines.
[purge]	Deletes objects from Work Area.
[redrw]	Clears Work Area and redraws picture objects.
[scale]	Changes the size, relative dimensions, and location of an object in Work Area.
[snap]	Turns grid point snap feature on and off.
[stop]	Exits GE/200.
[text]	Allows you to enter text to a drawing.
[tgrid]	Turns grid display on and off.





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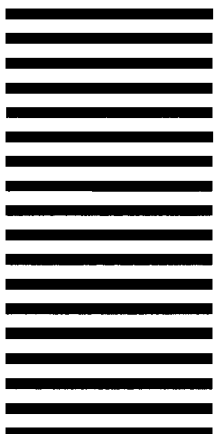
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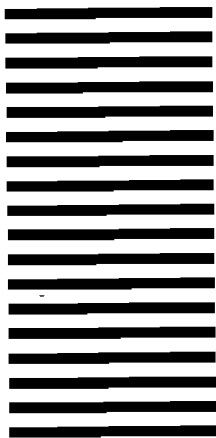
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