DIGITAL
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GSX-86 tm
Graphics Extension
Users Guide

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Foreword

INTRODUCTION   This GSX-86" Graphics Extension User's Guide
               explains the features of GSX-86, Graphics
               System Extension for microcomputer operating
               systems.   GSX-86 lets you use graphic
               applications and many types of printers,
               plotters, and graphics cards. GSX-86 supports
               the following operating systems:

               o CP/M family
               o MS-DOS
               o PC DOS

               If you are a new user of GSX-86, this guide
               helps you install GSX-86 on your microcomputer
               system so that you can use your graphics
               applications with the many devices GSX-86
               supports.

GSX-86   GSX-86 adds graphic capability and a device-
               independent operating environment to supported
               operating systems. After you install GSX-86,
               your system has the following features:

               o You can use many types of plotters,
                  printers, and other graphic devices.

               o You can use applications that use GSX-86 on
                   many types of microcomputers.

               o You can use graphic applications such as OR
                   Graph" and DR Draw" to create high-quality
                   presentation and creative graphics.   DR
                  Graph allows you to graph and plot data by
                  making simple menu selections.   DR Draw
                  allows you to draw complex graphic   designs
                  with your microcomputer.

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HOW THIS GUIDE   This guide is organized in four sections.
IS ORGANIZED   Section 1 describes how GSX-86 works. Section 2
                      tells you how to start GSX-86. Sections 3 and
                      4 describe and give information on using
                      GINSTALL, the GSX-86 installation program.

CONVENTIONS   This guide uses several conventions:

                     o For clarity, commands and keystrokes you
                        enter are capitalized and appear in boldface
                        type.   However, you do not need to
                       capitalize commands.

                     o The CONTROL key is represented by the symbol
                        This symbol followed by an alphabetic
                        character means that you must press the
                        CONTROL key and the alphabetic character key
                        simultaneously. For example, ^W means that
                        you must press the CONTROL key and the W key
                        simultaneously.

                     o Colored type displays information that
                        appears on your monitor.

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Tables and Figures

Tables

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Section I
Overview

INTRODUCTION   This section describes how GSX-86 works with
                    your microcomputer.   The concepts in this
                    section provide background information for the
                    procedures described in later sections.

HOW GSX-86 WORKS   Most graphic devices such as monitors, printers,
                    and plotters draw lines, fill in areas, and
                    produce text differently. GSX-86 manages the
                    differences among these devices and ensures
                    that graphic applications using GSX-86 can
                    communicate with a variety of devices.

                    Applications written for GSX-86 use the GSX-86
                    subroutine library, which provides a standard
                    graphic programming interface.   GSX-86 also
                    provides device drivers that translate the
                    calls generated by the application to fit the
                    peculiarities of each device. For more details
                    on programming with GSX-86, refer to the GSX-86
                    Graphics Extension Programmer's Guide.

Device Drivers   Because each graphic device is mechanically and
                    electronically different, each requires a
                    special program to communicate with your
                    computer.   This program is called a device
                    driver.

                    GSX-86 gives you a library of device drivers
                    that allows you to use many devices with your
                    microcomputer.

GINSTALL   GINSTALL, the GSX-86 device driver installation
                      program, tells you what device drivers are in
                      the device driver library.   You can use
                      GINSTALL to select devices that match the
                      devices on your microcomputer.   Af ter you
                      select devices, GINSTALL creates an assignment
                      file and installs the assignment file and the
                      device drivers on the diskette you specify,
                      which is usually the application diskette.

                      If you change the devices on your
                      microcomputer, GINSTALL lets you delete and add
                      the appropriate device drivers.

                      Note: Unless you have a diskette, usually your
                      application diskette,   that contains an
                      assignment file and device drivers that match
                      the devices on your computer, you need to use
                      GINSTALL before you use GSX-86.   Section 3
                      contains instructions on how to use GINSTALL.

STARTING YOUR   Set up the monitor, printer, plotter, and any
SYSTEM   other devices. Refer to your microcomputer and
                      operating system manuals for details on how to
                      install devices and start your system.

                      Before you use GSX-86, make duplicates of any
                      GSX-86 distribution diskettes. Use the format
                      and copy programs for your operating system.
                      Refer to your operating system manual for
                      instructions on the appropriate procedures and
                      commands.

                      After you make the duplicates, store the
                      distribution diskettes in a safe place away
                      from heat, magnets, humidity, dust, and extreme
                      temperature changes.   Use the duplicates as
                      your GSX-86 work diskettes.

                      You are now ready to turn to Section 2,
                      "Starting GSX-86."

                      End of Section 1

Section 2

Starting GSX-86

INTRODUCTION   This section explains how you start GSX-86 and
              delete GSX-86 from memory.   A checklist is
              included in case you have a problem starting
               GSX-86.

INSTALLING   Before using a graphic application   that
GSX-86   requires GSX-86, an assignment file and device
              drivers that match your devices must be on your
              application diskette and GSX-86 must be
              installed.

              o   Some applications contain an assignment file
                 and a preconfigured set   of device drivers
                 that might match the   devices on your
                 microcomputer. Refer to   the description of
                 the application to learn whether it comes
                 with device drivers or whether you must use
                 GINSTALL to install device drivers. If the
                 application diskette contains device
                 drivers, ensure that they match the devices
                 on your microcomputer.   If you have
                 different devices, you must use GINSTALL
                 before you install GSX-86.

              o   Some applications install GSX-86 for you.
                 Refer to the instructions on starting your
                 application to learn whether you must start
                 GSX-86 or whether the application starts it
                  for you.

GSX-86 Command   The command you use to install GSX-86 differs
              depending on the microcomputer operating system
              you use. Table 2-1 shows the commands for each
               operating system GSX-86 supports.

Table 2-1. Commands to Start GSX-86

Operating System   Command

CP/M-86@   GRAPHICS
Concurrent CP/M"   GRAPHICS
PC DOS   GSX
MS-DOS   GSX

After you start your system and the operating
system prompt is on your monitor, type the
command to start GSX-86 in the following form:

<dl>:COMMAND <d2>

The <dl> symbol represents the drive identifier
of the disk drive where GSX-86 is located.
COMMAND represents the command you use to start
GSX-86 on your operating system.   The <d2>
symbol represents the drive identifier of the
disk drive where the assignment file and the
device dri'vers are located. In most cases, the
diskette in <d2> is your application diskette.
Examples follow.

1. You are using CP/M-86. GSX-86 is on the
   diskette in drive A, the default drive.
   Your application diskette, which contains
   the assignment file and device drivers, is
   in drive B. In response to the operating
   system prompt, you type

   GRAJPHICS B:

2. You are using PC DOS or MS-DOS. GSX-86 is
   on the diskette in drive B.   Drive A, the
   default drive, contains your application
   diskette, assignment file, and device
   drivers.   In response to the operating
   system prompt, you type

   B:GSX A:

3. You are using Concurrent CP/M. GSX-86 is on the diskette in drive A, the default drive. The diskette in drive A also contains the application, assignment file, and device drivers.   In response to the operating system prompt, you type

   GRAPHICS

When you start GSX-86, it is loaded into memory. After GSX-86 is loaded, a copyright message appears on your monitor. You are ready to start your application.

DELETING GSX-86   When you are not using GSX-86, you can free the memory space used by GSX-86.   To do this, ensure the operating system prompt is on your monitor. Then type the command to delete GSX-86 from memory. Table 2-2 shows the commands.

Table 2-2. Co   ds to Delete GSX-86

Operating System	-T	Command
CP/M-86		GRAPHICS N
Concurrent CP/M		GRAPHICS N
PC DOS, version 2.0 and above		GRAPHICS N
MS-DOS, version 2.0 and above		GRAPHICS N

If you are using versions of PC DOS and MS-DOS that precede 2.0, you restart your system to delete GSX-86. To do this, turn the power off on your computer or press and hold the CONTROI,, ALTERNATE, and DELETE keys; then release all three keys simultaneously.

Note: Before restarting your system, you should exit the application and save any files you have created.

When you use a command to delete GSX-86 from memory, a copyright notice appears on your monitor followed by the message

GSX-86 not installed

You can also receive the above message if you cannot install GSX-86.

ERROR MESSAGES   When you start GSX-86, you can receive error messages. The format of the messages differs according to your operating system.   CP/M-86 echoes what you type followed by a   question mark, ?. Concurrent CP/M echoes what   you type followed by a question mark, ?, and a brief message. PC DOS and MS-DOS tell you   that you entered a bad command or filename.

If you receive any of the above error messages when you start GSX-86, one of the following conditions exists:

o You typed the command incorrectly.

o GSX-86 is not on the diskette in the drive you identified in the command.

Either retype the command or insert the diskette that contains GSX-86 in the correct drive.

Refer to Appendix A for a description of error messages and steps you can take to correct the errors.

INSTALLATION   If you have a problem starting GSX-86, use
CHECKLIST   the checklist below to ensure you have completed
                all necessary steps.

        Are the display monitor, printer, plotter
        and other devices properly attached to your
        computer?

        Is the operating system prompt on your
        monitor?

    E:l Is the diskette containing GSX-86 in the
        disk drive you specified in the command to
        start GSX-86?

    El Did you specify the correct drive identifier
        of the drive where the assignment file and
        device drivers are located?

    Fl Did you type the correct command to start
        GSX-86?

    End of Section 2

Section 3

Introduction to GINSTALL

INTRODUCTION   GINSTALL, the GSX-86 device driver installation
                program, lets you install device drivers for a
                var ie ty of d i splay mon i tor s , pr inter s '
                plotters, and specially designed computer
                output cameras for use with graphic
                applications that use GSX-86.

                GINSTALL provides menus from which you can
                select drivers for the devices you are using.
                GINSTALL uses your menu selections to create or
                update the assignment file, described below.

ASSIGNMENT FILE   The assignment file, named ASSIGN.SYS, lists the
                device drivers of the devices you select, and
                communicates this information to GSX-86.

                GINSTALL creates or updates the assignment file
                on the application diskette or , if the
                application diskette does not have sufficient
                space for these files, on another diskette.

SYSTEM   To use GINSTALL, your system must contain
REQUIREMENTS   either:

                o two floppy diskette drives

                o a hard disk drive and one floppy diskette
                  drive

USING GINSTALL   GINSTALL contains menus that let you do the
MENUS   following:

                o select a   device for addition to the
                  assignment file

                o select a   device for deletion from the
                  assignment file

                o display the currect device selections

o update the assignment file

o exit GINSTALL and return to the operating
  system

Selecting Options   GINSTALL displays two types of menus: numbered
                           lists and queries.

                           To select an option from a numbered list, type
                           its number after the prompt

                           Enter Option Number -

                           and press the RETURN key.

                           The query menus require a Yes or No response.
                           Type Y or N, and press the RETURN key.

Correcting Typing   If you mistype a response, use the BACKSPACE
Errors   key to move the cursor to its original position.
                           The BACKSPACE key does not erase characters.
                           Type the correct response over the error, and
                           press the RETURN key.

Returning to the   All of the numbered list menus that follow
MAIN MENU   the MAIN MENU let you press the ESCAPE (ESC) key
                           to return to the MAIN MENU.   When you do,
                           GINSTALL cancels any selection in process.

GINSTALL on the   Before you   start GINSTALL, insert the
Default Drive   diskette containing GINSTALL in the default
                           drive. If you have copied GINSTALL to a hard
                           disk, set your default drive to the hard disk.

STARTING GINSTALL   To start GINSTALL, type the following command in
                           response to the operating system prompt:

                           GINSTALL

When GINSTALL starts, a copyright message, followed by a brief description of GINSTALL, appears on your monitor. Press the RETURN key to display the first menu.

SPECIFY DISK   GINSTALL's first menu, SPECIFY DISK DRIVES,
DRIVES MENU   in Figure 3-1, asks you to identify the drives
                      containing the application diskette and the
                      device driver diskette.   If the application
                      diskette does not have sufficient space for the
                      assignment file and device driver files, you
                       can use another diskette in place of the
                      application diskette.

SPECIFY DISK DREVES

Enter drive containing your
application work disk.

Enter drive containing   the
device driver disk.

==

Figure 3-1. SPECIFY DISK DRIVES

Type the drive identif ier for the drive
containing the diskette on which GINSTALL will
create or update the assignment file and device
driver files, and press the RETURN key. The
drive identifer can be a letter from A to P.

Type the drive identif ier for the drive
containing the device driver diskette, and
press the RETURN key. After a cause the MAIN
MENU appears. The MAIN MENU and its functions
are described in Section 4.

End of Section 3

Section 4
GINSTALL Functions

INTRODUCTION   This section describes the functions contained
in GINSTALL's MAIN MENU.   The functions are
described in the order in which they appear on
the menu.

NAIN MF.NU   The MAIN MENU functions let you do the
FUNCTIONS   following:

o add devices to the assignment file

o delete devices from the assignment file

9 display the current selections in the
   assignment file

o update the assignment file and copy device
   driver files to the application diskette

o exit GINSTALL and return to the operating
   system

The MAIN MENU is illustrated in Figure 4-1.

MAIN MENU

Options

1   Select device for addition
2   Select device for deletion
3   Display current device selections

8   Update application work disk
9   Exit to operating system

==
Enter Option Number -

Figure 4-1. MAIN MENU

To select a function from the MAIN MENU, type
its option number after the Enter Option Number
prompt, and press the RETURN key.

ADDITIONAL MENUS   When you select the SELECT DEVICE FOR ADDITION
or the SELECT DEVICE FOR DELETION function,
GINSTALL displays additional menus.   These
menus are named and described in the
descriptions of the two SELECT functions.

SELECTING DEVICE   The SELECT DEVICE FOR ADDITION function lets you
FOR ADDITION   add devices to the assignment file. However,
                         GINSTALL does not change the assignment f i le or
                         copy device driver files until you return to
                         the MAIN MENU and choose the UPDATE
                         APPLICATION WORK DISK function.

SELECT DEVICE   The first menu you see when you select option
CATEGORY Menu   number I from the MAIN MENU is the SELECT DEVICE
                         CATEGORY FOR ADL)i,rION Menu, illustrated in
                         Figure 4-2.

                 SELECT DEVICE CATEGORY FOR ADDITION

                         Options

                    1 DISPLAY MONITORS
                    2 PLOTTERS
                    3 PRINTERS
                    4 CAMERAS

         ===
Enter Option Number -
Escaper : return to Main Menu

        Figure 4-2. SELECT DEVICE CATEGORY FOR ADDITION

                         To select one of the device categories type its
                         option number. Press the RETURN key. GINSTALL
                         then displays the device menu for the category
                         you selected.

Error Message

You can receive the following error message when selecting a device category. GINSTALL displays the message at the bottom of the SELECT DEVICE CATEGORY FOR ADOfflo,q Menu.

Selected category is full. You must
delete a device from the category before
adding another.
Press RETURN when ready to proceed

The assignment file has a limit to the number of devices in each device category that it can contain. If you try to select a category that contains its limit, GINSTALL displays the above message.

Press the RETURN key to return to the MAIN MENU.   To delete a device, use the SELECT DEVICE FOR DELETION function, MAIN MENU selection number 2.

Device Menus

The device menus for display monitors, plotters, printers, and cameras list the devices for which driver files exist.   An option number precedes a brief description of each device. Figures 4-3 through 4-6 are examples of typical device menus.

To select a device from the menu, type its option number after the Enter Option Number prompt, and press the RETURN key.

DISPLAY MONITORS

Options

1 IBM Color Adapter COLOR MODE
2 IBM Color Adapter MONOCHROME MODE
3 Plantranics PC+ COLORPLUS Adapter
4 Hercules Graphics Card
5 Artist 2 Graphics Card

```
==========================================
  ^Z: page down       ^W: page up
  ^C: select/info    ESC: go to Main Menu
==========================================
```

Enter Option Number   Mode: SELECT

Figure 4-3. DISPLAY NOINITORS

PLOTTERS

Options

1 Hewlett Packard 7470A/7475A Platter
2 Houston Instruments Models DMP-29/4X
3 Strobe Models 100/200/260 Platter

```
==================================
^Z: page down      ^W: page up
^C: select/info    ESC: go to Main Menu
==================================
Enter Option Number -     Mode: SELECT
```

Figure 4-4. PLOTTERS

PRINTERS

Options

I IBM/Epson Graphics Printers HI RES
2 IBM/Epson Graphics Printers LO RES
3 Diablo Model CLSO Color Ink Tet
4 Transtar Color Printer
5 Okidata MicroLine 82A/83A/84/92/93
6 C. Itah Model 8510A
7 Anadex Models DP-9001A,9501A,9625A
8 Centronics Models 351/3S2/353
9 Data South Model 05180
10 Digital Equipment Model LAICO
11 Digital Equipment Model LASO
12 IDS (Monochrome) Prism 80/132/480
13 Mannesmann TallS MT160 HI RES MODE

==
^Z: page down   ^W: page up
^C: select/info   ESC: go to Main Menu
==

Enter Option Number   Made:

Figure 4-5a- PRINTERS Page I

PRINTERS

Options

14 Philips Model GP 300L HI RES MODE
15 Philips Model GP 300L LO RES MODE
16 Printranix MVP

```
=============================================
^Z: page down       ^W: page up
^C: select/info     ESC: go to Main Menu
=============================================
```

Enter Option Number   mode : SELECT.

Figure 4-5b. PRINTERS Page 2

CAMERAS

Options
I Polaroid Palette

```
==========================================
 ^Z: page down        ^W: page up
 ^C: select/info      ESC: go to Main Menu
==========================================
```

Enter Option Number -   Mode: SELECT

Figure 4-6. CAMERAS

Special Keystrokes   At the bottom of the device menu screen you see
                                a small informational panel describing several
                                keystrokes you can use. Table 4-1 names the
                                keystrokes and describes their actions.

Table 4-1. DEVICE   KEYSTROKES

KEYSTROKE   ACTION

^Z   Displays next page of menu.
            For example, the printer
            menu (Figure 4-5a and 4-5b)
            is two pages long. If no
            next page exists, ^Z has no
            effect.

^W   Displays previous page of
            menu. If no previous page
            exists, -W has no effect.

^C   Switches between SELECT and
            INFO modes described below.

ESC   Cancels current selection
            and returns to MAIN MENU.

SELECT and INFO   For each device menu, GINSTALL supports two
Modes   modes, SELECT and INFO.   A reverse video
                      rectangle at the bottom of the menu tells you
                      the current mode.

                      When the rectangle says SELECT, you can select
                      a device by typing its option number and then
                      pressing the RETURN key.

                      To change from SELECT to INFO mode, press 'C.
                      In INFO mode, when you type an option number
                      and press the RETURN key, GINSTA-LL displays
                      information describing the device. Figure 4-7
                      shows an example.

IBM Color Adapter MONOCHROME MODE

Driver File Name: IBMBLMP2.SYS Size:14K

Plot Area: 9 inches X   7 inches
               640 pixels X   200 pixels
Comments:
This driver is for the IBM color graphic
adapter card. It provides two colors at
a resolution of 640H x 200V pixels.

==
Press RETURN when ready to proceed

Figure 4-7. IBM Color Adapter MONOCHROME MODE

To return to the device menu, press the RETURN
key. You remain in INFO mode.

You cannot select a device while you are in
INFO mode. To return to SELECT mode, press ^C.

Subsequent Menus   The type of device you select determines which
menus GINSTALL displays next. For example, if
you select a display monitor, you see one or
more of the following menus:

SELECT MOUSE OPTION FOR DISPLAY MONITOR

MOUSE COMMUNICATION PORT

o SET PRIMARY DEVICE

If you select a plotter, printer, or camera,
you see one or more of the following menus:

o PLOTTER, PRINTER, or CAMERA COMMUNICATION
  PORT

o SET PRIMARY DEVICE

Each of these menus is described in this
section.

SELECT MOUSE   When you select a display monitor, GINSTALL
OPTION Menu   displays the SELECT MOUSE OPTION FOR DISPLAY
                      MONITOR Menu, in Figure 4-8. In addition to
                      listing several mice, the menu gives you the
                      option of not using a mouse.

SELECT MOUSE OPTION FOR DISPLAY MONITOR

Options

1 No Mouse
2 Microsoft Mouse (requires MOUSE.COM)
3 PC Mouse bg Mouse Sgstems Corp.
4 SummaMouse

===
Enter Option Number
ESCAPE: return to Main Menu

Figure 4-8. SELECT MOUSE OPTION FOR DISPLAY MONITOR

If you select the Microsoft(c) Mouse, you must
copy the file MOUSE.COM to your application
diskette. MOUSE.COM is supplied on a diskette
that comes with the Microsoft Mouse.

If you select a mouse that comes with its own
interface board and communication port (such as
 the Microsoft Mouse) or the No Mouse option,
GINSTALL does one of the following:

o Displays the SET PRIMARY DEVICE Menu, if the
assignment file already lists a display
monitor.   The SET PRIMARY DEVICE menu is
described later in this section.

o Completes the selection and returns you to
the MAIN MENU, if the assignment file does
not already list a display monitor

If you select one of the other mouse options,
GINSTALL displays the MOUSE COMMUNICATION
PORT Menu, below.

MOUSE   With this menu you identify the communication
COMMUNICATION PORT   port to   which the   mouse is connected.
Menu   Without this information, GSX-86 does not know
                                where to look for mouse input.   Figure 4-9
                                shows a MOUSE COMMUNICATION PORT menu.

MOUSE COMMUNICATION PORT

Options

1 Communication Port #1
2 Communication Port #2

===
Enter Option Number
ESCAPE: return to Main Menu

Figure 4-9. MOUSE COMMUNICATION PORT

After you select the communication port,
GINSTALL either:

o Displays the SET PRIMARY DEVICE Menu, if the
  assignment file already lists a display
   monitor.   The SET PRIMARY DEVICE menu   is
   described later in this section.

o Completes the selection and returns you to
   the MAIN MENU, if the assignment file does
   not already list a display monitor.

PLOTTER, PRINTER,
and CAMERA
COMMMICATION PORT
Menus

If you select a plotter, printer, or camera,
GINSTALL displays a communication port menu
  immediately after you select the device. The
menu identifies the port to which the plotter,
printer, or camera is connected. Without this
information, GSX-86 does not know where to send
plotter, printer, or camera output.

Type the communication port's option number,
and press the RETURN key.

If the assignment file already lists a plotter,
printer, or camera, GINSTALL displays the SET
PRIMARY DEVICE menu.

However, if the assignment file does not list
another plotter, printer, or camera, the
selection is complete. GINSTALL returns you to
the MAIN MENU.

SET PRIMARY DEVICE
Menu

The SET PRIMARY DEVICE Menu lets you name the
newly-selected device as the primary device for
its category. The primary device is the device
that an application uses when the assignment
file lists more than one device of any type.

For example, if your system has two display
monitors, the application directs all output to
the primary display unless:

o The application permits you to direct output
   to a secondary device.

o You explicitly direct the output to the
   secondary device.

Changing the
Primary Device

The SET PRIMARY DEVICE Menu, in Figure 4-10,
identifies the device category, the primary
device, and the device you just selected. The
prompt asks if you want the new device to
become the primary device. Type Y (Yes) or N
(No), and press the RETURN key.

SET PRIMARY DEVICE

Device category:
   DISPLAY MONITORS

If you connect more than one of any
device type to your system, the appli-
cation program uses the PRIMARY device
unless you specify otherwise.

The current primary device for the cate-
gory listed above is:

IBM Color Adapter MONOCHROME MODE

Do you want the device you have just
selected for addition to the assignment
file:

     Hercules Graphics Card

to be the primary device? (Y/N)

Figure 4-10. SET PRIMARY DEVICE

If you type Y, the new device becomes the
primary device.

If you type N, the current primary device
remains the primary device.

After you respond to the SET PRIMARY DEVICE
menu, the selection is complete.   GINSTALL
returns you to the MAIN MENU.

SELECTING DEVICE   The SELECT DEVICE FOR DELETION f unction lets you
FOR DELETION   delete a   device from the assignment file.
                      However,   GINSTALL does not change the
                      assignment file or delete device driver files
                      until you   return to the MAIN MENU and choose
                      the UPDATE APPLICATION WORK DISK function.

SELECT DEVICE FOR   To delete a device, select option number 2
DELETION Menu   f rom the MAIN MENU.   GINSTALL displays the
                           SELECT DEVICE FOR DELETION menu, which lists
                           the devices currently selected for the
                           assignment file. Figure 4-11 shows an example
                           of the menu.

              SELECT DEVICE FOR DELETION

                    Options

        I IBM/Epson Graphics Printers HI RES
        2 IBM Color Adapter MONOCHROME MODE
        3 IBM Color Adapter COLOR MODE
        4 Hewlett Packard 747OA/7475A Plotter

     ==
       Enter Option Number
       ESCAPE: return to Main Menu

       Figure 4-11. SELECT DEVICE FOR DELETION

                           Type the option number of the device you want
                           to delete, and press the RETURN key. GINSTALL
                           selects the device for deletion and returns you
                           to the MAIN MENU.

DISPLAY DEVICE   The DISPLAY CURRENT DEVICE SELECTIONS
SELECTIONS   function displays a list of the device drivers currently
                           selected for the assignment file.   Figure 4-12
                           shows a typical display.

CURRENT DEVICE SELECTIONS

DISPLAY MONITORS
        IBM Color Adapter MONOCHROME MODE
        IBM Color Adapter COLOR MODE

PLOTTERS
        Hewlett Packard 747OA/7475A Platter

PRINTERS
        IBM/Epson Graphics Printers HI RE5

CAMERAS
        None

==
    Press RETURN when reads to proceed

 Figure 4-12. Initial CURRENT DEVICE SELECTIONS

        To return to the MAIN MENU, press the RETURN
        key.

        If you select the DISPLAY function either

        o before you add or delete any devices or

        o immediately after you update the assignment
          file

        you see the assignment file list as it
        currently exists on your application diskette.

        However, if you select the DISPLAY function
        after adding or deleting devices, you see the
        assignment file list as it would appear if you
        updated the assignment file at that moment.

For example, suppose Figure 4-12 shows the
devices currently listed in your assignment
file.   If you delete the IBMT) Color Adapter
COLOR MODE display monitor, you see the display
shown in Figure 4-13 the next time you select
the DISPLAY function.

CURRENT DEVICE SELECTIONS

DISPLAY MONITORS
        IBM Color Adapter MONOCHROME MODE

PLOTTERS
        Hewlett Packard 747OA/7475A Plotter

PRINTERS
        IBM/Epson Graphics Printers HI RES

CAMERAS
        None

==
        Press RETURN when ready to proceed

    Figure 4-13. New CURRENT DEVICE SELECTIONS

Although the Color Adapter COLOR MODE monitor
no longer appears in the list, GINSTALL does
not delete the device until you select the
UPDATE function.

UPDATING YOUR   The UPDATE APPLICATION WORK DISK function
SELECTIONS   deletes and/or adds the devices you selected.

When you select the UPDATE function, GINSTALL
follows this sequence:

1. Deletes any device driver files you
   selected. The name of the device currently
   being deleted flashes on and off.

2. Adds any device driver files you selected.
   The name of the device currently being added
   flashes on and off.

3. Rewrites the assignment file.
   Figures 4-14a and 4-14b show you the display
   you see on the monitor at two points during an
   update.

UPDATING APPLICATION WORK DISK

DELETING:
     IBM Color Adapter COLOR MODE

ADDING:
     Hercules Craphics Card
     Polaroid Palette

===

Figure 4-14a. Deleting and Adding Device Driver Files

UPDATING APPLICATION WORK DISK

DELETING:
        IBM Color Adapter COLOR MODE

ADDING:
        Hercules Graphics Card
        Polaroid Palette

WRITING assignment file

===

Figure 4-14b. Writing the Assignment File

After deleting or adding device drivers and
rewriting the assignment file, GTNSTALL
displays the message

Press RETURN when ready to proceed

When you press the RETURN key, GINSTALL returns
you to the MAIN MENU.

Changing Device   During an update, GINSTALL copies driver
Driver Diskettes   files from a device driver diskette to a
                     diskette you specified when you started
                     GINSTALL. If the needed driver file is not on
                     the current device driver diskette, GINSTA:,L
                     displays the following message:

Current selection not on this device driver
library disk.
Please insert other device driver library disk.
Press RETURN when ready to proceed

Remove the driver library diskette, insert the
 library diskette that contains the driver file,
and press the RETURN key.

If you do not change diskettes, or if the
diskette you insert does not contain the needed
driver file, GINSTALL displays the following
message when you press the RETURN key:

ERROR: Current selection not found.
Device driver file: D:NNNNNNNN.SYS
This selection abandoned.
Press RETURN when ready to proceed

D:NNNNNNNN.SYS is the drive identifier and
filename for the driver file of the device you
selected.

GINSTALL abandons the current selection. When
you press the RETURN key, GINSTALL continues
the update with the next driver file or writes
the new assignment file.

GINSTALL Not In
Default Drive

If the diskette containing GINSTALL is not in
the default drive when the update is complete,
GINSTALL displays the message:

Update complete. Please insert other
device driver library disk.

Press RETURN when ready to proceed

Insert the diskette containing GINSTALL, and
press the RETURN key. The message disappears
and the RETURN key prompt moves below the
dashed line.   Press the RETURN key again to
return to the MAIN MENU.

Warning Messages   When you select the UPDATE APPLICATION WORK
                                    DISK function, GINSTALL checks your selections for
                                     the number of devices of each type.   If the
                                    updated assignment file contains:

                                    o no display monitor

                                    o more than two display monitors

                                    o more than one plotter, printer, or camera

                                    GINSTALL then displays the warning messages in
                                    Figures 4-15 and 4-16 before updating the
                                    application diskette.

                    WARNING

          Category: PRINTERS

        Most application programs cannot use more
         than a maximum number of devices from
        this categarg.

        The maximum for this categor@ is: 1

        You have selected: 2

        Do you want to return to the Main Menu to
        delete selections? (Y/N)

        Figure 4-15. Maximum Device Number Warning

WARNING

Category: DISPLAY MONTTORS

Most application programs require at
least a minimum number of devices for
 this category.

The minimum for this categarg is: 1

You have selected: 0

Do you want to return to the Main Menu to
make selections? (Y/N)

Figure 4-16. Minimum Device Number Warning

The warnings give you the following
 information:

o the device category

o the maximum or minimum number of devices for
   the category

o the number of devices you selected

The prompt at the end of the warning asks if
 you want to return to the MAIN MENU to add or
delete selections. Type Y (Yes) or N (No), and
press the RETURN key.

If you type Y, GINSTALL cancels the update request and returns you to the MAIN MENU. To add a device, select option number 1 from the MAIN MENU. To delete a device, select option number 2 from the MAIN MENU.

If you type N (No), GINSTALL updates the assignment file according to your selections.

If you delete all your display monitors or if you have less than the minimum number of devices required in another category, you might encounter one of the following:

o you cannot install GSX-86

o you can install GSX-86 but cannot start your
   application.   Instead, you receive the
   following message:

No graphics input, press RETURN

If either situation occurs, you must return to GINSTALL and add the missing device drivers.

EXIT TO OPERATING   The EXIT TO OPERATING SYSTEM function exits
SYSTEM   GINSTALL and returns you to the operating
                         system prompt on the current default drive.

Error Message   If you select the EXIT function after you add or
                         delete devices, but before you update the
                         assignment file, GINSTALL displays the message:

                         DEVICES SELECTED TO ADD OR DELETE.
                         Abandon selections? (Y/N) N

                         GINSTALL prompts an N for No. Press the RETURN
                         key, to return to the MAIN MENU. You can then
                         select option number 8 and update the
                         assignment file.

If you type Y for Yes over the N prompt, GINSTALL abandons the pending selections and returns you to the operating system.

End of Section 4

Appendix A
GSX-86 Error Messages

ERROR MESSAGES   You can receive an error message when you use
                      GSX-86 for one of the following reasons:
                      o The wrong diskette is in the disk drive
                        specified in the error message.
                      o The file specified in the error message is
                        damaged and needs to be regenerated.
                      o Not enough memory for GSX-86 and device
                        drivers.

                      The error messages and solutions are discussed
                      below.

D:ASSIGN.SYS not found
d:ffffffff.SYS not found
d:ffffffff.SYS close error

                      All of these error messages tell you that GSX-
                      86 cannot find a file it needs. Generally, the
                      file cannot be found because the diskette in
                      the drive specified does not contain the file
                      specified in the message.

                      The d represents the disk drive identifier.
                      ASSIGN.SYS is the name of the assignment file
                      GINSTALL creates. The ffffffff.SYS portion of
                      a message represents the filename of a missing
                      file.

                      To correct the error, insert the diskette that
                      contains the ASSIGN.SYS file and the device
                      driver files and proceed.

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D:ASSIGN.SYS syntax error
d:ffffffff.SYS empty
d:ffffffff-SYS contains absolute segment

> All of these error messages tell you the file
> specified in the message is empty or damaged.
>
> The d represents the disk drive identifier.
> ASSIGN.SYS is the name of the assignment file
> GINSTALL creates. The ffffffff.SYS portion of
> a message represents the filename of the empty
> or damaged file.
>
> To restore the f iie, use GINSTAIL to update the
> diskette containing the file.   Refer to the
> instructions on using GINSTALL in Section 4 of
> this guide. After you use GINSTALL, start GSX-
> 86 and your application again.

Not enough memory for GSX-86

> This error message tells you your computer does
> not have enough Random Access Memory.
>
> To use GSX-86 and your applications, you need
> to add more Random Access Memory. The amount
> of memory required varies with the computer,
> operating system, and applications you are
> using. Consult your computer dealer for more
> details.

> End of Appendix A

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