EPSON®

VGA Utilities Guide

This manual is printed on recycled paper and is 100% recyclable.

IMPORTANT NOTICE
DISCLAIMER OF WARRANTY

Epson America makes no representations or warranties, either express or implied, by or with respect to anything in this manual, and shall not be liable for any implied warranties of merchantability and fitness for a particular purpose or for any indirect, special or consequential damages. Some states do not allow the exclusion of incidental or consequential damages, so this exclusion may not apply to you.

COPYRIGHT NOTICE

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical photocopying, recording, otherwise, without the prior written permission of Epson America, Inc. No patent liability is assumed with respect to the use of information contained herein. Nor is any liability assumed for damages resulting from the use of the information contained herein. Further, this publication and features described herein are subject to change without notice.

TRADEMARKS

Epson is a registered trademark of Seiko Epson Corporation.

General notice: Other product names used herein are for identification purposes only and may be trademarks of their respective companies.

Copyright © 1993 by Epson America, Inc.
Torrance,Califomia 400195000

Contents

Introduction 1
Installing Drivers and Utilities 5
Using the INSTALL Program 6
AutoDesk Products 8
- Installing the Drivers 10
- Configuring Your Auto Desk VGA Environment 10
- Using FASTACAD.BAT 11
- Configuring VGA Colors 11
- Configuring AutoCAD, Versions 9,10,11 13
- Configuring AutoCAD, Version 12 14
- Configuring AutoShade with RenderMan 15
- Configuring AutoDesk 3D Studio 16

Framework II 17
- Copying Framework II Drivers. 18
- Installing the Drivers 18

Framework III 20
GEM,Version 3.x 22
- Creating a GEM Driver Pack 22
- Installing the Drivers 23
- Configuring GEM for the New Drivers 24

IBM OS/2, Version 2.0 25
- Installing the Drivers 25
- Configuring OS/2 for the VGA Drivers 26

Lotus l-2-3 or Symphony, Version 2.x 28
Lotus l-2-3,Version 3.x 29
Microsoft Windows, Version 3.0 31
- Installing the Drivers 31
- Configuring the Drivers 32
- Modifying the SYSTEM.INI FiIe 34

Microsoft Windows, Version 3.1 35
- Installing the Drivers 35
- Configuring the Drivers 36

MicrosoftWord,VersionS.O 37
PCad 39
Ventura Publisher 40
VersaCAD386 42
VersaCAD 2D 43
WordPerfect,VersionS.O 45
WordPerfect, Version 5.1 46
WordStar 47
VGAUtilities 48
CLMODE 48
SetRES 52

Introduction

The Utility diskettes included with your system contain special VGA (video graphics array) drivers and utilities for your computer's built-in VGA adapter. This booklet describes how to install and use these drivers and utilities.

Since software programs can run on different types of display adapters with different types of monitors, the VGA drivers identify your display adapter and monitor for the software. These drivers are files your software uses to communicate with your display adapter and monitor.

A utility is a program that supports the processes of a computer. The utilities on your diskettes let you change the screen resolution and enhance your system operation by controlling the screen refresh rate or setting various video modes. You can also use the CLMODE utility to see how much video memory is installed in your computer.

Your computer's built-in VGA adapter is 100% compatible with IBM VGA. This adapter allows you to use the computer with Epson® VGA monitors, other brands of VGA monitors, and VGA compatible, multifrequency monitors that use analog input. The drivers and utilities described in this guide work with any of these monitors.

Standard VGA monitors display resolutions up to 640 x 480, and you do not need to install the drivers or utilities for your monitor to operate properly with your application programs at this resolution. Also, your system supports the VESA standard 1.20. If you have programs that use VESA, install the VESA drivers that came with these programs.

However, you need to install these drivers if you want to use resolutions over 640 x 480 or take advantage of the following special features:

- Interlaced and non-interlaced resolutions up to 1024 x 768 in graphics modes with up to 16.8 million colors in 640 x 480 resolutions; check the table on page 3 for resolutions and colors supported for your applications
- 132-column text mode in 16 colors
- High speed video memory interface
- 16-bit data path to video memory and hardware registers
- Video adapter control of graphics cursor movement.

Note
You can use Epson's VGA drivers and utilities only with the computer's built-in VGA adapter. If you have installed an optional display adapter card, use **the drivers** and documentation that came with it.

These programs are designed for systems running MS-DOS or OS/2. If you are using another operating system, see the documentation that came with it for information about the VGA drivers you can use.

Your computer comes with either 512KB or 1MB of video memory installed on the system board. If your system has 512KB, you can upgrade the video memory to 1MB by installing four additional video memory chips. (See Chapter 2 of the *User's* Guide for installation instructions.) The resolutions your system can support for each application depend on the size of your video memory.

The following table lists the applications for which high resolution VGA drivers are provided, as well as the supported resolutions and colors for each application. Those drivers requiring 1MB of video memory are identified in the last column.

Supported applications

Application	Supported resolutions	Supported colors	Requires 1MB memory
AutoCAD, versions 9, 10, 11 AutoCAD/386, versions 10, 11, 12 AutoDesk 3D Studio, version 1.0 AutoShade 1.x AutoShade with RenderMan 2.0 AutoSketch 3.x	640 × 480 800 × 600 1024 × 768 640 × 480 800 × 600 1024 × 768	16 16 16 256 256 256	 x
Framework II and III	132 × 25 text 132 × 43 text 640 × 480 800 × 600	16 16 256 256	
GEM, version 3.x	800 × 600 1024 × 768	16 16	
IBM OS/2, version 2.0	800 × 600 1024 × 768	16 16	
Lotus 1-2-3, version 2.x	132 × 25 text 132 × 43 text 800 × 600	16 16 16	
Lotus 1-2-3, version 3.x	800 × 600 1024 × 768	16 16	
Lotus Symphony, version 2.0	132 × 25 text 132 × 43 text 800 × 600	16 16 16	
Microsoft Windows, version 3.0	640 × 480 800 × 600 1024 × 768 640 × 480 800 × 600 1024 × 768	16 16 16 256 256 256	 x

Supported applications (Continued)

Application	Supported resolutions	Supported colors	Requires 1MB memory
Microsoft Windows, version 3.1	640 × 480	16	
	800 × 600	16	
	1024 × 768	16	
	640 × 480	256	
	800 × 600	256	
	1024 × 768	256	x
	640 × 480	65,536	x
	800 × 600	65,536	x
	640 × 480	16.8M	x
Microsoft Word, version 5.0	132 × 25 text	16	
	132 × 43 text	16	
PCad, version 4.x	800 × 600	16	
	1024 × 768	16	
Ventura Publisher, version 2.x, 3.0	800 × 600	16	
	1024 × 768	16	
VersaCAD 386 and VersaCAD 2D	800 × 600	16	
WordPerfect, version 5.0	800 × 600	16	
WordPerfect, version 5.1	132 × 25 text	16	
	132 × 43 text	16	
	800 × 600	16	
	1024 × 768	16	
WordStar, versions 3.x - 7.x	132 × 25 text	16	
	132 × 43 text	16	

In addition to the drivers for the applications listed above, the Utility diskettes include INSTALL programs to help you install the drivers on your hard disk.

The Utility 1 diskette contains VGA drivers for MS-DOS based applications. The Utility 2 diskette contains drivers and utilities for Windows 3.0 and 3.1. The Utility 3 diskette contains VGA drivers and utilities for the OS/2 environment.

You'll also find the following utility programs:

- CLMODE
- SetRES.

The CLMODE utility allows you to see the amount of video memory you have installed, determine the video modes you want to use, and change the vertical refresh rates. The SetRES utility allows you to change your screen resolutions from within the Windows environment.

You may want to install these utilities even if you are not installing any of the VGA drivers. See page 48 for more information.

Installing Drivers and *Utilities*

The information in this guide is organized alphabetically by application program or operating environment. To install a particular driver, look up your application or environment in the table of contents; then turn to the appropriate section for instructions. When you are instructed to run the INSTALL program, see the section below.

> **Note**
> Each of the Epson VGA drivers is designed to work with a specific version of software. Make sure the driver you select is compatible with the version of software you are using, or you may get unpredictable results.

Using the *INSTALL* Program

The INSTALL program on your Utility 1 diskette provides an easy way to install the VGA drivers and utilities for your MS-DOS based applications. You can choose to install of the drivers at once or select individual sets of drivers to install.

> **Note**
> You do not need to use the INSTALL program on the Utility 1 diskette to install the 0S/2 and Windows drivers. See "IBM OS/2, Version 2.0" on page 25 or "Microsoft Windows, Version 3.0" on page 31 for installation instructions for these drivers.

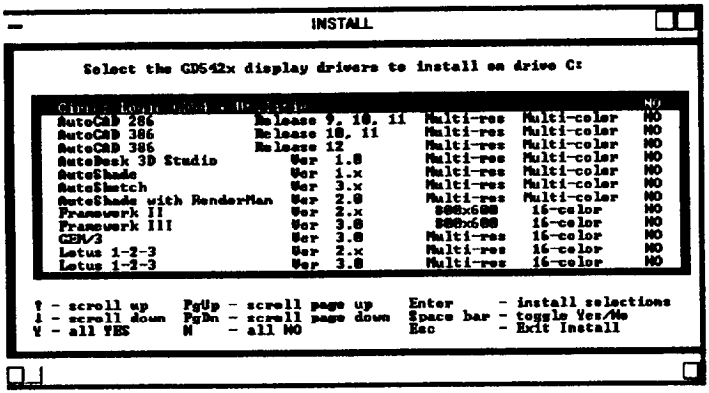
Follow these steps to run INSTALL:

1. Insert the Utility 1 diskette in drive A.
2. Type **A:** and press Enter to log onto drive A.
3. Type the following and press Enter to start the installation program:

   ```
   INSTALL
   ```

   You see the Cirrus Logic copyright screen.
4. Press Enter. The INSTALL program prompts you to select the drive where you want to install the drivers.
5. Press Enter again to accept the default or use the arrow keys to move the cursor to the drive you want to select and press Enter.

You see this driver selection screen:



6. Use the **arrow** keys **to** highlight **the** `driver` **you want to select.**

7. Press the space bar to mark the driver for installation.

8. Press Enter to install your selections. As the program copies each of the drivers you selected, it displays default directories for each application.

9. Press Enter to accept the default or delete the displayed directory and type the directory containing your application. If the file or directory already exists, the INSTALL program asks you **if you want to** copy the new drivers over existing files.

   As the INSTALL program copies the drivers, it displays the files it is copying. When all the selected drivers are installed, you see the following prompt:

   ```
   The GD5422 display drivers installation
   is complete.
   Press any key to continue...
   ```

10. Press a key to return to your operating system.

AutoDesk Products

The Utility 1 diskette includes VGA drivers for the following AutoDesk programs:

- AutoCAD and AutoCAD/
- AutoShade
- AutoShade with RenderMan
- AutoSketch
- 3DStudio.

The AutoDesk drivers are fast display list drivers (DLDs) that accelerate the redraw, pan, and zoom functions of AutoDesk products. The drivers support extended VGA modes in 16 and *256* colors. If you have 1MB of video memory, these drivers support resolutions of 1024 x 768 in 256 colors. (See the table on page 3 for supported resolutions, colors, and memory requirements for AutoDesk products.)

Your system comes with two sets of display list drivers: the DLD386-VGA and the DLD-VGA. The table below lists the capabilities supported by each driver set; you can use it to determine which one you want to install.

AutoCAD *driver set capabilities*

Capability	DLD386-VGA	DLD-VGA
AutoCAD version 9/286		x
AutoCAD version 10/286		x
AutoCAD version 10/386	x	x
AutoCAD version 11/286		x
AutoCAD version 11/386	x	x
AutoCAD version 12/386	x	
AutoShade version 1.x		x
AutoShade with RenderMan version 2.0	x	
AutoSketch version 3.x		x
3D Studio version 1.0	x	

You need to perform several steps to use your VGA drivers with your AutoDesk programs. Each of these steps are described in more detail in the following sections.

- Install the drivers using the INSTALL program
- Configure your environment using the DLDSETUP program
- Execute the FASTACAD.BAT file before you start your AutoDesk application
- Configure the driver for the colors you want using COLORl6.EXE and COLOR256.EXE
- Reconfigure your AutoDesk applications using the appropriate display device.

Installing the Drivers

If you have not already installed your AutoDesk product, follow the instructions in your AutoDesk documentation to install it. Select a standard VGA driver and make sure the application is functioning properly before you install these drivers.

> **Note**
> The AutoDesk drivers share memory with AutoCAD. If you notice significant hard disk activity while you are using the AutoDesk drivers, you probably need to install additional RAM.

To install the drivers, run the INSTALL program, described on page 6, to copy the AutoDesk drivers to your hard disk.

Select the drivers that correspond to the AutoDesk products you are using.

Configuring Your AutoDesk VGA Environment

Follow these steps to configure your AutoDesk environment using the DLDSETUP program:

1. Log on to the directory where you've stored your AutoDesk drivers.

2. Type `DLDSETUP` and press Enter. The program displays a welcome screen for DLDSETUP.

3. Press any key, then follow the instructions on the screen to select the options you want to use.

   When you respond to the final prompt, the program creates the file FASTACAD.BAT in your current directory.

Using FASTACAD. BAT

You need to run the FASTACAD.BAT file before you start your AutoDesk application. You can type **FASTACAD** and press Enter before you run the application for the first time.

You can also modify your AUTOEXEC.BAT file so that it automatically runs FASTACAD. For MS-DOS 3.2 or earlier, place the command "FASTACAD" as the last command in your AUTOEXEC.BAT file and make sure the directory containing FASTACAD is in your path. For later versions of MS-DOS, use the command "CALL FASTACAD" anywhere in the AUTOEXEC.BAT file.

You can also place the commands within the FASTACAD file directly into your AUTOEXEC.BAT file or include them in a batch file which also starts your AutoDesk application.

Configuring VGA Colors

You can modify all your screen colors, including menu colors, text colors, dialog box colors, and drawing colors using the CustomColors utilities COLOR16.EXE and COLOR256.EXE. These utilities are on your Utility 1 diskette.

CustomColors allows you to select the colors you want to display in your AutoDesk product using a simulated screen, complete with all possible objects.

> **Note**
> You must run DLDSETUP before you can configure your VGA colors.

Follow these steps to set up the colors you want your AutoDesk product to display on your monitor:

1. Log onto your AutoDesk product program directory.

2. Type `COLOR16` to define colors for N-color mode or type **COLOR256** to define colors for 256-color mode. You see a screen simulating the AutoDesk application screen. The menu at the bottom of the screen indicates the functions you can perform within this utility.

3. Use the table below to set your AutoDesk application colors.

Defining AutoDesk application colors

Use	To
Object	Change the color of any screen object. Select the object you want to define and press Enter. Use the arrow keys to change the colors.
Drawing	Map any color between 0 and 255 to one of 16 physical colors.
Physical	Change the red, green, and blue components of the physical colors. Select the color you want to edit and press Enter. Position the sliding menu bars to reflect the relative intensity of the selected color.
ADI pal	Display a default ADI color palette.
VGA pal	Display a default VGA color palette based on the VGA display device you selected when you configured your AutoDesk product.
Reset	Reset the physical colors to their initial state.
Load	Reload the color information from the file DLDCOLOR.DAT.
Save	Save the current color palette in DLDCOLOR.DAT.
Exit	Exit the CustomColors utility.

When you select Save from the menu, the program creates the file DLDCOLOR.DAT in your AutoDesk program directory.

Configuring AutoCAD, Versions 9, 10, 11

The first time you use AutoCAD with a DLD-VGA driver, you must change the AutoCAD display device configuration. Follow these steps:

1. Select option 5, **Configure AutoCAD** from the main menu.

2. Select option 3, Configure Video Display.

3. Select one of the following display devices:

AutoCAD configuration display devices

Version	Display device
AutoCAD 286, versions 9, 10, 11	ADI 4.0
AutoCAD 386, versions 10 and 11	ADI P386

Once you have configured AutoCAD, you can use AutoCAD commands to better control display list processing, as shown in the following table.

DLD commands

Command	Function
DLDCLEAN	Removes all deleted objects from the display lists
DLDHELP	Provides a one-line summary for every special DLD386-VGA command; you may want to view the output from the text screen
DLDVER*	Displays DLD386-VGA version and serial number
DLDDLMODE	

DLD commands (continued)

Command	Function
DLDFREEMEM*	Frees up all display list memory currently used by DLD386-VGA and performs a DLDCLEAN
DLDDLISTRM	Changes the display list to Remove mode
DLDDLISTOV	Changes the display list to Overwrite mode
DLDDLISTDS	Disables the display list
DLDFLISTRM	Changes the fast redraw list to Remove mode
DLDFLISTOV	Changes the fast redraw list to Overwrite mode
DLDFLISTDS	Disables the fast redraw list
DLDUSAGE*	Displays the amount of EMS and extended memory available and the amount of memory each viewport is occupying
DLD-VGA -U	Removes the DLD-VGA TSR from memory; if you have changed the interrupt vector for AutoCAD, make sure the DLD CFG environment variable points to the directory containing the DLDSETUP.DAT configuration file

* **These commands work only with AutoCAD 386.**

Configuring AUTOCAD, *Version 12*

When you install the VGA drivers for AutoCAD, version 12, **there** are a few extra steps you have to perform after you run DLDSETUP:

1. Log onto the directory where you started DLDSETUP.
2. Copy the file DLDVGA.EXP to RCPANA.EXP.
3. Copy the file DLDVGA256.EXP to RCPANA1.EXP.

4. Use an editor that can save files in ASCII format to edit the FASTACAD.BAT file. Change all occurrences of DLDVGA.EXP to RCPANA.EXP. Also change any occurrences of DLDVG256.EXP to RCPANAl .EXP.

5. Add the DLD software to your ACADDRV environment. For example, if your AutoCAD is installed in the C:\ACAD directory and the DLD386-VGA files are installed in C:\ACAD386, type the following command and press Enter:

```
SET ACADDRV=C:\ACAD\DRV;C: \ACAD386;
```

   If you're using a batch file to start AutoCAD, also change the SET command line in your batch file.

6. Configure your AutoCAD, version 12, by selecting DLD386-VGA as your display device.

Configuring AutoShade with RenderMan

The first time you use AutoShade with a DLD386VGA driver, you must follow these steps to change the display device configuration:

1. Log onto the AutoShade program directory.

2. Type the following and press Enter to start the AutoShade program:

```
SHADE /R
```

3. Select P386 AutoDesk Device Interface as the display driver.

4. Select P386 AutoDesk Device Interface as the rendering driver.

5. If you are running the display and rendering screen on the same monitor, select Single Monitor.

Configuring AutoDesk 3D Studio

Before you can use 3D Studio, you'll need to edit the 3DS.SET file in your 3DS directory. Follow these steps:

1. Make a copy of the original 3DS.SET file and name the copy 3DS.OLD.

2. Use a text editor or word processing program that can save a file in ASCII format to edit the 3DS.SET file.

3. Remove the semicolon in front of the DEFAULT-DISPLAY line and change the text to the following:

```
DEFAULT-DISPLAY=RCPADI
```

4. Remove the semicolon in front of the MAIN-DISPLAY line and change the text to the following:

```
MAIN-DISPLAY=RCPADI
```

5. If you selected the 256 color driver, remove the semicolon in front of the MATERIAL-DISPLAY line and change the text to the following:

```
MATERIAL-DISPLAY=RCPADI
```

6. Save this file as an ASCII file.

Framework II

The following table lists the driver filenames for the available Framework II text and graphics resolutions.

Framework II driver files

Filename	Desktop format	Zoom format
AVGAFW2 1. SC	132x25	640X480
AVGAFW22.SC	132x43	640x480
AVGAFW23.SC	132x25	800X600
AVGAFW24.SC	132x43	800X600
AVGAFW25.SC	800 x 600 graphics	800X600

If you have not yet installed Framework II, follow the instructions in your Framework II documentation to install it with a standard VGA display driver.

Framework II requires that you install drivers from the root directory of a diskette. To install **the** drivers for Framework II, you'll need to do the following:

- ❑ Copy the files to the root directory of a diskette
- ❑ Install the drivers using the Framework II Setup program.

Copying Framework II Drivers

Follow these steps to copy the Framework drivers to the root directory of a diskette:

1. Use the INSTALL program on the Utility `1 diskette` as described on page 6 to copy the drivers to the diskette. When the program prompts you to supply a drive and directory, type a directory on your hard disk where you can easily locate them to copy them to a diskette; for example:

   ```
   C : \TEMP
   ```

2. Select the Framework II drivers and respond to the prompts as they appear on the screen. The program displays the **names** of the drivers as it copies them to your hard disk.

3. Insert a formatted diskette in drive A.

4. Use the MS-DOS COPY command to copy the drivers from your hard disk to the root directory of the diskette in drive A; for example:

   ```
   COPY C:\TEMP\AVGAFW2*.SC A:\
   ```

Installing the Drivers

Follow these steps to install the Framework II drivers:

1. Log onto your Framework II program directory.

2. Type `SETUP` and press Enter to run the Framework II Setup program.

3. At the Welcome menu, select `All other uses of the setup program and press` Enter.

4. `Select Current directory and press` Enter.

5. When you see the main menu, select Configuration and press Enter.

6. From the change config uration menu, select Primary Hardware and press Enter.

7. Then select Screen Driver and press Enter.

8. Select I want to enter my own driver filename and press Enter.

9. Type the filename of the driver you want to use and press Enter. (The table above lists the driver filenames. Make sure you include the. SC extension.)

10. Type M to return to the main menu.

11. At the mainmenu, select Save All New Settings and press Enter.

12. You see a prompt instructing you to insert your Setup diskette in drive A. Instead, insert the diskette containing the drivers on the root directory.

13. Press the space bar. The Setup program saves the current configuration.

14. Select option (2) to copy the files to your hard disk, then press any key.

Framework III

The table below lists the driver filenames for the available Framework III text and graphics resolutions.

Framework III driver files

Filename	Desktop format	Zoom format
AVGAFW31.SC	132 × 25	640 × 480
AVGAFW32.SC	132 × 43	640 × 480
AVGAFW33.SC	132 × 25	800 × 600
AVGAFW34.SC	132 × 43	800 × 600
AVGAFW35.SC	800 × 600 graphics	800 × 600

If you have not yet installed Framework III, follow the instructions in your Framework III documentation to install it with a standard VGA display driver. Then follow these steps to install the new drivers:

1. Run the INSTALL program, described on page 6, to copy the Framework III drivers to your hard disk. INSTALL allows you to copy the drivers to your Framework III program directory.

2. Log onto your Framework III directory.

3. Type `SETUPFW` and press Enter to run the Framework III Setup program.

4. At the Welcome menu, select `All other uses of the` setup program and press Enter.

5. Select Current directory and press Enter.

6. When you see the main menu, select **`Configuration`** and press Enter.

7. From the configuration options menu, select Hardware and press Enter.

8. Then select Screen Driver and press Enter.

9. Select The screen driver I need isn't listed here and press Enter.

10. Select I want to enter my own driver filename and press Enter.

11. Type the filename of the driver you want to use and press Enter. (The table above lists the driver filenames. Make sure you include the SC extension.)

12. Type M to return to the main menu.

13. At the main menu, selectsave All New Settings and press Enter.

14. When you see On which disk drive will Setup find your Drivers Disk?, type c and press Enter.

15. Select option (2) to save the new settings in your FWSETUP file.

GEM, Version 3.x

The table below lists the driver filenames for the resolutions available for GEM.

GEM driver files

Filename	Resolution
SDA600.VGA	800x600
SDA768.VGA	1024 x 768

If you have not yet installed GEM, follow the instructions in your GEM documentation to install it with the standard EGA (IBM Enhanced Card and 16-Color Display) driver.

GEM requires that you install drivers from the root directory of a diskette in drive A. To install the drivers for GEM, you'll need to do the following:

- ❑ Create a GEM driver pack
- ❑ Install the drivers using the INSTALL program
- ❑ Configure GEM for your new driver.

Creating a GEM Driver Pack

Follow these steps to create a GEM driver pack:

1. Insert a blank diskette in drive A.
2. Format the disk using the MS-DOS FORMAT command. You'll see a prompt for the volume label.
3. Type the following volume label name and press Enter:

   GEM DRIVRPK

4. Use the MS-DOS COPY command to copy the following files from the GEM/3 system master diskette to the GEM DRIVRPK diskette you just formatted:

```
GEMVDI.EXE
MDGEM? . SYS
```

Installing the Drivers

Follow these steps to install the drivers onto your GEM driver pack diskette:

1. Insert the Utility 1 diskette in drive A.

2. Follow the instructions on page 6 to run the INSTALL program. When it prompts you to select a drive and directory, type a directory on your hard disk where you can easily locate the files to copy them to a diskette; for example:

```
C:\TEMP
```

3. Select the GEM/3 driver from the list of display drivers and respond to the prompts as they appear on the screen. The program displays the names of the drivers as it copies them to your hard disk.

4. Insert your GEM DRIVRPK diskette in drive A.

5. Use the MS-DOS COPY command to copy the drivers from your hard disk to the root directory of the diskette in drive A; for example:

```
COPY C:\TEMP\*.* A:\
```

Configuring GEM for the New Drivers

Follow these steps to configure GEM to use the new VGA drivers:

1. Insert the GEM/3 System Master Disk in drive A.
2. Log onto drive A.
3. Type the following and press Enter to start the GEM/3 Setup program:

   GEMSETUP

4. Follow the instructions on the screen until you see `Change existing` configuration.
5. Select `OTHER (DRIVER PACK)`. You'll be prompted to insert a screen driver into drive A.
6. Insert the GEM DRIVRPK diskette you created in drive A. You'll see the two drivers listed below:

   ```
   Cirrus Logic vGA 16 Color 800 x 600
   Cirrus Logic vGA 16 Color 1024 x 768
   ```

7. From this list, select the driver you want to use.
8. Follow the instructions on the screen to complete the installation.

IBM OS/2, Version 2.0

The OS/2 2.0 **driver** supports 800 x 600, 16-color resolution and 1024 x 768, 16-color resolution.

Installing the Drivers

If you have not yet installed OS/2, follow the instructions in your OS/2 documentation to install it. Configure OS/2 for a standard VGA monitor. Then follow these steps to install the driven

1. In OS/2, open a DOS session by opening the DOS Pull Screen icon from the OS/2 Command Prompts folder located in the OS/2 System folder.
2. At the DOS prompt, `type CD \os2\dLL` and press Enter.
3. Type the following command and press Enter:

   COPY `DISPLAY.DLL IBMVGA.DLL /B`

4. Return to your OS/2 desktop.
5. Insert the Utility 3 diskette in drive A.
6. Open the Device Driver Install icon in the System Setup folder located in the OS/2 System folder.

7. Select INSTALL from theOS/22.0 Device Driver Installation window. You see the following list of drivers:

```
Cirrus Logic VGA - 800x600x16 on 36 MHz
monitor
Cirrus Logic VGA - 800x600x16 on 40 MHz
monitor
Cirrus Logic VGA - 800x600x16 on 50 MHz
monitor
Cirrus Logic VGA - 1024x768x16 on 44.9
MHz monitor
Cirrus Logic VGA - 1024x768x16 on 65 MH
monitor
```

   See your monitor's documentation to determine its capabilities.

8. Select the driver you want from the list and select OK

9. Select Exit, then Yes.

Configuring OS/2 for the VGA Drivers

Follow these steps to configure OS/2 for your drivers:

1. Open the OS/2 System Editor icon from the Productivity folder located in the OS/2 System folder.

2. Select Open from the File menu.

3. Select CONFIG.SYS from the root directory.

4. Select Find from the Edit menu.

5. Type VVGA. SYS in the Find: edit box. Make sure your search does not use the Case sensitive option.

6. Select the Wrap option.

7. Select Find.

8. When you see `WGA. SYS, select cancel.`

9. Highlight the command line and select copy from the Edit menu.

10. Insert another line at the end of this command line.

11. Select Paste from the Edit menu to copy the previous command line.

12. Type `REM` at the beginning of the original command line.

13. Change WGA . sYs in the new command line to `CLVSVGA. SYS.`

14. Select save from the File menu.

15. Exit the editor.

When you restart your system, it uses the new drivers.

Lotus 1-2-3 or Symphony, Version 2.x

The drivers for version 2.x of Lotus l-2-3 support the text modes and graphics resolutions listed in the table below.

Lotus 1-2-3 or Symphony, version 2.x driver files

Filename	Resolution
TC132X25.DRV	132 x 25, 16-color text
TC132X43.DRV	132 x 43, 16-color text
AVGAGR.DRV	800 x 600, 16color graphics

If you have not yet installed Lotus l-2-3 or Symphony, follow the instructions in your Lotus documentation to install it. Then follow these steps to install the drivers:

1. Run the INSTALL program, described on page 6, to copy the Lotus drivers to the Lotus program directory on your hard disk.

2. Log onto your Lotus program directory.

3. Type `INSTALL` and press Enter to run the Lotus installation program.

4. From the main menu, select `Advanced options` and press Enter.

5. Thenselect `Add new drivers to library` and press Enter.

6. When the program finishes adding drivers to the library, select Modify current driver set and press Enter.

7. `Select Text display to` modify the text mode or `Graphics display` to modify the graphics resolution and press Enter.

8. Select the driver you want to install from the displayed list and press Enter.

9. Select Return to menu and press Enter.

10. At the Installation menu, select Save changes.

11. At the prompt type, the name you want to use for the driver set and press Enter.

12. Exit the Lotus Install program.

13. When you start Lotus l-2-3 or Symphony, type 123 or SYMPHONY, followed by the name of the driver set you want to use, and then press Enter.

lotus 1-2-3, Version 3.x

The table below lists the driver filenames for the text modes and graphics resolutions available for lotus 1-2-3, version 3.X.

Lotus 1-2-3, version 3.x driver files

Filename	Text mode	Graphics resolution
VGAS31CC.VBD	100 × 31	800 × 600
VGAS42CC.VBD	100 × 42	800 × 600
VGAS75CC.VBD	100 × 75	800 × 600
VGAS40CC.VBD	128 × 40	1024 × 768
VGAS54CC.VBD	128 × 54	1024 × 768
VGAS96CC.VBD	128 × 96	1024 × 768

If you have not yet installed Lotus l-2-3, follow the instructions in your Lotus documentation to install it. Then follow these steps to insyall the drivers:

1. Log onto your Lotus program directory.

2. Type the following and press Enter to rename the INSTALL.DDF file:

```
RENAME INSTALL.DDF INSTALL.OLD
```

3. Run the INSTALL program on the Utility 1 diskette, as described on page 6, to copy the Lotus l-2-3, Version 3.x driver files to the LOTUS3x program directory on your hard disk.

4. Log onto your Lotus program directory again.

5. Type INSTALL and press Enter to run the Lotus installation program.

6. Select `Change selected equipment` and press Enter.

> **Note**
> You may also need to select **`First-time installation`** if your current driver does not match your configuration.

7. Selecteither `Modify` Current `DCF or Choose another DCF to modify` and press Enter.

8. `Select Change Video Display` and press Enter.

   You see a list of choices for the display types provided with the l-2-3 distribution package as weII as the drivers you copied from the Utility 1 diskette.

9. Select the l00-column (800 x 600 resolution) or the 128-column (1024 x 768 resolution) display you want and press Enter.

10. You see a list of different spreadsheet screen resolutions. Select one of the following drivers for the resolutions you want to use and press Enter:

    GD542x 100 Column Display (800 x 600 resolution)
    GD542x 128 Column Display (1024 x 768 resolution)

11. Select Save Changes and press Enter.

Microsoft Windows, *Version 3.0*

If you have not yet installed Windows 3.0, follow the instructions in your Windows documentation to install it with the standard VGA driver. Then use the instructions in the following sections to install the new drivers.

Installing the Drives

You must install the drivers using both the INSTALL program on the Utility 2 diskette and the Windows Setup program. Follow these steps:

1. Within Windows, select Run from the file menu in the Program Manager.

2. Insert the Utility 2 diskette in drive A.

3. Type the following command and select OK or press Enter

    A:\INSTALL

4. When the INSTALL program asks you to identify your Windows directory, press Enter to accept the default or delete the default and type the path for your Windows directory.

5. Select OK or press Enter. The program copies the Windows drivers and the SetRES utility to the program directory and creates a SetRES utility icon in your Windows program manager.

6. When you see the message telling you that the drivers and utility were successfully added, select OK or press Enter.

> **Nate**
> You'll need to use the Utility 2 diskette again when you configure Windows 3.0 to use the drivers.

Configuring the Drivers

Once you have used the INSTALL program to copy the drivers to your Windows program directory, follow these steps to configure the drivers:

1. End your Windows session and exit to MSDOS.

2. Log onto your Windows program directory.

3. Type SETUP and press Enter.

4. At the System Information screen, select Display and press Enter.

5. From the Display menu, select Other (Requires disk provided by a hardware manufacturer) and press Enter.

6. The program prompts you to insert your display driver diskette in drive A. Insert the Utility 2 diskette in drive A.

7. Type the following path to display the Windows 3.0 drivers and press Enter:

   ```
   A: \WIN30
   ```

   You see a list of available drivers and their resolutions:

   ```
   Cirrus 54xx v1.1, Multi-res 16 colors
   Cirrus 54xx v1.1, Multi-res 256 colors
   ```

8. Select the driver you want and press Enter.

9. The Setup program prompts you to insert the Cirrus Logic GD5422 Windows 3.x Fonts Diskette. Keep the Utility 2 diskette in drive A, but enter the path for the system subdirectory on the diskette, as in this example:

   ```
   A: \SYSTEN
   ```

10. As you continue with the setup process, you'll see a prompt to insert the Cirrus Logic GD5422 Windows 3.0 Driver Diskette. Keep the Utility 2 diskette in drive A, type the following path, and press Enter:

    ```
    A:\WIN30
    ```

11. After the program has copied the files, select the option `Accept the configuration shown above` and press Enter. You'll see a prompt asking if the Setup program can update your CONFIG.SYS file or your CONFIG.WIN file or if it should make no changes.

12. Select `No changes` and press Enter.

Modifying the SYSTEM.INI *File*

You can configure the VGA drivers for Windows 3.0 by changing your SYSTEM.INI file. Once you have changed the file, you can use the SetRES utility, described on page 52, to change your resolution.

Follow these steps to change your SYSTEM.INI file:

1. Use a text editor or word processing program that can save a file in ASCII format to edit the SYSTEM.INI file

2. Find (`CLVGA]` in the SYSTEM.INI file. If a [CLVGA] section is not in the file, you must add one to the end of the file.

   Use the following table to edit your SYSTEM.INI file. Locate the resolution you want in the left column, then enter the text from either the X-color column or the 256-color column, depending on the driver you selected when you configured the drivers.

   Windows 3.0 VGA driver configurations

Resolution	16 Color drivers	256 Color drivers
640 × 480	(CLVGA) VIDEOMODE=18	(CLVGA) VIDEOMODE=95
800 × 600	(CLVGA) VIDEOMODE=88	(CLVGA) VIDEOMODE=92
1024 × 768	(CLVGA) VIDEOMODE=93	(CLVGA) VIDEOMODE=96

3. Save the file in text-only format as you exit the program.

   When you restart Windows, you **can** select the resolutions you want using the SetRES utility, described on page 52.

Microsoff Windows, Version 3. 1

You must install the VGA drivers for Windows 3.1 using both the INSTALL program on the Utility 2 diskette and the Windows Setup program.

Installing the Drivers

If you have not yet installed Windows 3.1, follow the instructions in your Windows documentation to install it. Select VGA as the default display device. Then follow these steps to install the new drivers:

1. Within Windows, select Run from the file menu in the Program Manager.
2. Insert the Utility 2 diskette in drive A.
3. Type the following command and select OK or press Enter:

   ```
   A:\INSTALL
   ```

4. When the INSTALL program asks you to identify your Windows directory, press Enter to accept the default or delete the default and type the path for your Windows directory.
5. Select OK or press Enter. The program copies the Windows drivers and the SetRES utility to the program directory and creates a SetRES utility icon in your Windows program manager.
6. When you see the message telling you that the drivers and utility were successfully added, select OK or press Enter.

Configuring the Drivers

Once you have used the INSTALL program to copy the drivers to your Windows program directory, follow these steps to configure the drivers:

1. Open the Windows Setup icon.

2. Select options.

3. **Select change** system settings.

4. Select Display.

5. From the Display menu, select Other (Requires disk provided by a hardware manufacturer).

6. When the program prompts you to insert your display driver diskette and displays the path **A** : \, insert the Utility 2 diskette and press Enter.

   You see a list of drivers:

```
Cirrus 542x Multi-Resolution
Cirrus 542x v1.1, 1024x768x16 Large font
Cirrus 542x v1.1, 1024x768x16 Small font
Cirrus 542x v1.1, 1024x768x256 Large font
Cirrus 542x v1.1, 1024x768x256 Small font
Cirrus 542x v1.1, 640x480x16
Cirrus 542x v1.1, 640x480x16 True Color
Cirrus 542x v1.1, 640x480x256
Cirrus 542x v1.1, 640x480x64K colors
Cirrus 542x v1.1, 800x600x16
Cirrus 542x v1.1, 800x600x256
Cirrus 542x v1.1, 800x600x64K colors
```

7. Select the driver you want and press Enter. If you want to be able to use the SetRES utility, select cirrus 542x Multi-Resolution.

8. When you see **Accept** the configuration as shown above, press s [Enter].

9. Follow the rest of the instructions on the screen and in your Windows documentation to complete the **installation.**

To change your VGA resolution, you can run the Setup program from within Windows or you can run the SetRES utility described on page 52. To use the SetRES utility, however, be sure you have selected the MultiResolution driver from the Windows Setup program.

Microsoft Word, Version 5.0

The driver for Word 5.0 supplied with your computer supports both high resolution text and graphics.

If you have not yet installed Word 5.0, follow the instructions in your Word documentation to install it with the standard VGA driver. Then follow these steps to install the **new driver:**

1. Run the INSTALL program, described on page 6, to copy the driver file to the Word program directory on your hard disk.

2. Type WORD and press [Enter] to start Word.

3. Select Options.

4. Highlight the display mode option.

5. Press [F1] to see a list of display modes. The table below lists the available options and the display modes they produce.

Word 5.0 display mode options

Option	Display mode
1 Text, 25 lines, 16 colors	25-line, 80-column text
2 Text, 43 lines, 16 colors	43-line, 80-column text
3 Text, 50 lines, 16 colors	50-line, 80-column text
4 Text, 25 lines, 16 colors	25-line, 132-column text
5 Text, 43 lines, 16 colors	43-line, 132-column text
6 Graphics, 25 lines, 16 colors	640 x 350 graphics, 8 x 14 character box
7 Graphics, 30 lines, 16 colors	640 x 480 graphics, 8 x 16 character box
8 Graphics, 34 lines, 16 colors	640 x 480 graphics, 8 x 14 character box
9 Graphics, 37 lines, 16 colors	800 x 600 graphics, 8 x 16 character box
10 Graphics, 42 lines, 16 colors	800 x 600 graphics, 8 x 14 character box
11 Graphics, 43 lines, 16 colors	640 x 350 graphics, 8 x 8 character box
12 Graphics, 60 lines, 16 colors	640 x 480 graphics, 8 x 8 character box
13 Graphics, 75 lines, 16 colors	800 x 600 graphics, 8 x 8 character box

6. Highlight the resolution you want to use and press Enter. Word returns to the editing screen using the display mode you selected.

PCad

Drivers for PCad are available in the resolutions shown in the table below.

PCad driver files

Filename	Resolution
D800.DRV	800 x 600. 16 colors
D1024.DRV	1024 x 768, 16 colors

If you have not yet installed PCad, follow the instructions in your PCad documentation to install it with the IBM VGA 640 x 400, E-color resolution. Then follow these steps to install the new drivers:

1. Run the INSTALL program, described on page 6, to copy the driver files to the PCad program directory on your hard disk.

2. Log onto your PCad program directory.

3. Type the following and press ↵ Enter to make a backup copy of your PCADDRV.SYS file before you modify it:

```
COPY PCADDRV.SYS PCADDRV.OLD
```

4. Use a text editor or word processing program that can save a file in ASCII format to edit the PCADDRV.SYS file. Change the driver filename listed in the DISPLAY command line to the name of the driver file you want to use. (See the table above for the filenames.)

   For example, if you want to install the 800 x 600 driver and you used the default pathnames when you installed PCad, change the command line to look like this:

```
DISPLAY C:\PCAD\DRV\DBOO.DRV
```

5. *Save* the file in text-only format as you exit the program.

Ventura Publisher

The table below lists the available resolutions for Ventura Publisher.

Ventura Publisher driver files

Filename	Resolution
SDA600.VGA	800 x 600, 16 colors
DSA768.VGA	1024 x 768, 16 colors

If you have not yet installed Ventura Publisher, follow the instructions in your Ventura documentation to install it, specifying the Hercules driver. Then follow these steps to install the new drivers:

1. Run the INSTALL program, described on page 6, to copy the drivers.

2. Ventura Publisher requires that you install drivers from the root directory of a diskette in drive A. When the INSTALL program prompts you to select a drive and directory, type a directory on your hard disk where you can easily locate the drivers to copy them to a diskette; for example:

   ```
   C : \TEMP
   ```

3. Select the Ventura Publisher driver from the list of display drivers and respond to the prompts as they appear on the screen. The program displays the names of the drivers as it copies them to your hard disk.

4. Insert a formatted diskette in drive A.

5. Use the MS-DOS COPY command to copy the drivers from your hard disk to the root directory of the diskette in drive A; for example:

```
COPY C:\TEMP\*.* A:\
```

6. Log onto drive A.

7. Type the following and press Enter: :

```
VPDRV2-0
```

8. Respond to the prompts as they appear on the screen.

9. When you see the list of available drivers, select the driver you want to install:

```
Cirrus Logic VGA 800x600 16 of 256K
colors or greys
Cirrus Logic VGA 1024x768 16 of 256K
colors or greys
```

Ventura Publisher is now configured for the selected screen resolution and 16-color graphics.

-VersaCAD 386

If you have not yet installed VersaCAD 386, follow the instructions in your VersaCAD documentation to install it, then use these steps to install the VGA drivers:

1. Run the INSTALL program, described on page 6, to copy the driver files into your VersaCAD program directory.

2. Log onto your VersaCAD program directory.

3. Type the following and press Enter:

   ```
   AVGAP.EXE
   ```

   This command loads a protected-mode TSR driver for VersaCAD 386. When it is loaded, you see this message:

   ```
   GD540x/GD542x 800x600x16 (protected
   mode) graphics driver installed.
   Version 1.00 Interrupt 6B Hex
   Copyright 1992 by Cirrus Logic Inc. All
   rights reserved.
   ```

4. Make a copy of the original VersaCAD 386 configuration file, ENVIRO .CFG,and name the copy ENVIRO.OLD.

5. Use a text editor or word processing program that can save a file in ASCII format to edit the ENVIRO . CFG file. Add the following statements at the end of the screen parameters section:

   ```
   SCREEN: avga800 avgap.exe n y n n n n 15 - - - - -
   .TITLE: Cirrus Logic GD540x, GD542x VGA, 800x600, single
   .NOTE: 15 colors
   .PARAMS: 6B 1 799 599 88 0
   .MONITOR:  ms
   ..TITLE: Multisync
   ..PARAMS: 0.93
   ```

6. Type ENVIRO . EXE and press Enter . . You'll see a configuration menu.

7. Select [S] Screen Configuration.

8. Press the space bar or <-Backspace until you see the following:

```
Cirrus Logic GD54Ox, GD542x, 800x600
```

9. Press Enter to accept this option.

10. Continue pressing ↓ Enter until you see the following message across the bottom of the screen:

```
[N) Next Menu [X) Exit [exc] Aborts all
change.
```

11. PressX.

When you run VersaCAD 386, the program uses the 800 x 600 resolution in 16-color mode.

VersaCAD 2D

If you have not yet installed VersaCAD 2D, follow the instructions in your VersaCAD documentation to install it, then use these steps to install the VGA drivers:

1. Run the INSTALL program, described on page 6, to copy the driver files into your VersaCAD program directory.

2. Log onto your VersaCAD program directory.

3. Type the following and press s Enter:

```
AVGA2D.EXE
```

This command loads a protected-mode TSR driver for VersaCAD 2D. When the program is loaded, you see this message:

```
GD540x/GD542x 800x600x16 (protected
mode) graphics driver installed.
Version 1.00 Interrupt 7B Hex
Copyright 1992 by Cirrus Logic Inc. All
rights reserved.
```

4. Make a copy of the original VersaCAD 2D configuration file, ENVIRO.CFG, and name the copy ENVIRO.OLD.

5. Use a text editor or word processing program that can save a file in ASCII format to edit the ENVIRO . CFG file. Add the following statements at the end of the screen parameters section:

```
SCREEN: avga800 avga2d.com n y n n n n 15 - - - - -
.TITLE: Cirrus Logic GD540x, GD542x VGA, 800x600, single
.NOTE: 15 colors
.PARAMS: 7B 1 799 599 88 0
.MONITOR: ms
..TITLE: Multisync
..PARAMS: 0.93
```

6. Type ENVIRO. EXE and press Enter. You'll see a configuration menu.

7. Select [S] Screen Configuration.

8. Press the space bar or Backspace until you see the following:

```
Cirrus Logic GD540x, GD542x, 800x600
```

9. Press Enter to accept this option.

10. Continue pressing ; Enter until you see the following message across the bottom of the screen:

```
[N] Next Menu [X] Exit [exc] Aborts all change.
```

11. PressX.

When you run VersaCAD 2D, the program uses the 800 x 600 resolution in X-color mode.

WordPerfect, Version 5.0

The WordPerfect 5.0 driver can run the program in 800 x 600, 16-color graphics mode.

If you have not yet installed WordPerfect 5.0, follow the instructions in your WordPerfect documentation to install it. Then follow these steps to install the new driver:

1. Run the INSTALL program, described on page 6, to **copy** the driver files to the WP driver subdirectory on your hard disk.

2. Log onto your WordPerfect program directory.

3. Type `WP` and press Enter to start WordPerfect.

4. Hold down Shift aand press F1 to display the Setup menu.

5. `Select Display.`

6. At the Display menu, select `Graphics Screen Type.`

7. Select the following driver:

   GD542X

8. Press [F7] to exit. Your selection is saved and used for the print preview and graphics functions of WordPerfect.

WordPerfect, Version 5. 1

The WordPerfect 5.1 drivers can run the program in the following resolutions:

- 800 x 600, 16-color graphics
- 1024 x 768, 16-color graphics
- 132 x 25, 16-color or monochrome text
- 132 x 43, 16-color or monochrome text.

If you have not yet installed WordPerfect 5.1, follow the instructions in your WordPerfect documentation to install it with the 16X-color VGA screen type. Then follow these steps to install the new drivers:

1. Run the INSTALL program, described on page 6, to copy the driver files to the WordPerfect program directory on your hard disk.
2. Start WordPerfect as you normally do.
3. Hold down [Shift] and press [F1] to display the Setup menu.
4. Select Display.
5. Select Graphics Screen Type.

6. Select one of the following drivers:

```
GD542x 1024 x 768
GD542x 800 x 600
```

7. Now select `Text` Screen Type.

8. Select one of the following text modes:

```
GD542x color text mode
GD542x monochrome text mode
```

9. Then select one of the following resolutions:

```
132 x 25
132 x 43
```

10. Press F7 to exit. Your selection is saved and used for displaying text and the print preview and graphics functions of WordPerfect.

WordStar

The WordStar driver supports 132-column text in 16 colors.

If you have not yet installed WordStar, follow the instructions in your WordStar documentation to install it, then use these steps to install the VGA drivers:

1. Run the INSTALL program, described on page 6, to copy the driver files to your WordStar program directory.

2. Log onto your WordStar program directory.

3. Make a copy of the original WordStar file FONTID.CTL and name the copy FONTID.OLD.

4. Use a text editor or word processing program that can save a file in ASCII format to edit the FONTID.CTL file. Change the CRT-TYPE line in this file to the following:

```
CRT-TYPE=CL800.WGD
```

When you start WordStar, the program uses the display driver in the page preview mode.

VGA Utilities

Your system comes with the following VGA utilities:

- CLMODE sets various standard and extended video modes
- SetRES sets resolutions, font sizes, and colors for Windows applications.

CLMODE

The CLMODE utility allows you to define the type of monitor you are using and to set the video modes supported by the VGA adapter. This utility also determines the vertical refresh rates available with your monitor.

Installing CLMODE

Follow these steps to install CLMODE on your hard disk:

1. Insert the Utility 1 diskette in drive A.
2. Log onto drive A.
3. Type the following command and press Enter:

```
INSTALL
```

4. Select cirrusLogic GD5422 Utilities.

The INSTALL program copies the CLMODE utility into the directory C:\CLUTIL.

Using CLMODE

You can use the CLMODE utility either from the CLMODE window available in MS-DOS or by typing CLMODE command options at the command prompt.

CLMODE Window

To use the CLMODE window, type CLMODE at the command prompt. The screen displays the available menu options. If *YOU* need help using the utility, select **Help.** The utility provides help information on the following functions:

- Monitor type
- Video modes
- Mouse
- Keyboard
- CLMODE utility (About).

To exit the CLMODE utility, hold down Alt and press F4 or select Exit.

CLMODE Commands

At the command prompt, you can set the monitor type, the video mode and the refresh rate using CLMODE commands. CLMODE commands have the following format:

CLMODE [**[modenuml** [+*-I [m[montyp)) refresh))

The CLMODE command options have the following meanings:

C/MODE options

Option	Meaning
Modenum	Indicates mode number
+	Selects 400 lines
*	Selects 350 lines
-	Selects 200 lines
Montype	Identifies the monitor type
Refresh	Indicates a high (+) or low (-) refresh rate
s	Displays current CLMODE settings

If you **want to select** mode 3 with high VGA refresh for a Super VGA monitor, for example, you would type the following at the command prompt and press Enter:

CLMODE 3+ m²+

Type **s** as a command line option to display the current CLMODE **settings.**

The following table lists common monitor types you can use for the montype option.

CLMODE monitor types

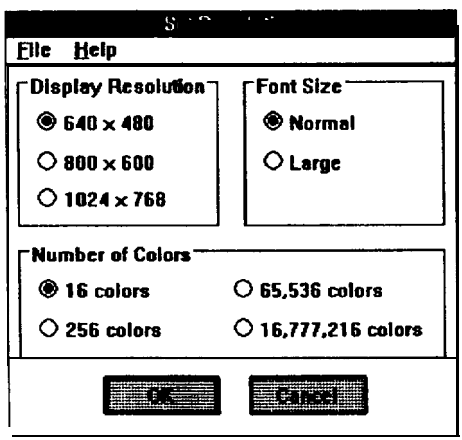
Monitor type	Examples	Horizontal frequency (KHz)	Vertical frequency (Hz)	Display resolutions
0	IBM 8512, 8513, 8503	31.5	60 or 70	640 × 480
1	IBM 8514, 8515	31.5 35.5	60 or 70 87-interlaced	640 × 480 1024 × 768
2	NEC 2A	31.5 35.1	60 or 70 56	640 × 480 800 × 600
3	Epson Extended VGA, 14-inch NECII	31.5 35.1 35.5	60 or 70 56 87-interlaced	640 × 480 800 × 600 1024 × 768
4	NEC 3D	31.5 40 35.5	60 or 70 60 87-interlaced	640 × 480 800 × 600 1024 × 768
5	Epson Professional Series™, 17-inch Sony-CPD-1304 NEC 3FGx Nanao-9065S, 9070U	31.5 48.0 48.0	60 or 70 72 60	640 × 480 800 × 600 1024 × 768
6	NEC 4D, 4FG Nanao-T240i	31.5 48.0 56.5	60 or 70 72 70	640 × 480 800 × 600 1024 × 768
7	Epson Professional Series II, 20-inch NEC 5D, 5FG, 6FG Nanao-T560i, T660i, F550i, F759i	31.5 48.0 56.5	60 or 70 72 70	640 × 480 800 × 600 1024 × 768

SetRES

The SetRES utility allows you to change the screen resolution, the number of screen colors and the font size for Windows 3.x applications.

Before you can use the SetRES utility, you must install the Windows VGA drivers as described on pages 31 and 35. As the INSTALL program copies the drivers, it also installs the SetRES utility in your Windows program directory and creates a SetRES utility icon in your Windows program manager.

To start the SetRES utility, open the SetRES icon. You see the following screen:



Select the resolution, font size, and number of colors you want to use and select OK or press Enter.

If you don't know the video modes available on your system, use the CLMODE utility to see your options.

Once you have changed options using the SetRES utility, you need to restart Windows for the new settings to take effect.