



DIGITAL
RESEARCH®

DR Draw™

Graphic Application

User's Guide Supplement

for PC DOS

on the IBM® Personal Computer



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Foreword

DR Draw

DR Draw™ for the IBM® Personal Computer and the IBM Personal Computer Disk Operating System (PC DOS) lets you create many types of charts, diagrams, report covers, and drawings. Whatever you create can be printed on paper, transparencies, or film for reports and presentations.

Your DR Draw package comes with Graphics System Extension (GSX-86™), a special program that adds graphics capabilities to your operating system and lets you use several types of printers, plotters, and other output devices. GSX-86 also lets you use many graphics programs developed by Digital Research® and other software manufacturers.

This manual is a supplement to the *DR Draw Graphic Application User's Guide* (cited as *DR Draw User's Guide*).

DR Draw PACKAGE

The DR Draw package contains five diskettes: two DR Draw program diskettes and three library diskettes. The DR Draw program diskette that you use depends on whether your computer has an 8087 microchip.

- If your computer has an 8087 microchip, use the DR Draw program diskette labeled “DR Draw 8087.”
- If your computer does not have an 8087 microchip, use the DR Draw program diskette labeled “DR Draw.”

Each DR Draw program diskette contains the following files:

- DR Draw program files
- GSX-86 files
- README.DOC information file
- GINSTALL program file
- a preconfigured set of fonts
- a preconfigured set of device drivers

The DR Draw library diskettes contain two program libraries:

- a complete device driver library of GSX programs necessary to support many types of printers and plotters other than those in the preconfigured set of device drivers on the DR Draw program diskette
- a complete library of font styles for use with DR Draw

Changing font styles is explained in Appendix A of the *DR Draw User's Guide*.

SUPPLEMENT OVERVIEW

This supplement describes how to install DR Draw on your computer. It contains two sections and an appendix. Section 1 describes the system requirements for DR Draw. Section 2 explains how you

- copy your DR Draw program diskette to create a work diskette
- check the README.DOC file
- use GINSTALL to reconfigure the device driver files, if necessary
- format a diskette to store the picture files you create with DR Draw
- start DR Draw

Section 2 includes an installation checklist in case you have a problem starting DR Draw.

Finally, Appendix A describes the plotter configuration and communications protocol.

In this supplement, user input is shown in colored type.

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Section 1

SYSTEM REQUIREMENTS

INTRODUCTION

DR Draw is easy to install and use on your microcomputer system. This section explains what you need to use DR Draw on your IBM Personal Computer with the IBM Personal Computer Disk Operating System (PC DOS).

MINIMUM COMPONENTS

DR Draw requires the following minimum components:

- 128 kilobytes of Random Access Memory (RAM)
- two double-sided disk drives, or a hard disk and one double-sided disk drive
- graphics card
- graphics monitor (monochrome or color)

If your IBM Personal Computer does not have these minimum components, contact your computer dealer.

OPTIONAL COMPONENTS

In addition to the minimum components, you can have devices such as the following attached to your computer:

- printer
- plotter
- mouse
- camera

PRECONFIGURED SET OF DEVICE DRIVERS

GSX-86 contains programs that give graphics capability to your operating system and control the output devices attached to your computer. These programs are called device drivers.

For your convenience, device drivers for the most popular output devices are on your DR Draw program diskette. If the output devices on your computer are listed below, the preconfigured device drivers on the DR Draw program diskette do not need to be changed. If you have other output devices that are included in the GSX device driver library, refer to "Use GINSTALL to Change Device Drivers" in Section 2.

- IBM Color/Graphics Monitor Adapter Card with or without a Microsoft® Mouse
- Hewlett-Packard® 7470A or 7475A Graphics Plotter configured according to the instructions in Appendix A
- one of the following printers:

IBM 80 CPS Graphics Printer

Epson® MX-80 with GRAFTRAX Plus

Epson MX-100

Epson FX-80™

Epson FX-100™

USING A MOUSE

If you have a GSX-supported mouse, such as the Microsoft Mouse, you can use it with DR Draw to make menu selections and to draw. The *DR Draw User's Guide* explains how to use a mouse with DR Draw. If you want to use the keyboard instead of the mouse, follow the instructions in the *DR Draw User's Guide*.

GRAPHICS CURSOR MOVEMENT

When you create drawings with DR Draw, a graphics cursor appears, showing you your location on the drawing surface. The graphics cursor has two speeds—fast and slow. DR Draw lets you adjust the speed and distance the graphics cursor moves by pressing and holding down the SHIFT key, ⇧. The cursor normally moves fast. To make the cursor move slowly, press and hold the SHIFT key while you press an arrow key to move the cursor. To make the graphics cursor move fast again, release the SHIFT key before you press an arrow key.

End of Section 1

Section 2

INSTALLING DR DRAW

INTRODUCTION

After checking the system requirements, you are ready to install DR Draw. This section describes the following procedures:

- duplicate your DR Draw program diskette to create a work diskette
- check the README.DOC file on your work diskette
- use GINSTALL to change the device drivers on the work diskette, if necessary
- format a diskette to store the picture files you create with DR Draw

After you complete these tasks, turn to “Start DR Draw” in this section.

If you have the equipment listed in Section 1 and know how to do the tasks listed above, proceed with these tasks to protect your investment in DR Draw. If you need help with these tasks, this section contains step-by-step instructions.

Note: The information provided in this supplement does not replace the manuals that came with your computer and operating system. To maintain files on a diskette, you need to use operating system commands that perform the following tasks:

- erase files
- check the remaining space on a diskette
- copy files

Refer to your operating system manual for these and other commands.

The procedures described in this supplement assume your computer has two double-sided floppy disk drives. If your computer has a hard disk and one double-sided floppy disk drive, refer to your operating system manual for details on how to copy and format diskettes.

COPY YOUR DR Draw PROGRAM DISKETTE

Before you use DR Draw, copy the program diskette. The duplicate becomes your work diskette. After you make your work diskette, store the DR Draw program diskette in a safe place away from magnets, magnetized elements, dust, humidity, extreme heat, and temperature changes. By copying the DR Draw program diskette, you can create another copy of DR Draw if you accidentally damage your work diskette.

Note: Your target diskette, the diskette that becomes your DR Draw work diskette, must be formatted. If you need help formatting a diskette, refer to "Format a Diskette," in this section.

The following steps help you copy your DR Draw program diskette using two double-sided floppy disk drives. For more information on copying a diskette, see your operating system manual.

1. Ensure the operating system prompt, A>, appears on the screen.
2. Insert the DR Draw program diskette in drive A.
3. Insert a formatted target diskette in drive B.
4. Type the following COPY command:

```
A>COPY A:*,* B:
```

Press the RETURN key, ↵.

This command allows you to copy all the files on the diskette in drive A to the diskette in drive B.

5. The message on your screen displays the filenames as they are being copied.

6. When the copying process is done, the message on your screen says:

`nn File(s) copied`

The nn appears as the number of files copied.

7. If you wish to copy your other DR Draw diskettes, repeat the above process until you have copied all diskettes. Label and date your DR Draw work diskette and any other diskettes that you copied. Put the DR Draw distribution diskettes in a safe place.

CHECK THE README.DOC FILE

The README.DOC file on your DR Draw work diskette lists the files on the DR Draw program and library diskettes.

Display or print the contents of the README.DOC file before you continue. Follow the instructions in your operating system manual that tell you how to display the contents of a file on the screen or print the contents of a file on a printer.

If the output devices attached to your computer are among those in "Preconfigured Set of Device Drivers," in Section 1, turn to "Format a Diskette," in this section. If your output devices differ, you need to change the device drivers on your work diskette. Refer to "Use GINSTALL to Change Device Drivers."

USE GINSTALL TO CHANGE DEVICE DRIVERS

The GINSTALL program on your DR Draw work diskette tells you what device drivers are in the device driver library on your DR Draw library diskettes. GINSTALL also explains how to change the device drivers on your work diskette. You need to use GINSTALL if you have

- a graphics card or output devices other than those listed in “Preconfigured Set of Device Drivers,” in Section 1
- a color graphics monitor and you want to draw in color
- both a color and a monochrome graphics monitor and you want to draw in color

Follow the five steps below to use GINSTALL.

1. Ensure the operating system prompt, A>, appears on your screen.
2. Insert your work diskette in drive A.
3. Insert a DR Draw device driver library diskette in drive B.
4. Type the GINSTALL command as follows:
`A>GINSTALL`
5. Press the RETURN key. Follow the instructions that appear on your screen.

FORMAT A DISKETTE

You create picture files when you use DR Draw. To save these files, you must store them on a formatted diskette. If you already have a formatted diskette, label it to store your DR Draw picture files and turn to “Start DR Draw” in this section.

The following procedure explains how to format a diskette. If you format a used diskette that contains files, this process removes all the files on it.

1. Insert the operating system diskette in drive A and ensure the operating system prompt, A>, appears on your screen.

2. Type the FORMAT command shown here:

```
A>FORMAT A:
```

Press the RETURN key.

3. The screen displays a message asking you to insert the diskette to be formatted and to strike any key when you are ready to proceed.
4. Insert the diskette to be formatted in drive A. Press any key to proceed with formatting.
5. When the diskette has been formatted, the screen displays the message:

```
Formatting...Format complete
```

```
nnnnnnn bytes total disk space
```

```
nnnnnnn bytes available on disk
```

```
Format another (Y/N)?
```

The lowercase n's in the above message appear on your screen as numbers showing total space on the diskette and the space available on the diskette. The message `Format another (Y/N)?` asks whether you would like to format another diskette.

6. Type the letter N for no if you do not want to format another diskette. You do not need to press the RETURN key.
7. After you type N for no, the system prompt, A>, appears. Remove the newly formatted diskette from drive A and label it for storing the DR Draw picture files you create.

START DR Draw

You have now completed five procedures preparatory to starting DR Draw.

- You copied the DR Draw program diskette to create your work diskette.
- You checked the README.DOC file on your work diskette.
- You used GINSTALL to change the device drivers on your work diskette, if necessary.
- You stored the DR Draw program and library diskettes in a safe place.
- You formatted and labeled a diskette to store the picture files you create with DR Draw.

You are now ready to use DR Draw. If the system prompt is not on your screen, insert the operating system diskette in drive A. Press and hold the CONTROL (Ctrl), the ALTERNATE (Alt), and the DELETE (Del) keys. Press all three keys simultaneously; then release them. When the system prompt appears on your screen, remove the operating system diskette from drive A and insert your work diskette. Put the formatted diskette for your DR Draw picture files in drive B. Type the DRAW command shown below.

A>DRAW

Press the RETURN key.

The GSX-86 copyright message appears and tells you that GSX-86, the program that gives your operating system graphics capability and controls the output devices, is available for use. After the GSX-86 copyright message, a DR Draw message appears as DR Draw is loaded into memory. You then see the Main Menu. You are now ready to turn to your *DR Draw User's Guide*, which tells you how to create graphic designs with DR Draw.

**INSTALLATION
CHECKLIST**

If you have a problem starting DR Draw, use the checklist below to ensure you completed all necessary steps.

- ☐ Is your computer turned on?
- ☐ Is the operating system prompt, A>, on your screen?
- ☐ Did you use the correct DR Draw program diskette to create your work diskette?
- ☐ Did you put your work diskette in drive A?
- ☐ Did you use GINSTALL to change the device drivers on your DR Draw work diskette, if necessary?
- ☐ Does your work diskette contain DR Draw and GSX-86?
- ☐ Have you typed the DRAW command to start DR Draw?

End of Section 2

Appendix A

PLOTTER CONFIGURATION

Configure the Hewlett-Packard 7470A and 7475A Graphics Plotters as follows:

- option 1 (RS-232-C/CCITT V.24)
- null modem cable
- plotter configured with the communications protocol:
 - 8-bit ASCII
 - no parity
 - 1 stop bit
 - 2400 baud

There are two communications ports on the IBM Personal Computer: communications port 1 and communications port 2. Connect the plotter to communications port 1.

Refer to the operator's manual for the plotter, or contact your computer dealer for details on the preceding communications protocol.

End of Appendix A

