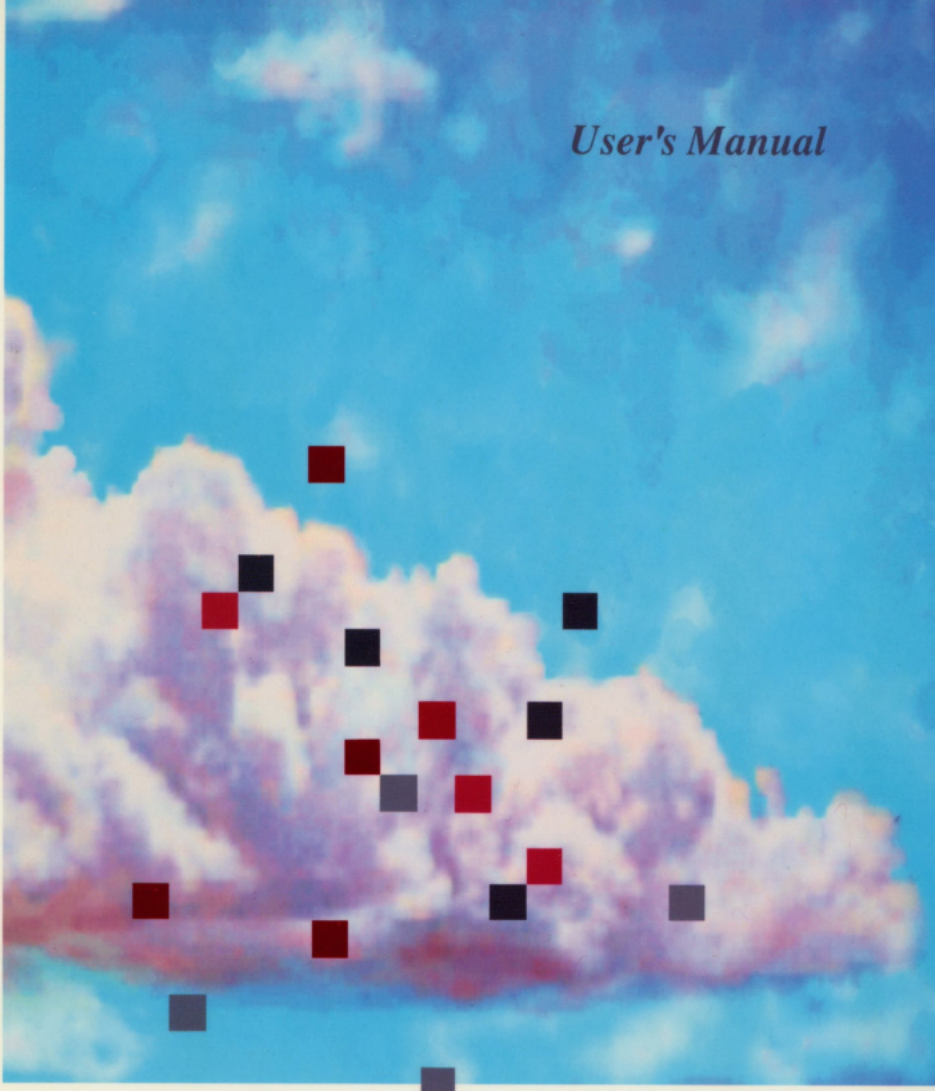

MaxLogic

Notice

MaxLogic reserves the right to make improvements in the product described in this manual at any time and without notice.

Disclaimer

While we do our best to avoid such a situation, MaxLogic will not be responsible for any loss of information resulting from the use of this product.

Warning

Class B: Computing Device

WARNING: This equipment generates and uses radio frequency energy and if not installed and used in strict accordance with the manufacturer's instructions, it may cause interference to radio and television reception. The product has been certified and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Ensure that card mounting screws, attachment connector screws, and ground wires are tightly secured.
2. Reorient the computer with respect to the receiver.
3. Move the computer away from the receiver.
4. Plug the computer into a different outlet so that computer and receiver are on different branch circuits.
5. Reorient the receiving antenna.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4 (FCC, Part 15.838 b).

NOTICE

THIS PRODUCT REQUIRES THE USE OF SHIELDED INTERCONNECT CABLES AND CONNECTORS FOR PROPER INSTALLATION AND CONNECTION TO PERIPHERAL DEVICES AND TO INSURE COMPLIANCE WITH FCC CLASS B LIMITS FOR RADIO FREQUENCY EMISSIONS. Shielded cables are available from authorized dealers. The manufacturer is not responsible for any radio or television interference caused by using other than the recommended cables or by unauthorized modifications to this equipment.

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Thank you... for purchasing the MaxEGA enhanced graphics adapter. We designed the MaxEGA with the most advanced technology to provide you with years of dependable performance. You will find the MaxEGA easy to use, and as your needs grow, the MaxEGA will grow with you.

Before You Begin

Before installing your new MaxEGA, please read through this Owner's Manual thoroughly. This manual gives you all the information you need to install and operate your MaxEGA. As you read through this manual, look up any unfamiliar terms in the Glossary (Appendix 4). If you have any questions not answered in this manual, please consult your local MaxLogic dealer.

REMEMBER: "If all else fails, read the instructions."

Check List

Besides this manual, your MaxLogic MaxEGA package should contain these items:

- The MaxEGA (model number MX-656) in an anti-static bag
- Two MaxLogic utility diskettes
- Foam padding and packaging materials.

If any of these items are missing or damaged, please consult your place of purchase.

NOTE 1: Save all the MaxLogic packaging materials that accompany the MaxEGA. If you ever ship the MaxEGA to MaxLogic for any reason without adequate packaging, you may affect your warranty. As with any major purchase you make, keep the sales invoice and receipt.

NOTE 2: Circuit boards are very sensitive to static electricity. One shock can ruin their electronics. You can easily pick up static electricity especially on carpeted floors or in dry weather. Make it a habit to ground yourself by touching your system chassis everytimebefore you pick up a circuit board. Also, the backs of these boards are covered with sharp points. For both of these reasons, it's a good practice to handle them only by the edges.

System Requirements

The MaxEGA requires an IBM PC, XT, AT, or compatible computer, with one single short or full-length expansion slot free. There are no system memory or DOS version requirements.

You can use an enhanced, color, monochrome, or variable frequency monitor with the MaxEGA, but not a television set.

The only tools you need to install the MaxEGA are Phillips and flat-head screwdrivers.

NOTE: If you are not booting up your system with an EGA monitor connected to the MaxEGA, you must make switch setting changes BEFORE you install the adapter. Please refer to "Section 3: Configuration" for possible settings. You could damage your monitor if you set switches incorrectly!

Section 1: How to Use This Manual

Introduction

Section 2 presents the MaxEGA's features, a detailed illustration, information to determine if your computer's ROM BIOS will support an EGA card, quick installation instructions, and the default jumper and switch configuration. This section provides experienced users with all the information necessary to install the MaxEGA.

Configuration

Section 3 provides information and illustrations on all the MaxEGA's jumpers and switches so you can change the board's configuration if you wish.

Installation

Section 4 shows you how to physically install the MaxEGA into your computer. If you are new to EGA boards or you would just like a little extra installation instruction, you will find this section particularly useful.

Software

Section 5 tells you how to use the software that came with your MaxEGA.

Troubleshooting

Section 6 answers commonly asked questions and offers some tips on solving problems. Please refer to this section if you have trouble operating the MaxEGA.

Dual Display Adapters

Appendix 1 is mandatory reading for those who will be operating the MaxEGA and another video display adapter in the same system.

High Resolution Drivers

Appendix 2 provides information and instructions on using the high-resolution drivers for AutoCAD, EGAPaint, Framework II, Gem, Microsoft Windows, Ventura Publisher, WordPerfect, and WordStar.

Technical Reference

Appendix 3 provides the pin-out specifications of the 9-pin monitor connector, the 6-pin light pen connector, and the 32-pin feature connector.

Glossary

Appendix 4 is a glossary of terms used in this manual that you will find helpful if you run across terms you are unfamiliar with.

Section 2: Introduction

2.1 Features

- All the features of the IBM Enhanced Graphics Adapter.
- 100% EGA, CGA, MDA, and Hercules hardware and software compatible.
- Dipswitches easily accessible through the endplate. This means you don't have to take your computer apart if you would like to change the settings.
- Includes SWITCH, a software utility that lets you change display modes without having to reset the MaxEGA's switches.
- Built-in AutoMode switch logic if you own a variable frequency or EGA monitor.
- Works in all expansion slots.
- High-resolution display modes (800x600, 752x420, and 640x480 in 16 colors) and drivers for many applications.
- Emulates VGA display modes 11 and 12 (640x480 graphics resolution) so you can use application software designed for VGA adapters with the MaxEGA. The VGA emulation requires a variable frequency monitor.

- A light pen connector.
- A feature adapter connector.
- 256K of video memory.
- Runs all the display modes listed in Table 1.

TABLE 1
Display Modes of the MaxEGA

EGA Mode

Mode	Type	Colors	Format	Font Size	Resolution
0, 1	Text	16/64	40x25	8x8	320x200
0, 1	Text	16/64	40x25	8x14	320x350
2, 3	Text	16/64	80x25	8x8	640x200
2, 3	Text	16/64	80x25	8x14	640x350
4, 5	Graphics	4/64	40x25	8x8	320x200
6	Graphics	2/64	80x25	8x8	640x200
7	Text	--	80x25	9x14	720x350
D	Graphics	16/64	40x25	8x8	320x200
E	Graphics	16/64	80x25	8x8	640x200
F	Graphics	--	80x25	8x14	640x350
10	Graphics	16/64	80x25	8x14	640x350

NOTE: All modes (except 7 and F) require an EGA or variable frequency monitor. Modes 7 and F require a TTL monochrome monitor.

CGA Mode

Mode	Type	Colors	Format	Font Size	Resolution
0, 1	Text	16/64	40x25	8x8	320x200
2, 3	Text	16/64	80x25	8x8	640x200
4, 5	Graphics	4/64	40x25	8x8	320x200
6	Graphics	2/64	80x25	8x8	640x200

NOTE: To use CGA mode, you must have an EGA, RGB, or variable frequency monitor.

MDA Mode

Mode	Type	Colors	Format	Font Size	Resolution
7	Text	--	80x25	9x14	720x350

EGA High Resolution Mode

Mode	Type	Colors	Format	Clock Freq.	Monitor	Resolution
10	Graphics	16/64	80x40	24 MHz	ECD Hi Res	640x480
10	Graphics	16/64	94x46	24 MHz	ECD Hi Res	752x420
10	Graphics	16/64	100x42	34 MHz	ECD Hi Res	800x600
10	Graphics	16/64	120x38	24 MHz	ECD	960x350
2, 3	Text	16/64	120x38	24 MHz	ECD	960x350
10	Graphics	16/64	132x43	24 MHz	ECD Hi Res	1056x350
2, 3	Text	16/64	132x43	34 MHz	ECD Hi Res	1056x350

2.2 ROM BIOS Requirement

If you own an IBM Personal Computer manufactured before April 1983, you will need to have a new ROM BIOS chip installed on the system board. These early PC models cannot recognize Enhanced Graphics Adapters. ***THIS DOES NOT APPLY TO THE IBM XT, AT, OR MOST COMPATIBLES.***

To find out if your IBM PC needs a new ROM BIOS chip or not, insert MaxLogic's utility diskette into floppy disk drive A and type **A:READDATE**. If the date 10-26-82 or earlier appears, you need a new ROM BIOS chip and should consult an authorized IBM dealer.

If your system is not an IBM, you should consult the manufacturer or dealer to determine if your IBM compatible PC supports enhanced graphics.

2.3 Physical Layout

Review the following figure to become familiar with the location of the jumpers and switches on the MaxEGA. ***If you are planning to run an enhanced monitor in the enhanced mode, you don't need to change any of the settings.***

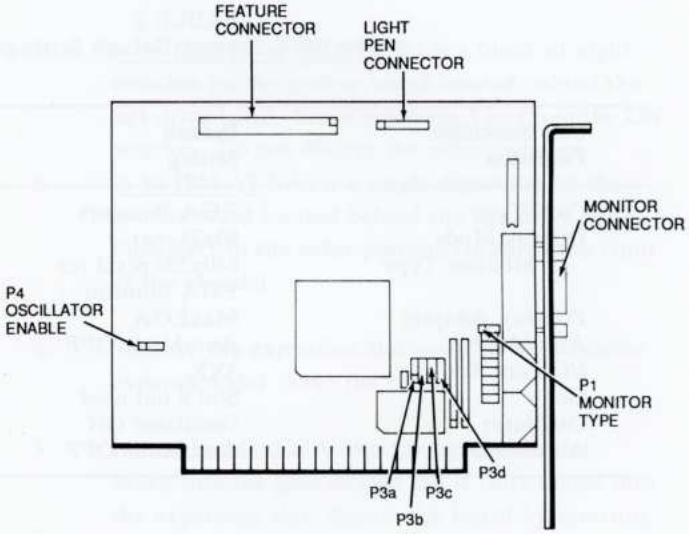


Figure 1: The MaxEGA

2.4 Installation Summary

This summary is intended for experienced users. If you are new to EGA cards or would like more information, refer to the more comprehensive instructions and illustrations in "Section 3: Configuration" and "Section 4: Installation."

TABLE 2
MaxEGA Factory Default Settings

User Selectable Functions	Default Setting	Change Setting at Location:
Card Type	EGA 16 colors	SW (1-6)
Display Mode & Monitor Type	80x25 text 640x350 pixel res EGA Monitor	SW (1-6)
Primary Adapter	MaxEGA	SW (1-4)
AutoMode	AutoMode OFF	SW (8)
I/O Port Address	3XX	P3a
Slot	Slot 8 not used	P3c
Oscillator	Oscillator ON	P4
AutoMode	AutoMode OFF	P3b, P3d

If the configuration in Table 2 is how you intend to use the MaxEGA, you can proceed to install it. If you want to change the MaxEGA setup, refer to "Section 3: Configuration" for information on changing the board's default configuration. **IF YOU ARE CHANGING THE BOARD'S DEFAULT CONFIGURATION, YOU MUST DO IT BEFORE YOU INSTALL THE BOARD.**

1. Turn OFF your computer and unplug all the power cables attached to your system.

2. Remove your computer's cover.

3. Set dipswitch SW1 on the system board of your computer for enhanced display as follows.

a. **In an IBM PC or PC XT** SW1 is a block of eight switches on the system board located behind the left drive bank. Move positions 5 and 6 to the ON position. Do not disturb the other switches.

b. **In an IBM AT** SW1 is a single dipswitch on the system board located behind the left drive bank. Push SW1 to the color position (towards the front of the chassis).

4. Remove the expansion slot cover of an available expansion slot. Save the screw.

5. Insert the MaxEGA into the expansion slot. Make sure the gold-striped tab is fully seated into the expansion slot. Secure the board by inserting the screw you removed in step 4.

6. If you have a light pen, install it on the six-pin connector labeled P2, according to the manufacturer's instructions.

NOTE: Light pens will not work on monochrome monitors.

7. Replace the cover.

8. Plug your 9-pin monitor cable into the endplate of the MaxEGA.

9. Boot up your system with DOS (either on a diskette or from a hard disk). Congratulations, you have completed the installation procedures!

Section 3: Configuration

Each time you change a jumper or switch, your MaxEGA conveys a different bit of information to your computer. So, your settings must be compatible with your computer configuration. This section provides the information you need if you would like to change the MaxEGA's default configuration. Figure 1 shows the location of all the jumpers and switches.

3.1 Default Settings

The MaxEGA leaves the factory with the following default settings:

- EGA mode.
- EGA monitor.
- MaxEGA as the primary adapter.
- AutoMode OFF.
- I/O Port Address set at 3XX.
- Expansion slot 8 not used.
- Oscillator enabled.

If these are the settings you want, you can proceed to "Section 4: Installation".

If you want to change the settings, refer to Sections 3.2 and 3.3.

If you are unsure about what certain settings mean, refer to Sections 3.4 through 3.10.

3.2 Setting Jumpers

The names, functions, and possible positions of the jumpers are explained in Table 3.

1. Read Table 3 and note your choice for each jumper.

2. **If your choice is asterisked** (default setting), you don't have to make any changes to that jumper.

3. **If your choice is not asterisked,** locate the jumper in Figure 1, then change the setting using the illustrations in Table 3 as a guide.

4. **If you are unsure about a choice,** refer to Sections 3.4 through 3.10.

Helpful Hint: Each black plastic jumper shunt has a hole in the top. To easily remove or adjust the placement of the jumper shunts, **bend** a paper clip, **insert** the bent end into the hole and **pull** the jumper up. You can also use a paper clip to insert the jumper onto pins (see Figure 2).

TABLE 3
MaxEGA Jumper Settings

Name	Function	Choices	Illustration
P1	Monitor type	*EGA Monitor	
		Monochrome or CGA Monitor	
P3a	Port Address	*3XXh	
		2XXh	
P3b	AutoMode	*Disabled	
		Enabled	
P3c	IBM XT Slot 8	*Disabled	
		Enabled	
P3d	AutoMode	*Disabled	
		Enabled	
P4	Oscillator	*Enabled	
		Disabled	

*Default Setting

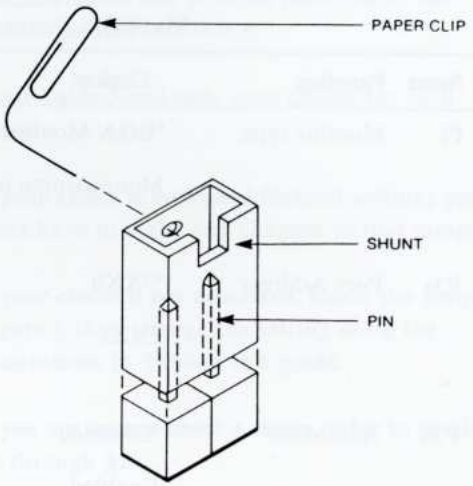


Figure 2: Moving Jumper Shunts

3.3 Setting Switches

The MaxEGA's switches (called SW) tell the MaxEGA what monitor you will use and in what mode you want to boot up.

1. Locate the block of eight dipswitches on the MaxEGA's endplate. Refer to Figure 1 to locate dipswitch block SW.

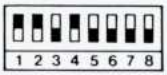
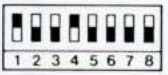
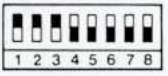
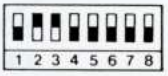
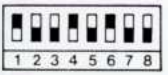
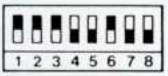
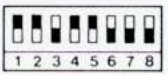
2. Find the description of the configuration you want to use in Table 4.

3. Set the SW switches using the appropriate illustration in Table 4 as a guide.

NOTE 1: On some MaxEGAs, the switches may be marked OPEN and CLOSED instead of OFF and ON. OPEN means the same as OFF and CLOSED, the same as ON.

NOTE 2: Table 4 assumes that the MaxEGA will be the only display adapter installed in your system. If you plan to run the MaxEGA in a system with another display adapter, you must use the switch setting tables in Appendix 1: Dual Display Adapters.

TABLE 4
Recommended MaxEGA Switch Settings

Monitor & Desired Mode	Recommended Switch Settings	
Monochrome Monitor EGA Mode	OFF/OPEN ON/CLOSED	
*EGA Monitor EGA Mode (High Res)	OFF/OPEN ON/CLOSED	
EGA Monitor EGA Mode (Low Res)	OFF/OPEN ON/CLOSED	
CGA Monitor EGA Mode (Low Res)	OFF/OPEN ON/CLOSED	
CGA Monitor EGA Mode (Low Res 40x25)	OFF/OPEN ON/CLOSED	
EGA Monitor CGA Mode	OFF/OPEN ON/CLOSED	
CGA Monitor CGA Mode	OFF/OPEN ON/CLOSED	
EGA Monitor Hercules Mode	OFF/OPEN ON/CLOSED	
Monochrome Monitor Hercules Mode	OFF/OPEN ON/CLOSED	

*Default Setting

3.4 The Display Mode

The MaxEGA leaves the factory setup to run with an enhanced RGB (EGA) monitor in the enhanced mode. If you want to boot up in one of the alternative display modes, you must change the dipswitch settings at location SW on the MaxEGA **before** you install it.

The first six positions of dipswitch SW determine the MaxEGA's bootup mode.

Table 4 describes how to change the switch positions of dipswitch SW to select an alternative bootup display mode.

You can access display modes that do not appear in Table 4 through MaxLogic's SWITCH software on the utility diskette. If you would like to boot up in a display mode that does not appear in Table 4, you can add SWITCH into your AUTOEXEC.BAT file which the computer reads every time you power up. For information on this procedure, refer to "Section 5.2.3 Creating An AUTOEXEC.BAT File."

3.5 AutoMode

If you own a variable frequency or EGA monitor, AutoMode will automatically switch from EGA mode to CGA mode when you use CGA software. Dipswitch SW, position 8 and jumpers P3b and P3d enable or disable the MaxEGA's AutoMode function. The default setting has the AutoMode feature turned OFF, which results in the MaxEGA acting like an ordinary EGA card with no automatic display mode switching. If you turn AutoMode ON, the MaxEGA will automatically adjust display modes according to the requirements of the application software you use (keep in mind that AutoMode works only on an EGA or variable frequency monitor).

3.6 Monitor Type

Dipswitch SW, positions 1-6 and jumper P1 select the type of monitor connected to the MaxEGA. The default setting assumes that you will connect an Enhanced RGB (EGA) monitor to the MaxEGA. Change the setting of positions 5 and 6 according to the illustrations in Table 4 if you will be connecting a color, monochrome, or variable frequency monitor to the MaxEGA. Change the setting of jumper P1 according to the illustrations in Table 3 if you will be connecting a monochrome monitor.

3.7 I/O Base Address

You can change the default I/O port address of the MaxEGA from 3XX to 2XX at location P3a by changing the jumper shunt as pictured in Table 3. Keep in mind that the MaxEGA Adapter only supports I/O port address 3XX.

3.8 Oscillator

The MaxEGA's oscillator allows you to run the 800x600 high resolution text mode if you have a variable frequency monitor. Jumper P4 enables or disables the MaxEGA's oscillator. The default setting enables the MaxEGA's oscillator.

If you own a variable frequency monitor, leave P4 set in the default setting. This allows you to run the 800x600 high resolution mode.

If you do NOT own a variable frequency monitor, leave P4 set in the default setting.

If you are going to attach a piggyback board (with its own oscillator) to the MaxEGA, change P4 to disable the MaxEGA's oscillator (see Table 3).

3.9 Expansion Slot 8

Jumper P3c enables or disables operation in PC-XT expansion slot 8 (the slot closest to the power supply, behind the left drive). The default assumes the MaxEGA will not be used in slot 8. To enable operation in slot 8, change the setting of jumper P3c as shown in Table 3.

3.10 Light Pen

The MaxEGA provides a light pen connection. A light pen can be used for screen graphics and text editing, detailed computer-aided design, menu selection, figure/symbol sensing, and many other creative uses. If you have a light pen, install it on connector P2 (shown in Figure 1) according to the manufacturer's instructions. Technical information for the light pen is given in the *Technical Reference* section of this manual.

Section 4: Installation

NOTE: This section assumes that the MaxEGA is the only display adapter in your system. If you have another display adapter already in place, you must either remove it or turn to "Appendix 1: Dual Display Adapters" for instructions on configuring the MaxEGA to coexist with the other adapter.

4.1 Installation Overview

Check the ROM BIOS on your computer with MaxLogic's software utility called "READDATE" to insure that the ROM BIOS can recognize enhanced graphics.

Confirm that you want to use the MaxEGA's default configuration, and that there are no hardware conflicts (Section 3).

If you want to change the factory default settings of the MaxEGA, use Section 3 as your guide.

4.2 Physical Installation

Before You Begin: Remove your monitor from the top of your computer and clear an area around your desk leaving plenty of work space. The installation requires a screwdriver.

1. Turn OFF your system and unplug the power cord and any cords to supplementary power supplies you might have. **Make sure that all power to your system is off!**

2. Remove the retaining screws that hold the cover on your system. Slide the cover forward. When it stops sliding, tilt the cover up and lift it away. Refer to the following figure.

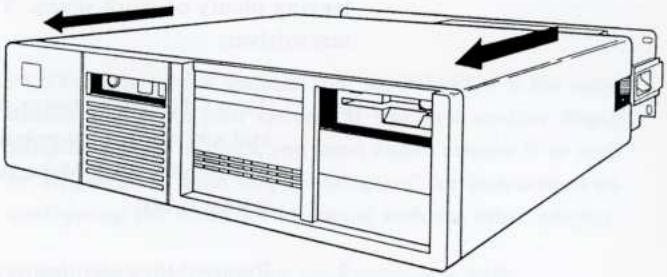


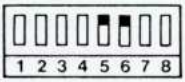
Figure 3: Removing the Cover

3. If you've never looked inside your system before, all the cables and boards may bewilder you. Try not to disconnect anything, but push the cables gently to one side to see underneath them.

4. On the floor of the system, behind the left drive bank, is a dipswitch block known as SW1. Set the system switch SW1 for enhanced video. The proper setting of this switch is necessary for the installation of the MaxEGA.

a. **In the IBM PC and XT** SW1 is a rectangular block of eight slide or rocker switches on the system board behind the left drive bank. Set switches 5 and 6 to the ON position. Do not disturb any other switches. Please see figure 4A.

NOTE: The IBM PC and some compatibles have a second dipswitch block called SW2 on the system board near SW1. Be careful not to confuse SW1 and SW2.



80 x 25 EGA Mode

Figure 4A: SW1 in the IBM PC and PC-XT

b. **In the IBM AT** SW1 is a two-position slide switch. Move it to the color position (toward the front of the chassis). See Figure 4B. After the MaxEGA installation is complete, you will need to run the Setup program.

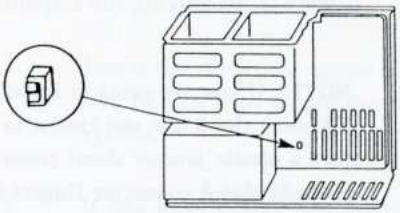


Figure 4B: SW1 in the IBM AT

5. Locate an available expansion slot and remove the screw that holds the slot cover in place. Then remove the expansion slot cover. See Figure 5.

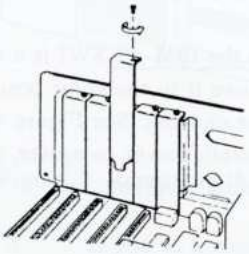


Figure 5: Removing the Expansion Slot Cover

NOTE: If you are going to install the MaxEGA in the IBM XT short slot 8 (the slot closest to the power supply), make sure a plastic jumper shunt connects the two pins closest to the gold-plated connector fingers at location P3c.

6. Hold the MaxEGA by the top edge and carefully push the board into the available slot. Make sure that the gold-plated connector fingers on the bottom of the board slide all the way into the slot. You should align the MaxEGA's mounting bracket with the system's bracket. Refer to the following figure.

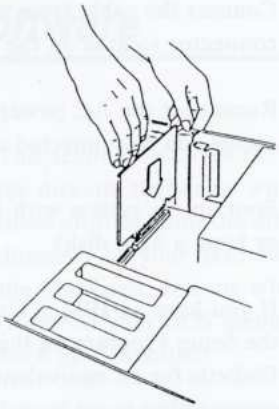


Figure 6: Installing the MaxEGA

7. Insert the slot cover screw you removed earlier, and tighten it to secure the MaxEGA into the system.

8. If you have a light pen, install it on the six-pin connector labeled P2, according to the manufacturer's instructions.

NOTE: Light pens will not work on monochrome monitors.

9. Replace the computer's cover. You can slide the cover on without lifting the computer. Insert and tighten all the screws you removed from the computer's back panel.

10. Connect the cable from your monitor to the 9-pin connector located on the MaxEGA's endplate.

11. Reconnect the AC power cord and any other cables you disconnected earlier.

12. Boot up the system with DOS (either on a diskette or from a hard disk).

13. If you have an IBM AT or compatible system, run the Setup Program on the Advanced Diagnostics Diskette (or an equivalent program for compatibles) to set it up for an EGA card.

14. Congratulations! You have finished the MaxEGA's physical installation. Proceed to "Section 5: Software."

Section 5: Software

This section describes the program utilities that are on the diskette that came with your MaxEGA. You can run these utilities from the diskette or copy them to a directory on your hard disk. We advise you to back up the MaxLogic diskette which is not copy-protected. (Refer to your DOS manual if you don't know how to back up a diskette.)

5.1 Mode Switching Utilities

To change your display mode from the system prompt:

1. Insert your MaxLogic utility diskette into floppy drive A

2. Type any one of the following at the prompt:

   EGA [ENTER]
   Changes the operating mode to EGA, mode 3.

   CGA [ENTER]
   Changes the operating mode to CGA, mode 3.

   MDA [ENTER]
   Changes the operating mode to MDA or Hercules.

5.2 SWITCH

SWITCH is a utility that you can use to do any of the following procedures:

1. *Switch* between any of the MaxEGA's display modes.
2. *Switch* between monitors after you have booted up your computer.
3. *Switch* which graphics adapter in your computer is primary.
4. *Switch* AutoMode ability on or off.

Use SWITCH to make *temporary* changes to your display mode. Remember you will lose these changes when you reboot the system. If you want to make a *lasting* change to the bootup mode, change the setting of dipswitch SW on the MaxEGA (see Section 3) or change your AUTOEXEC.BAT file (see Section 5.2.3).

NOTE: AutoMode requires an EGA or variable frequency monitor. If you do not have an EGA or variable frequency monitor, use SWITCH to change between display modes. Also use SWITCH if you want a display mode that AutoMode cannot sense.

5.2.1 Using SWITCH

To use SWITCH:

1. Insert the MaxLogic utility diskette into floppy disk drive A.

2. Type **A:SWITCH V** (to view all the display options).

3. Make your selections from the menu on the screen. Use the arrow keys to highlight your option and then the **[ENTER]** key to select your option. Press the escape key **[ESC]** to exit SWITCH without making any changes .

NOTE: You may get unpredictable results if you request an option not available for your system (for example, if you request monochrome display for a CGA monitor).

5.2.2 Command Line Argument

The SWITCH screen menu lists each display mode and an identification letter or number. When you are familiar with the letters or numbers given to each display mode, you can change the display with a command line argument. For example, if SWITCH is on your hard disk and you often use display mode M (monochrome display), you can issue a command line argument by typing at the DOS prompt:

C:>SWITCH M [ENTER]

If you are operating SWITCH from the utility diskette, insert the diskette into floppy disk drive A and type:

A:SWITCH M [ENTER]

After issuing the command line argument, your monitor will immediately change to display mode M which means the MaxEGA is in the monochrome mode and attached to a monochrome or EGA monitor.

To operate other SWITCH commands, at the system prompt type any one of the following:

SWITCH [ENTER]
(lets SWITCH determine the appropriate display).

SWITCH V [ENTER]
(to view all the display options).

SWITCH E [ENTER]
(to use the enhanced color display options).

SWITCH R [ENTER]
(to use the RGB (CGA) display options).

SWITCH M [ENTER]
(to use the monochrome display options).

5.2.3 Creating An AUTOEXEC.BAT File

It is possible to permanently boot up in one of the display modes by issuing an argument in your AUTOEXEC.BAT file. For example, if you often use display mode E (80x25 text on an EGA monitor), you can permanently boot up in this display by modifying your AUTOEXEC.BAT file. Use your word processing program or a text editor to modify an existing AUTOEXEC.BAT file with the SWITCH command line. However, if you do not have access to a word processing program or a text editor, you can create an AUTOEXEC.BAT file with the DOS COPY CON command and the following instructions.

NOTE: Before you change your AUTOEXEC.BAT file, make sure that your hardware and the mode you specify are compatible to avoid damaging your monitor!

1. Copy the **SWITCH.COM, EGA.COM, CGA.COM, and MDA.COM** files from the utility diskette to the root directory of your system disk. You must load all four programs in the current path to use all the features of SWITCH mode.

2. Get onto the drive that contains the root directory of your system disk. At the DOS prompt, type:

   cd\ [ENTER]
   type AUTOEXEC.BAT [ENTER]

If the message "File not found" appears, go on to Step 3.

If one or more command lines appear, get a pencil and paper and copy down the lines exactly as they appear on your screen.

3. **WARNING: This step will overwrite any existing AUTOEXEC.BAT file in your system disk's root directory.** Change the letter E shown in the example below to any display mode letter or number or even delete it. If you type only **SWITCH** in the AUTOEXEC.BAT file, SWITCH mode will determine the appropriate display for you. At the DOS prompt >, type:

   copy con AUTOEXEC.BAT [ENTER]
   SWITCH E [ENTER]

   If you wrote down the contents of a previous AUTOEXEC.BAT file in Step 2, type the command lines back in now, exactly as they appeared.

   [F6] [ENTER]

   Pressing the [F6] function key and the [ENTER] key will save the AUTOEXEC.BAT file.

4. The DOS message "1 File(s) copied" confirms that a new AUTOEXEC.BAT file exists.

5.3 VCGC.EXE

Some programs, particularly older versions, require a special utility to operate properly in Hercules mode. VCGC is this kind of utility and in fact, it acts like the HGC program supplied with Hercules Graphics Adapters. If your software does not run properly in Hercules mode, run VCGC immediately before the application.

VCGC.EXE allows three configurations: FULL, HALF, and DIAG.

FULL
is the normal operating configuration for Hercules Graphics mode. Lotus 1-2-3 version 1A requires it. FULL allows unrestricted access to the MDA 64K memory. Never use FULL if you have an IBM color card in your system.

HALF
allows an IBM color card to be in the system while you are in MDA mode. HALF limits access to the first 32K of memory.

DIAG
limits access to the first 4K of MDA memory. This allows text only, without any graphics.

5.3.1 VCGC Operation

1. Insert your MaxLogic utility diskette into floppy disk drive A.

2. Type your choice of the following:

   VCGC FULL [ENTER]

   VCGC HALF [ENTER]

   VCGC DIAG [ENTER]

NOTE 1: If you run VCGC without valid command line variables, it displays a list of valid variables and does not modify the Hercules environment.

NOTE 2: Running VCGC while in a non-MDA mode will reset any Hercules Graphic Adapter or compatible.

5.4 AutoMode

Automode controls automatic switching from EGA mode to CGA mode. You can start many CGA-only games in EGA mode using Automode.

You must set jumper P3 (see Section 3) for Automode, and you can only run Automode in EGA mode.

5.4.1 Operation

Type **AUTOMODE [ENTER]**

Each time AutoMode is run, it automatically switches between Enabled and Disabled. To make sure that Automode is always enabled:

Type **AUTOMODE E [ENTER]**

To make sure that Automode is always disabled:

Type **AUTOMODE D [ENTER]**

NOTE: The mode switching programs MDA, CGA, and EGA will disable Automode automatically.

5.5 Resolution Switching Utilities (RUN)

RUN is a shell program which allows you to be at the DOS level at one resolution, run a program or DOS command at another resolution and then return to the original mode setting. RUN lets you operate many applications configured for additional rows and columns at high resolutions.

Essentially anything that supports the desired resolution can be run this way. For example, if you configure WordStar for 120x38 columns, you can be in DOS at 80x25, run WordStar through RUN120, edit in 120-column mode, and upon exit from WordStar, you will be put back to 80x25.

1. Select the program name you want from the following table. **Follow the instructions below using the appropriate program name in place of RUN###.**

Program Name	ColumnsxRows
RUN38	80x38
RUN43	80x43
RUN120	120x38
RUN132	132x43

NOTE: You must have an EGA monitor for RUN38 and RUN43, and you must have a variable frequency monitor for RUN120 and RUN132.

2. Type: **RUN###**. If you type RUN with no parameters, you will be in the desired resolution at the DOS prompt.

3. To return to default status which is 80x25, type **EXIT** at the DOS prompt.

NOTE: To have DOS recognize extra columns or rows, make sure that you do not include ANSI.SYS in your CONFIG.SYS file.

5.6 Reboot Utility

The BOOTCGA program allows you to boot the system into CGA mode without having to change any switch settings.

At the system prompt type:

BOOTCGA [ENTER]

The program will display a message and wait for you to prepare the system for a reboot. Press **ESC** to end without rebooting or changing the video mode; any other key will continue the reboot.

Section 6: Troubleshooting

If you encounter any problems while using your MaxLogic MaxEGA, first refer to this User's Guide, and go through the following Troubleshooting Checklist. Ninety percent of the time you will solve your problems before you get to the end of the Troubleshooting Checklist. If the problem persists after going through the User's Guide, please contact your authorized MaxLogic dealer. Qualified MaxLogic Technical Support personnel are also available to help you.

If you have a problem operating the MaxEGA, try adjusting the horizontal and vertical hold knobs on your monitor. If this does not solve the problem, the most likely cause is an incorrect dipswitch or jumper setting. **Immediately turn off the power to your system** and then go over your settings and double-check that the switch settings you have selected correspond to the mode you want. Verify that switches 5 and 6 of SW1 on the system board are set to ON (AT users set SW1 to the color position toward the front of the chassis). Be very careful not to move any of the other system switches.

6.1 Troubleshooting Checklist

- Check that the computer's main power cord is completely plugged in, one end to the chassis and the other end to a grounded (3-prong) wall outlet.
- Connect the monitor's power cord to the computer chassis or a wall outlet and the monitor's display cord to the 9-pin monitor connector on the MaxEGA's endplate.
- Turn your monitor ON.
- Turn up the monitor's brightness control knob.

If the problem persists, we recommend that you re-read this manual and verify that all your jumper and switch settings are correct. Then double-check that all cables outside and within the system unit are securely and properly connected. If this does not clear up the problem, contact your authorized MaxLogic dealer for help.

6.2 Common Questions and Answers

Q: Why do I get a distorted display or no display after I attach my monitor to the MaxEGA and power up?

A: The most common reason for distorted display is that the system and/or the MaxEGA is not setup correctly. **IMMEDIATELY TURN OFF YOUR POWER!** Then check the following areas:

1. Check the date of your IBM ROM BIOS chip as described in "Section 2.2 ROM BIOS Requirement."

2. Check the setting of your system's SW1 switch as described in the installation procedures in "Section 4.2 Physical Installation."

3. Check the switch and jumper settings of the MaxEGA as described in "Section 3: Configuration."

Q: Why does my IBM AT give me an F1 CRT error when I boot up the system?

A: Make sure you have run the Setup program on the AT Advanced Diagnostics diskette or an equivalent program for compatible systems.

Q: When I configure the MaxEGA to emulate Monochrome/Hercules Mode, how come color programs do not work properly when I try to run a color software application program?

A: Check the display mode you are in first; you should always make sure you are in the specific display mode your application software requires before you run the software. In order to switch from Hercules and Monochrome mode to EGA and Color mode, you must first use MaxLogic's SWITCH program or the DOS MODE command and make a mode change.

6.3 How To Get Help

In order to simplify the troubleshooting of the MaxEGA, the MaxLogic Technical Support Department recommends that you have the following information on hand if you place a call to an authorized MaxLogic dealer:

- Owner's Manual
- Version of DOS you now use
- Contents of your CONFIG.SYS file
- Contents of your AUTOEXEC.BAT file
- Configuration of the system, including a list of the drives and adapters installed
- MaxEGA Identification numbers found on the board (such as MX-656 REV A), and Serial Number

Use the following checklist to gather information which will help the Technical Support Department provide you with faster and more efficient service.

- What brand and capacity hard disk drive(s) do you have?
- What peripheral products do you have installed in your computer? (For example, do you have a modem, a multifunction board, etc.?)
- Make note of any other facts or circumstances which seem strange or relevant to you.

NOTE: If it does become necessary to return the MaxLogic MaxEGA to MaxLogic, you must contact the Technical Support Department for a Return Merchandise Authorization number (RMA number).

Also, if your MaxEGA requires replacement, after receiving your RMA number from the MaxLogic Technical Support Department, include the following additional information:

- Serial number of your MaxLogic MaxEGA.
- Date and place of purchase.
- Photocopy of your sales invoice.

Finally, when you call, please try to be near your computer, so you can follow the technician's suggestions while on the phone.

Thank you for your cooperation.

Appendix 1: Dual Display Adapters

A1.1 Restrictions

More than one video display adapter can coexist in a single system, however, there is a restriction since some combinations of video adapters can cause hardware conflicts within your computer. Please note this restriction to avoid conflicts:

If you already have a color or monochrome adapter in your system, you cannot use the MaxEGA to emulate that mode.

For example, the MaxEGA leaves the factory as an EGA video adapter. If you use the MaxEGA as an Enhanced or Color Graphics Adapter, the other video adapter in your system must be monochrome. **You cannot have two color cards or two monochrome cards in one system.**

A1.2 Possible Combinations

Keeping the restriction specified in Section A1.1 in mind, you can install the MaxEGA successfully in a computer with another video card/monitor pair.

When there are two display adapters present in a system, they do not generally run at the same time. DOS must know where to send new information; the adapter DOS sends information to is known as **primary**. The other adapter (the **secondary** adapter) remains in place, but it does not actively display information on its monitor.

The tables in this appendix will help you set dipswitch SW on the MaxEGA according to your specifications. You decide which adapter you would like to be primary, and how you would like to boot up your system. Please refer to Table 5 for possible combinations of video adapters that the MaxEGA supports. The column labeled "Refer to Table" will direct you to a table that contains the appropriate information on configuring the MaxEGA dipswitch SW for the combination of adapters that you want to co-exist in your system.

TABLE 5
Possible Video Adapter Combinations

PRIMARY ADAPTER	SECONDARY ADAPTER	REFER TO TABLE
MaxEGA	MONOCHROME	6
MONOCHROME	MaxEGA	7
MaxEGA	COLOR	8
COLOR	MaxEGA	9

Use a ballpoint pen or fingernail to set the switches. When you have finished, install the board according to the instructions in "Section 4: Installation."

You can use SWITCH software to manipulate the functions of other adapters in the system and to switch primariness from the MaxEGA to the other adapter and back.

SWITCH contains the complete set of text modes the MaxEGA can operate in. ALWAYS USE SWITCH TO CHANGE BETWEEN DIFFERENT MODES.

TABLE 6
MaxEGA Coexists with a Monochrome Card
MaxEGA Primary Adapter

Monitor Attached to MaxEGA	Mode and Format of MaxEGA	Monitor Attached to Mono Card	SW Switch Position 1	2	3	4
Enhanced	EGA 80x25	Mono	OFF	ON	ON	OFF
Enhanced	Color 80x25	Mono	ON	ON	ON	OFF
Color	Color 80x25	Mono	OFF	OFF	OFF	ON
Enhanced/ Color	Color 40x25	Mono	ON	OFF	OFF	ON

TABLE 7
Monochrome Card Coexists with MaxEGA
Monochrome Card Primary Adapter

Monitor Attached to MaxEGA	Mode and Format of MaxEGA	Monitor Attached to Mono Card	SW Switch Position 1	2	3	4
Enhanced	EGA 80x25	Mono	OFF	OFF	ON	ON
Enhanced	Color 80x25	Mono	ON	OFF	ON	ON
Enhanced/ Color	Color 80x25	Mono	OFF	ON	ON	ON
Enhanced/ Color	Color 40x25	Mono	ON	ON	ON	ON

TABLE 8
MaxEGA Coexists with Color Card
MaxEGA Primary Adapter

Monitor Attached to MaxEGA	Format of MaxEGA	Monitor Attached to Color Card	SW Switch Position 1	2	3	4
Mono	80x25	Color 80x25	OFF	OFF	ON	OFF
Mono	80x25	Color 40x25	ON	OFF	ON	OFF

TABLE 9
MaxEGA Coexists with Color Card
Color Card Primary Adapter

Monitor Attached to MaxEGA	Format of MaxEGA	Monitor Attached to Color Card	SW Switch Position 1	2	3	4
Mono	80x25	Color 80x25	OFF	ON	OFF	ON
Mono	80x25	Color 40x25	ON	ON	OFF	ON

Appendix 2: High Resolution Drivers

This section is your guide to installing and setting up applications to support higher resolutions. The programs and files to support the enhanced resolutions are on the utility diskette that came with your MaxEGA.

IMPORTANT: If your system does not have a variable frequency monitor, or if you are not sure what type of monitor you do have, then do not attempt to use high resolution or you may damage your monitor.

Standard EGA monitors will not support the high resolutions available with the MaxEGA. The only exception to this is the 120x38 driver for Framework II which will work with both a standard EGA monitor and a variable frequency monitor.

A2.1 Microsoft Windows

To install your MaxEGA Windows drivers, follow these steps:

1. Select the resolution you want from the files below. **Follow the instructions below using the appropriate file names in place of the "WVC####" for the desired resolution.**

File Name	Columns x Rows	Graphics Resolution
WVC6448.DRV WVC6448.GRB WVC6448.LGO	80 x 40	640 x 480
WVC7542.DRV WVC7542.GRB WVC7542.LGO	94 x 46	752 x 420
WVC8060.DRV WVC8060.GRB WVC8060.LGO	100 x 42	800 x 600

2. Make copies of your **Windows Setup and Build** disks. Put your original disks in a safe place, and use only the copies you just made.

3. Delete the **EGA.DRV** file from your new copy of Setup.

4. Copy the WVC####.DRV file from the MaxLogic utilities disk to your new copy of the **Setup** disk.

5. Copy the WVC####.GRB and WVC####.LGO files from the MaxLogic utilities disk to your new copy of the **Build** disk.

6. Place the new **Setup** disk in drive A and run Setup as described in the Windows manual.

7. Choose the resolution that you have installed, either 640x480, 752x420, or 800x600.

8. Start Windows as you normally would.

9. To change resolutions, repeat the steps above for the new resolution.

A2.2 Framework II

To install your MaxEGA Framework II driver, follow these steps:

1. At the system prompt, change to your Framework II directory and type: **SETUP [ENTER]**

2. Select **2** under All Other Uses of the Setup Program.

3. Select **2** for Current Default Drive and Directory.

4. Select **2** under Change Configuration.

5. Select **1** under Primary Hardware.

6. Select **1** under Screen Driver.

7. Select **7** under I Want to Enter My Own Driver File Name.

8. Enter one of the file names listed below, example: FW132x43.SC [ENTER]

File Name	Columns x Rows	Graphics Resolution
FW80x40.SC	80 x 40	640 x 480
FW80x53.SC	80 x 53	640 x 480
FW94x46.SC	96 x 46	752 x 420
FW100x42.SC	100 x 42	800 x 600
FW120x38.SC	120 x 38	960 x 350
FW132x38.SC	132 x 38	1056 x 350
FW132x43.SC	132 x 43	1056 x 350

9. Press **M** to go to the Main Menu.

10. Press **7** to Save All New Settings.

11. Place MaxLogic utility diskette into drive A.

12. Select **2** under Current Default Drive.

12. Exit from SETUP.

13. Start Framework II as you normally would.

14. To change to a different resolution, repeat the installation procedure for that resolution.

NOTE: The 120x38 driver works with both a standard EGA monitor and a variable frequency monitor.

A2.3 AutoCAD

The MaxLogic AutoCAD ADI drivers operate with AutoCAD versions 2.50 and higher, and DOS 2.0 or higher. The drivers do not conflict with the operation of any existing software. The MaxEGA remains 100% compatible with all EGA compatible CAD, business, and word processing software. Existing applications operate at the EGA standard 640x350 pixel resolution.

A2.3.1 Software Installation

The MaxLogic AutoCAD ADI driver consists of two display driver programs.

NOTE: The installation and operation of both drivers is identical; the only difference between the drivers is the resolution displayed.

The installation consists of three procedures; you must do the first two procedures and the third one is optional:

1. Install the AutoCAD ADI General Display Driver. You will find the ADI General Display Driver on your AutoCAD Driver disk. You only need to do this procedure once since AutoCAD remembers all its settings even if you turn the computer off. Refer to Section A2.3.2.

2. Install the MaxLogic AutoCAD ADI Display Driver you wish to use; this procedure must occur every time you turn on or reboot your computer. We suggest adding the Display Driver in an AUTOEXEC.BAT file. For complete instructions on installing the MaxLogic ADI driver refer to Section A2.3.3 of this appendix.

3. The third installation procedure is optional. This option is for those interested in changing the graphic screen colors. For complete instructions refer to Section A2.3.4 of this appendix.

A2.3.2 Installing AutoCAD ADI General Display Driver:

The ADI General Display Driver is available on your AutoCAD Drive disk. The name of the ADI General Display Driver is **DSGEN.DRV** and you only need to install it once. Even if you turn off your computer or reboot it, AutoCAD will remember that you installed the ADI General Display Driver.

Use the following instructions to install the ADI General Display Driver:

1. Execute AutoCAD; follow the normal operating procedures.

2. When the AutoCAD Main Menu is on the screen, type **5 [ENTER]** to select the Configure/Install AutoCAD function.

3. If you have a current AutoCAD configuration, review the current setting and hit the **[ENTER]** key.

4. When the AutoCAD Configuration Menu appears, press **3** and **[ENTER]** to Configure the Display.

5. Follow the instructions provided by AutoCAD. Select the ADI Display Driver by typing **1** and pressing the **[ENTER]** key.

6. AutoCAD will ask the following series of questions. We have provided the response you should make.

   Hexadecimal interrupt code (INT 0XXh):

   Type **7A**, then hit the **[ENTER]** key.

   If you previously measured the height and width of a "square" on your graphics screen, you may use these measurements to correct the aspect ratio. Otherwise, accept the default answers proposed by AutoCAD.

Accept the default answer for each question by pressing the **[ENTER]** key in response to these 4 questions:

Would you like to do so? N
Do you want a status line? Y
Do you want a command prompt area? Y
Do you want a screen menu area? Y

7. Once you have answered all the questions AutoCAD will return to the Configuration Menu. You have finished configuring AutoCAD. Exit the Configuration Menu by typing **0** and pressing the **[ENTER]** key.
8. AutoCAD will ask if you want to save the configuration questions. Type **Y [ENTER]**.

9. AutoCAD will return to the Main Menu; operate AutoCAD as you normally would.

   Congratulations! Installing the AutoCAD ADI Driver is now complete.

A2.3.3 Installing the MaxLogic AutoCAD ADI Display Driver

The technology used by the MaxLogic AutoCAD ADI Display Driver is that of a terminate-but-stay resident program, such as SideKick. You must install the MaxLogic AutoCAD ADI Display Driver each time you turn on or reboot the computer. Use the following instructions to install the driver.

1. Copy the following files from your MaxLogic utility diskette to the root directory of your hard disk.

File Name	Graphics Resolution
DSVC6448.COM	640x480
DSVC7542.COM	752x420
DSVC8060.COM	800x600

2. Type the name of the driver you want to use, then press **[ENTER]**.

   You will see a message on your display screen that the driver was installed.

A2.3.4 Controlling Colors

The MaxLogic AutoCAD ADI Driver allows you to select colors for most screen areas, while AutoCAD allows you to select colors used in the drawing area. The MaxLogic ADI Driver is designed for those who would like to choose colors for the drawing editor, the screen menu, or the border colors.

The MaxLogic AutoCAD ADI Display Driver lets you select up to 8 colors for AutoCAD drawings.

TABLE 10
Colors Available with the MaxLogic ADI Driver

Number	Color	Number	Color
0	Black	8	Blinking Black
1	Red	9	Blinking Red
2	Yellow	10	Blinking Yellow
3	Green	11	Blinking Green
4	Cyan	12	Blinking Cyan
5	Blue	13	Blinking Blue
6	Magenta	14	Blinking Magenta
7	White	15	Blinking White

NOTE: For the 'Grid Dot' and 'Screen Menu Highlight' screen items, you should add 128 to the Color Numbers listed above.

Colors one through seven are the "standard" AutoCAD colors. This ensures that the colors generated by the MaxLogic AutoCAD Display Driver match those generated by any other display/driver that adheres to AutoCAD standards. Color 0 is black, which is used as the screen background color.

The MaxLogic AutoCAD ADI Driver allows you to change the colors used for all areas of the display. In particular, the MaxLogic AutoCAD ADI Driver allows you to change the color of:

Border	the lines separating the command prompt, screen menu, and graphics area.
Cursor	the color of the normal cursor displayed in the graphics area of the screen.
Grid Dot	the color of the dots displayed when the "GRID" is on.
XOR (dragging)	the color of items being dragged on the screen, or the color of the cursor when it is not in the standard form (e.g. isometric).
Mode Line	the color of the text displayed in the mode line. The mode line normally displays the name of the current layer.
Coordinate Line	the color of the text displayed in the coordinate area of the screen.
Screen Menu Text	the color of the text displayed in the screen menu area.
Screen Menu Highlight	the color of the screen menu background when a screen menu item is highlighted.

Command Prompt Text

the color of the command prompt text. The background is always set to black.

To change the color of any of these items dynamically, you need to execute the display driver again with "switches." The display driver will not try to occupy more memory if it has already been installed; it will only change the color of the specified item.

A switch is specified with a "/" character followed by a command character and number. Multiple switches can be issued at once, however, they must be separated by spaces. The following table shows which switch is used for each screen item.

TABLE 11
Switch Commands

Option	Description
[/b###]	Border
[/c###]	Cursor
[/d###]	Grid Dot
[/x###]	XOR (Dragging)
[/m###]	Mode Line
[/o###]	Coordinate Line
[/s###]	Screen Menu Text
[/h###]	Screen Menu Highlight
[/p###]	Command Prompt Text

Where the ### symbol represents the color number. A color value between 0 and 255 can be entered with each switch. The possible colors are shown in the following table. Other color values will work, but they require some experimentation.

EXAMPLES: The following examples are provided to help clarify how to change AutoCAD Colors.

Example 1: Change the color of the border to red.

At the DOS prompt > you would type:

>DSVC6448 /b1 [ENTER]

Example 2: Change the Cursor and the XOR colors to blue.

At the DOS prompt > you would type:

>DSVC6448 /c5 /x5 [ENTER]

Have fun experimenting with the different colors. It is possible to change colors from within the AutoCAD drawing editor. Use the AutoCAD command "SHELL" since it is the easiest and most convenient way to play with the colors and to determine which colors you like best. Once you have decided on a color scheme, you can set the driver up in an AUTOEXEC.BAT file with all of the switches set the way you like them.

A2.3.5 Controlling the Blinking Highlight

Once the MaxLogic AutoCAD ADI Driver is installed, AutoCAD will highlight selected items by blinking them between dim and bright. If you have AutoCAD version 2.5 or higher, you can reverse the switch from dim to bright highlighting to bright to dim highlighting by issuing the command **[Ctrl]-L** (hold down the [control] key while typing L).

You can also switch between low intensity screen colors to high intensity screen colors by issuing the command **[Ctrl]-L**.

The [Ctrl]-L command is a transparent AutoCAD command, which means that you can issue it at any time.

A2.4 EGAPaint

Follow these steps to install EGAPaint drivers for EGAPaint version 2005 or higher.

1. Copy the following files from your MaxLogic utility diskette to the directory containing EGAPAINT.EXE and EGASLIDE.EXE:

   - RIXVIDEO.DSC
   - 640X480.CFG
   - 752X420.CFG
   - 800X600.CFG

2. To ensure proper path searches, modify the default configuration for 752x420.CFG, 640x480.CFG, and 800x600.CFG by typing:

   EGASETUP [752x420, 640x480, or **800x600] [ENTER].**

Follow the guidelines described in the EGAPaint manual.

For proper operation, do the following:

Type **EGAPAINT** followed by the name of the resolution you want to use, then press **[ENTER].**

Example: EGAPAINT 752X420 [ENTER]

A2.4.1 Paint File Conversion

To use EGAPaint in high resolution modes, the standard .SCR files must be translated using XLATE.EXE, which is supplied with EGAPaint. For additional information, refer to the EGAPaint manual for instructions on how to use XLATE EXE.

A2.5 GEM

Be sure to have your GEM disks handy, you will need them. To install your MaxLogic GEM driver, follow these steps:

1. Insert the MaxLogic utility diskette into Drive A.

2. At the system prompt A> type:

   SCRNSTAL X [ENTER]

NOTE: X is the Drive ID where GEM is located. If GEM is on floppies, drive X should contain the GEM STARTUP disk.

3. Select the desired resolution then press **[ENTER]**.

4. Answer all system prompts.

5. Verify all selection.

Start GEM as you normally would. To change resolutions, repeat the steps above for the new resolution.

A2.6 Ventura Publisher

To install your MaxLogic Ventura Publisher high resolution driver, follow these steps.

NOTE: Select Hercules Card during initial Ventura installation.

1. Insert MaxLogic utility diskettes into Drive A.

2. At the system prompt A>, type:

   VENTURA [ENTER]

3. Then type:

   1 [ENTER]

   for version 1.0 or 1.01, or

   1.1 [ENTER]

   for version 1.1 or greater

4. Select Drive Name **[ENTER]**

5. Select driver. Choices are 640x480 or 800x600.

6. Answer all system prompts.

7. Verify all selections.

Start Ventura Publisher as you normally would. To change resolutions, repeat the steps above for the new resolution.

A2.7 WordPerfect

Select the resolution you want from the following files. **Follow the instructions below using the appropriate file name in place of "RUN####" for the desired resolution.**

Columns	Rows	File
80	38	RUN38
80	43	RUN43
120	38	RUN120
132	43	RUN132

NOTE: Word Perfect does not use external drivers for its screen configuration. Instead, WordPerfect automatically installs the desired screen size during the program configuration routine.

To install WordPerfect, follow these steps.

NOTE: During the setup procedure, the screen image and cursor location may be distorted. If so, follow instructions and ignore the screen.

1. Type:
   RUN### WP/S [ENTER]

2. Select option **3 [ENTER]**

3. Type the **desired rows** (for the particular RUN program) then press **[ENTER]**.

4. Type the **desired columns** (for the particular RUN program) then press **[ENTER]**.

5. Select option **0**, then press **[ENTER]**.

WordPerfect is now permanently configured to display the desired number of lines and columns. To change the resolution, repeat the above steps.

To use WordPerfect, type:

RUN### WP[ENTER]

A2.8 WordStar

Select the resolution you want for WordStar version 4.0 or higher from the following files. **Follow the instructions below using the appropriate file name in place of "RUN####" for the desired resolution.**

Columns	Rows	File
80	38	RUN38
80	43	RUN43
120	38	RUN120
132	43	RUN132

NOTE: WordStar does not use external drivers for its screen configuration. Instead, WordStar automatically installs the desired screen size during the program configuration routine.

To setup WordStar, follow these steps:

1. Type:
   WSCHANGE [ENTER]

2. Type:
   WS [ENTER]

3. Type:
   WS [ENTER]

4. Type:
   A [ENTER]

5. Type:
   A [ENTER]

6. Type:

6. Type:
C [ENTER]

7. Type:
A [ENTER]

8. Type **desired rows** (for particular RUN program) then press **[ENTER]**

9. Type:
B [ENTER]

10. Type **desired columns** (for particular RUN program) then press **[ENTER]**

11. Type:
X [ENTER]

12. Type:
X [ENTER]

13. Type:
X [ENTER]

14. Type:
X [ENTER]

15. Type:
Y [ENTER]

WordStar is now permanently configured to display the desired number of lines and columns. To change the resolution, repeat the above steps.

To use WordStar, type:

RUN### WS [ENTER]

A2.9 Lotus 1-2-3 and Symphony

The following MaxLogic drivers work with both Lotus 1-2-3, version 2.0 or greater and Symphony. To install your MaxLogic drivers, follow these steps:

1. Copy the following drivers from your MaxLogic utility diskette to your Lotus or Symphony supplied **Install Library** diskette (if you have a diskette-based system), or your Lotus or Symphony directory (if you have a hard disk-based system).

File Name	Columns x Rows (Text Driver)	Graphics Resolution (Graphics Driver)
LT120.DRV	120 x 43	
LT132.DRV	132 x 43	
LG64x48.DRV		640 x 480
LG75x42.DRV		752 x 420
LG80x60.DRV		800 x 600

2. Run the **Install** program supplied with Lotus 1-2-3 or Symphony.

3. Select **Advanced Options.**

4. Select **Add New Drivers to Library.**

5. Select one text driver and one graphics driver from the list of files above using the **Modify Current Driver Set** option of **Install.**

6. Save your changes after you have selected your new text and graphics drivers.

7. Start Lotus or Symphony as you normally would. To change resolutions, follow the instructions in the Lotus or Symphony **Install** program.

Appendix 3: Technical Reference

A3.1 Connector Pin-Outs

Refer to the following figure for the location of the connectors on the MaxEGA.

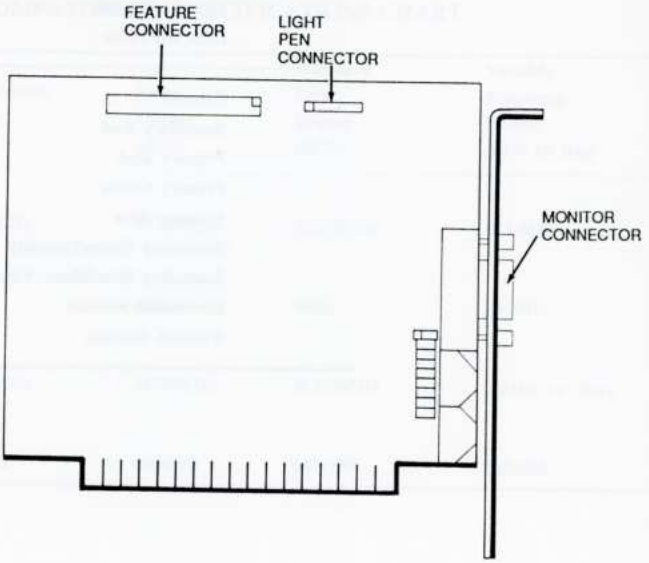


Figure 7: Connector Locations on the MaxEGA

A3.2
Enhanced RGB
Monitor Connector

TABLE 12
Enhanced RGB Monitor Connector

SIGNAL NAME/ DESCRIPTION	PIN
Ground	1
Secondary Red	2
Primary Red	3
Primary Green	4
Primary Blue	5
Secondary Green/Intensity	6
Secondary Blue/Mono Video	7
Horizontal Retrace	8
Vertical Retrace	9

A3.3
Monitor Sync Frequencies

TABLE 13
Monitor Sync Frequencies

COMPATIBILITY SPECIFICATIONS CHART

	Monochrome Display (TTL)	Color Display (RGB)	Enhanced Color Display (ECD)	Variable Frequency Display (ECD Hi Res)
Horizontal Scan Rate	18.432KHz	15.750KHz	21.850KHz	15.5-35KHz
Vertical Scan Rate	50Hz	60Hz	60Hz	50-70Hz
Video Band Width	16.275MHz	14.318KHz	16.257MHz	30MHz or more
Maximum Resolution	720x350	640x200	640x350	800x600

A3.4
Feature Connector

TABLE 14
Feature Connector

SIGNAL NAME/ DESCRIPTION	PIN
Ground	1
-12V	2
+12V	3
Connected to RCA Jack 1	4
Connected to RCA Jack 2	5
Secondary Green Output	6
Secondary Red Output	7
Secondary Blue Output	8
Attribute Shift Load	9
Blue Output	10
Primary Green Output	11
Green Input	12
Secondary Red Input	13
Blue Input	14
Primary Red Input	15
Red Output	16
Output to Bit 6/Input Status Reg 0	17
Horiz and Vert Blanking Signal	18
Output to Bit 5/Input Status Reg 0	19
Input From Feature Control Bit 1	20
Input From Feature Control Bit 0	21
Secondary Green/Intensity Input	22
Secondary Blue Input/Monochrome Video	23
Horizontal Retrace Input	24
Vertical Retrace Input	25
14 MHz signal from system board	26
Output to Disable Internal Video	27
*External Dot Clock Output	28
Vertical Retrace Output	29
Horizontal Retrace Output	30
Ground	31
+5V	32

*You must change Jumper block P4 to position 2, 3 in order to use pin 28

A3.5
Light Pen Connector

TABLE 15
MaxEGA Light Pen Connector Pins

P2 Connector	Pin
+ Light Pen Input	1
Not used	2
+ Light Pen Switch	3
Ground	4
+ 5 Volts	5
+ 12 Volts	6

Appendix 4: Glossary

Adapter: The physical card that you install in your system and plug your monitor into.

Color Monitor: A monitor with 640x200 pixel resolution with 16 possible colors. Other common names for this type of monitor are RGB monitor or regular color monitor. (See Enhanced Monitor for a different type of monitor.)

Dipswitch: A plastic switch on a PC board. The switches are set to select the various options available. The MaxEGA has one block of "piano" dipswitches (they move up and down like the keys of a piano). The switches are accessible through the endplate.

Display: The image generated by the adapter. You see the display on your monitor, but it is not a physical thing that you hold in your hand. Think of the display as a current of information running from the adapter to the monitor.

Endplate Connector: The female nine-pin monitor connector on the endplate of the MaxEGA.

Enhanced Monitor: A special type of high-resolution color monitor, with 640 horizontal by 350 vertical pixel resolution, and 64 possible colors. Also called an EGA monitor.

Enhancement Mode On/Off: The Enhancement mode applies only to an Enhanced monitor. When it is On, the display appears in its full 640x350 resolution, in 64 colors. When the Enhancement mode is Off, the monitor behaves like a regular color monitor, with only 640x200 resolution. Although they look the same, Enhancement mode Off and Color mode are not the same; Color mode is what you see on a regular color monitor, while Enhanced mode Off is always an Enhanced monitor pretending to be regular color.

Jumper: Two or more gold pins with a black plastic plug that fits over them. When the plug is over two pins, it makes an electrical connection that the computer interprets as information. When the plug is over one pin, or has been totally removed, the electrical connection is not made and the computer also interprets that as information. All the jumpers that are near each other on the board are called a jumper block.

Monitor: The box with the screen on it, whose job is to translate the display into visible, understandable images.

Monochrome monitor: A monitor with 720x348 pixel resolution in one color only. Most monochrome monitors display in green or amber.

Mode: A way of presenting data. There are often many different modes between a particular adapter and monitor. For instance, the MaxEGA can send text to a color monitor in 40 columns by 25 rows, or in 80 columns by 25 rows. The text is exactly the same, but it's presented differently. Remember that the mode is a function of the display, and is not a tangible thing.

Multifrequency Monitor See **Variable Frequency Monitor.**

Piggyback: A way of joining two boards so that they occupy only one expansion slot.

Primary Adapter: When two adapters co-exist, one or the other must be primary. DOS cannot update (talk to) both adapters at the same time, so it updates only the primary one. The monitor run by that adapter functions as if it were the only monitor.

Secondary Adapter: The adapter that DOS does not update at bootup. The monitor attached to this adapter remains plugged in and ready, but the image on it is static (unchanging).

Variable Frequency Monitor A monitor that can operate a wide range of graphics standards, including MDA, CGA, EGA, VGA, and Hercules Monochrome. Variable frequency monitors are also called multifrequency monitors.

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