# Matrox **M-Series**

M9120 PCIe ×16 • M9120 Plus LP PCIe ×1 or ×16 •
M9125 PCIe ×16 • M9138 LP PCIe ×16 •
M9140 LP PCIe ×16 • M9148 LP PCIe ×16

**User Guide**

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**matrox**®
Graphics for Professionals

# Contents

# About this user guide

Your Matrox user guide provides information on installing and using your Matrox hardware. For information on Matrox PowerDesk software features and options, see the help file included with your PowerDesk software.

## Using this guide

This guide assumes you're familiar with basic functions like click, right-click and double-click, and that you're familiar with the basics of the operating system you're using. Also, we use the following conventions:

- **Bold** for headings and for references to text that appears on-screen.

- *Italics* for emphasis, file names, paths, publication titles, and new terms.

- Keyboard keys in square brackets, with a plus sign separating keys that you press simultaneously. For example: press [Ctrl]+[Alt]+[Del] to start Windows Task Manager.

- Arrows ("→") to separate ordered directions. For example, "click **OK → Close → OK**" is the same as "click **OK**, then click **Close,** then click **OK**".

- Green for cross-references. If you're viewing online, click green text to jump to what's being referenced.

## More information

We provide additional information in help and *Readme* files. Be sure to check for any last-minute release notes included with your product. Also, check the Matrox Web site (www.matrox.com/graphics) for the latest Matrox software, technical support, and product information.

# Overview

Thank you for purchasing a Matrox M-Series graphics card. This is a high-performance graphics card that supports PCIe (PCI Express) ×1 or ×16 compliant systems and multi-monitor setups.

## Hardware supplied

- **M9120 PCIe ×16 –** Matrox graphics card, 2 DVI to HD-15 adapters.

- **M9120 Plus LP PCIe ×1 or ×16 –** Matrox graphics card, 1 dual-monitor cable (LFH-60 to DVI), 2 DVI to HD-15 adapters.

- **M9125 PCIe ×16 –** Matrox graphics card, 2 DVI to HD-15 adapters.

- **M9138 LP PCIe ×16 –** Matrox graphics card, 3 Mini DisplayPort to DisplayPort adapters.

- **M9140 LP PCIe ×16 –** Matrox graphics card, 1 quad-monitor cable (KX20 to DVI), 4 DVI to HD-15 adapters.

- **M9148 LP PCIe ×16 –** Matrox graphics card, 4 Mini DisplayPort to DisplayPort adapters, 4 DisplayPort to DVI-D adapters.

## Software available

- **Matrox PowerDesk –** to use your Matrox graphics hardware. Matrox provides 32-bit and 64-bit versions of the display driver. Matrox PowerDesk software supports only Windows 2000, Windows Server 2003, Windows Server 2008, Windows XP , and Windows Vista. Matrox makes new display drivers available on the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers).

## Minimum system requirements

- A system with PCI Express (PCIe) support

- 1 GHz 32-bit (×86) or 64-bit (×64) processor

- **Windows XP –** 128 MB of RAM or higher, Service Pack 3

- **Windows Vista –** 512 MB of RAM or higher, Service Pack 1

# Installation overview

> **Note:** If your Matrox product is already partially or fully installed on your computer, some or all the installation information in this guide may not apply to you. However, this information may be useful if you need to reinstall your Matrox product.

To install your Matrox product:

**1**  Install the Matrox card – see "Installing your graphics hardware", page 7.

**2**  Connect your monitors – see "Connecting your graphics hardware", page 12.

**3**  Install the software – see "Installing your Matrox software", page 19.

# Installing your graphics hardware

This section describes how to install your Matrox card. For information specific to your computer, like how to remove its cover, see your system manual.

> ℹ️ **Note:** Most Matrox low-profile graphics cards ship with standard (ATX) brackets compatible with most systems. If you have a low-profile system, you may need to change the standard bracket on your graphics card to a low-profile bracket. For more information, see "Replacing brackets on a low-profile graphics card", page 10 or "Replacing brackets on a low-profile DisplayPort graphics card", page 11.

## Before you install your graphics hardware

To avoid personal injury and to prevent damage to your computer or Matrox hardware, read the following guidelines before installing your Matrox graphics hardware.

### Preventing damage to your graphics hardware

- Always turn off your computer, unplug it, then wait for it to cool before touching any of the internal parts of your computer or installing your Matrox product.

- While your computer is turned off but still plugged in, some electrical current is supplied to the motherboard. This current may prevent newly installed hardware from working properly.

- Static electricity can severely damage electronic parts. Before touching any electronic parts, drain static electricity from your body (for example, by touching the metal frame of your computer).

- When handling a card, carefully hold it by its edges and avoid touching its circuitry.

- Always try to insert or remove your card as straight as possible.

# Step-by-step installation

## 1 Open your computer and remove your existing graphics card[*]

If a graphics card *isn't* already installed in your computer, skip to step 2.

**a** Using **Add/Remove Programs** (Windows 2000/XP) or **Programs and Features** (Windows Vista) in the Windows **Control Panel**, remove any currently installed display drivers. Restart your computer for the changes to take effect.

After your computer restarts, you're prompted to install drivers for the new graphics hardware detected. Click **Cancel**.

**b** Turn off your computer and all peripherals such as your monitor or printer.

**c** Open the computer and remove your existing graphics card (if any). (If graphics hardware is built into the motherboard of your computer, you may need to disable it manually. For more information, see your system manual.)
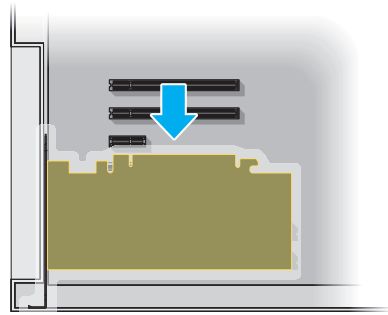
## 2 Choose an expansion slot

Most computers have different types of expansion slots. Choose a PCI Express (PCIe) ×16 or ×1 slot depending on the type of card you have. Your system manual should identify the location of each type of expansion slot in your computer.

(Back of computer)

PCI Express slots
(×16)
(×1)

PCI slots
(32-bit)
(64-bit)
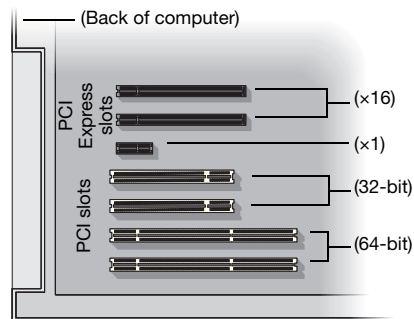
*i* **Note:** We recommend using a PCIe ×16 slot with 16 lane support. If your system has multiple PCIe ×16 slots, your choice of PCIe slot may affect your card or system performance. For more information, see your computer manual.

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[*] With multi-display mode, you may be able to use your existing graphics card. For Windows 2000/XP, see Windows 2000/XP online help under "Install additional monitors". For Windows Vista, see the Vista online help under "Add a second monitor".

**WARNING:** Inserting your Matrox card into the wrong type of slot could damage your card, your computer, or both.

×1 ×4 ×8 ×16

PCI Express card

32-bit 64-bit

PCI card
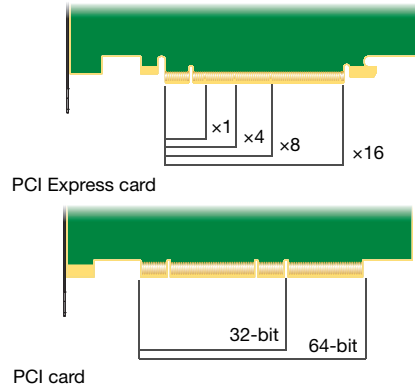
### 3 Insert your Matrox card

**a** Position your Matrox card over the expansion slot you've chosen.

**b** Push the card in firmly and evenly until it's fully seated in the slot.

**c** Secure the bracket of your Matrox card to the computer frame.
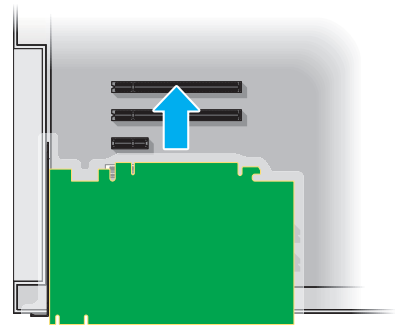
Your Matrox card is now installed. *Before restarting your computer*, connect your monitor or monitors (see "Connecting your graphics hardware", page 12). *After connecting*, restart your computer and install your Matrox software (see "Installing your Matrox software", page 19).

## Securing the bracket of your Matrox card

**Matrox M9140 only** – To support the weight of your quad-monitor cable and avoid damaging your graphics card, you also need to secure a washer to the bracket of your graphics card.

**1** To secure the washer, slip it over the monitor connector, then screw the washer onto the bracket of your graphics card.
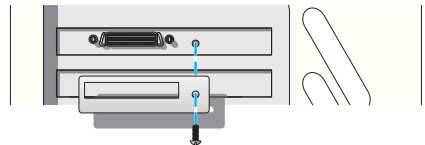
2  Make sure the washer lies flat against the frame of your computer. Two washers are provided with your Matrox product. Use the small washer if the large washer doesn't fit on the frame of your computer.

Washer
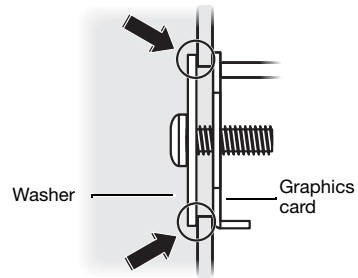
Graphics card

## Replacing brackets on a low-profile graphics card

Most Matrox low-profile graphics cards ship with ATX brackets compatible with most systems. The following explains how to change brackets on your Matrox product.

1  Remove the current bracket from your Matrox graphics card by removing the screw on the back of the graphics card, then the nuts on either side of the monitor connector.

ATX bracket

2  Attach and fasten the new bracket with the two nuts you just removed.

Low-profile bracket
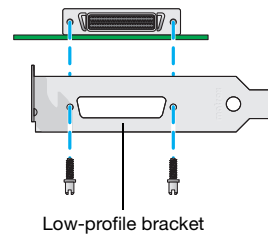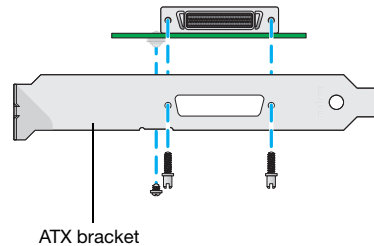
# Replacing brackets on a low-profile DisplayPort graphics card

Most Matrox low-profile DisplayPort graphics cards ship with ATX brackets compatible with most systems. The following explains how to change brackets on your Matrox DisplayPort product.

**1** Remove the current bracket from your Matrox graphics card by removing the two screws on top of the graphics card.

ATX bracket
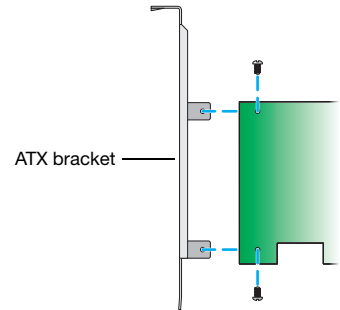
**2** Attach and fasten the new bracket with the two screws you just removed.

Low-profile bracket
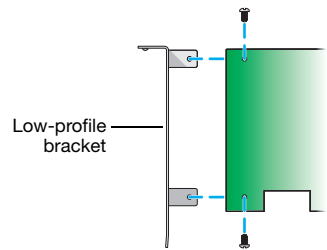
# Connecting your graphics hardware

This section describes how to connect your monitors to your Matrox graphics hardware. Depending on your Matrox product, your connection setup changes. For more information on how to connect your Matrox product, see one of the following:

- **M9120 PCIe or M9125 PCIe** – see "Connecting your ATX graphics hardware", page 13.

- **M9120 Plus LP PCIe or M9140 LP PCIe** – see "Connecting your low-profile graphics hardware", page 14.

- **M9138 LP PCIe or M9148 LP PCIe** – see "Connecting your low-profile DisplayPort graphics hardware", page 16.

## Before you connect your graphics hardware

To avoid possible problems that could damage your monitors or prevent you from using your Matrox product, read the following guidelines before connecting your Matrox graphics hardware.

- Whenever you change your connection setup, make sure you're using the correct connectors and that all connectors are properly fastened.

- Don't change monitor connections while your computer is turned on. While your computer is turned on, it may be using monitor settings that are specific to the current monitor connections. *Some* devices may be permanently damaged if incorrect settings are used.

- Whenever you restart your computer, make sure your monitors are already turned on. Otherwise, the software may not be able to properly detect your monitors.

# Connecting your ATX graphics hardware

> **Note:** To connect a monitor to your Matrox product, your monitor must have a DVI or an HD-15 connector.
>
> Some monitors with DVI connectors support both digital and analog input. If you're using one of these monitors with your Matrox product, make sure it's configured to use the correct type of input. For more information, see your monitor documentation.



HD-15 connector
(analog)
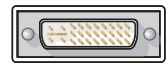


DVI connector
(DVI-I: analog/digital)

## Connecting two monitors

The following explains how to connect two monitors to your Matrox product.

### 1   Connect the first monitor

Connect your preferred monitor to the main connector (**A**) on your Matrox graphics card.

If your monitor has a DVI connector, connect it directly to the main connector of your graphics card.

If your monitor has an HD-15 connector, use the DVI to HD-15 adapter included with your Matrox product to connect your monitor to the main connector.



Monitor connector (DVI)

DVI to HD-15 adapter

Monitor connector (HD-15)
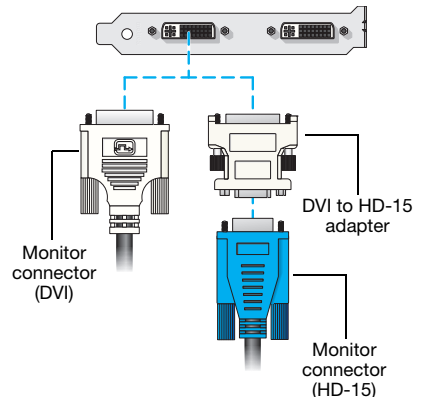
### 2   Connect the second monitor

If your second monitor uses a DVI connector, connect it directly to the secondary connector (**B**) of your graphics card.



Monitor connector (DVI)
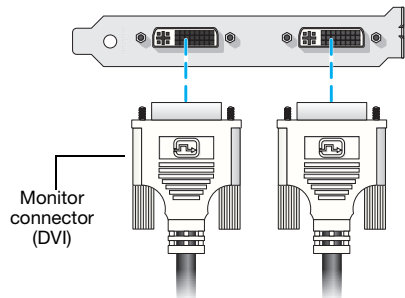
If your second monitor uses an HD-15 connector, use a DVI to HD-15 adapter included with your product to connect your monitor to the secondary connector.

Monitor connector (DVI)

Monitor connector (HD-15)

Your Matrox card is now installed. Restart your computer and install your Matrox software (see "Installing your Matrox software", page 19).

# Connecting your low-profile graphics hardware

**Note:** To connect a monitor to your Matrox product, your monitor must have a DVI or an HD-15 connector.

HD-15 connector (analog)

DVI connector (DVI-I: analog/digital)

Some monitors with DVI connectors support both digital and analog input. If you're using one of these monitors with your Matrox product, make sure it's configured to use the correct type of input. For more information, see your monitor documentation.

## Connecting two monitors

The following explains how to connect two monitors to your Matrox product.

### 1    Attach the dual-monitor cable

Attach your dual-monitor cable to the connector on the bracket of your Matrox card.
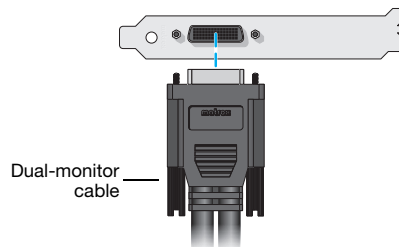
Dual-monitor cable

⚠️ **WARNING:** To avoid damaging the LFH-60 connector on your dual-monitor cable or on your graphics card, carefully insert the connector on your dual-monitor cable as straight as possible into the connector on your graphics card. Specifically, inserting the connectors into each other at an angle is likely to bend and damage the pins on the connector of the dual-monitor cable.

## 2 Connect your monitors

If your monitor has a DVI connector, connect your monitor cable directly to the dual-monitor cable.

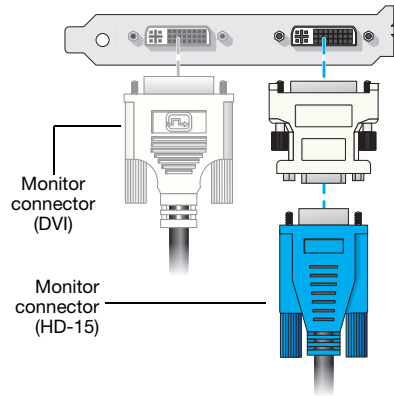If your monitor has an HD-15 connector, use a DVI to HD-15 adapter included with your product to connect your monitor cable to your dual-monitor cable.
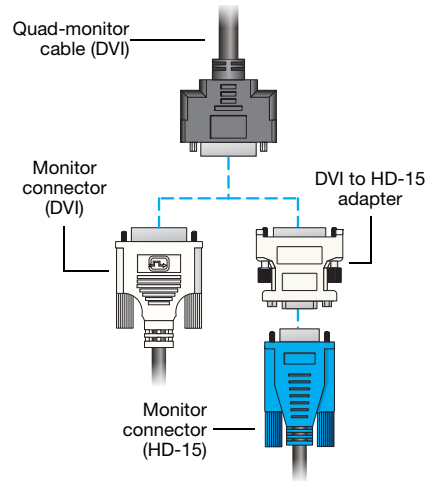


Your Matrox card is now installed. Restart your computer and install your Matrox software (see "Installing your Matrox software", page 19).

## Connecting four monitors

The following explains how to connect four monitors to your Matrox product.

### 1 Connect your quad-monitor cable

Attach your quad-monitor cable to the connector on the bracket of your Matrox card.

## 2 Connect your monitors

If your monitor has a DVI connector, connect your monitor cable directly to the quad-monitor cable.

If your monitor has an HD-15 connector, use a DVI to HD-15 adapter included with your product to connect your monitor cable to your quad-monitor cable.

Quad-monitor cable (DVI)

Monitor connector (DVI)

DVI to HD-15 adapter

Monitor connector (HD-15)
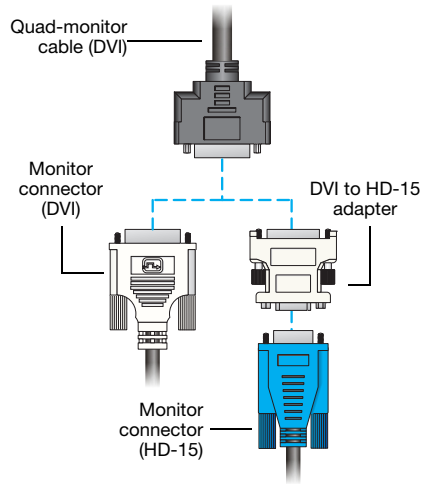
ⓘ **Note:** Monitors are numbered consecutively based on which connector each is attached to. Numbering starts with the *primary display* – the one that first displays information when you restart your computer. If another graphics card is installed in your computer, display numbering may be different.
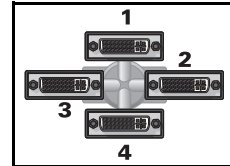
1
2
3
4

Your Matrox card is now installed. Restart your computer and install your Matrox software (see "Installing your Matrox software", page 19).
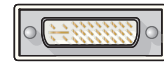
# Connecting your low-profile DisplayPort graphics hardware

ⓘ **Note:** If you're using a *DisplayPort* monitor, we recommend you connect your Matrox product to the DisplayPort connector on your monitor.

DisplayPort connector

DVI connector (DVI-D: digital)

If you're using a monitor with a DVI connector, you need a DisplayPort to DVI adapter to connect your monitor to your Matrox product. If this adapter wasn't included with your Matrox product, see the Matrox online store (http://shopmatrox.com).
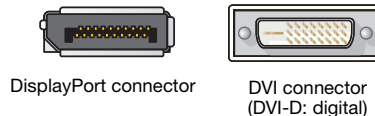
**WARNING:** To avoid damaging the DisplayPort connector on your DisplayPort monitor cable or on your graphics hardware, carefully remove the DisplayPort cable by pressing the latch on the top of the DisplayPort connector while removing the connector.
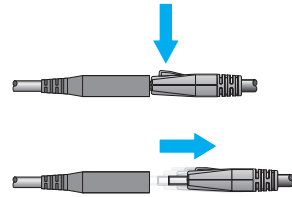
## Connecting three monitors

The following explains how to connect three monitors to your Matrox product.

### 1   Connect the first monitor

If your monitor has a DisplayPort connector, use a Mini DisplayPort to DisplayPort adapter included with your product to connect your monitor cable to the Mini DisplayPort connector labeled **1** on the bracket of your Matrox card.



Mini DisplayPort
to DisplayPort
adapter

DisplayPort
connector
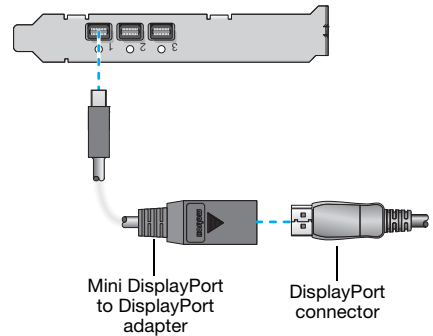
If your monitor has a DVI connector, use a DisplayPort to DVI-D adapter (sold separately) to connect your monitor cable to the Mini DisplayPort to DisplayPort adapter.
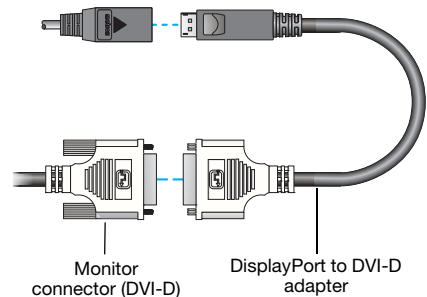


Monitor
connector (DVI-D)

DisplayPort to DVI-D
adapter

### 2   Connect the other monitors

Repeat step 1 for each monitor you want to connect.
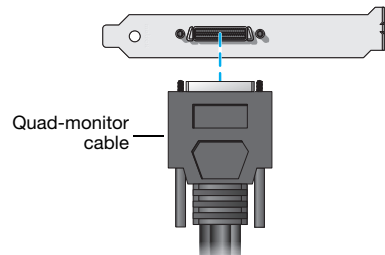
Your Matrox card is now installed. Restart your computer and install your Matrox software (see "Installing your Matrox software", page 19).

## Connecting four monitors

The following explains how to connect four monitors to your Matrox product.

### 1   Connect the first monitor

If your monitor has a DisplayPort connector, use a Mini DisplayPort to DisplayPort adapter included with your product to connect your monitor cable to the Mini DisplayPort connector labeled **1** on the bracket of your Matrox card.

Mini DisplayPort to DisplayPort adapter

DisplayPort connector

If your monitor has a DVI connector, use a DisplayPort to DVI-D adapter included with your product to connect your monitor cable to the Mini DisplayPort to DisplayPort adapter.

Monitor connector (DVI-D)

DisplayPort to DVI-D adapter
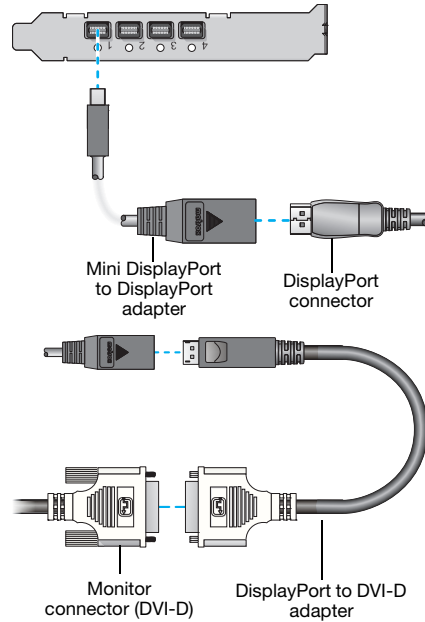
### 2   Connect the other monitors

Repeat step 1 for each monitor you want to connect.

Your Matrox card is now installed. Restart your computer and install your Matrox software (see "Installing your Matrox software", page 19).

# Installing your Matrox software

This section describes how to install Matrox software for *Windows 2000*, *Windows Server 2003, Windows Server 2008*, *Windows XP* , and *Windows Vista.* The installation of the display driver is the same for the 32-bit and 64-bit versions.

You may need administrator rights to install certain software. For more information, see Windows documentation or contact your system administrator.

## Before you begin

This guide has references specific to the Matrox CD-ROM. If your Matrox product wasn't packaged by Matrox (for example, if it was included with your computer), your product may not include this CD-ROM.

If you don't have this CD-ROM, certain references in this guide may not reflect the software you have. For more information, see other software documentation provided by your system vendor.

## Hardware detection

**Windows 2000/XP** – Windows detects new hardware when you restart. If Matrox display drivers haven't been previously installed, Windows prompts you to install a display driver. When prompted by the **Found New Hardware** wizard to install a display driver for your graphics hardware, click **Cancel**.

**Windows Vista** – Windows detects new hardware when you restart and installs a standard VGA driver. To install the Matrox display driver and PowerDesk software for your product, insert the Matrox CD-ROM and follow the on-screen intructions.

## Installing your display driver

Insert the Matrox CD-ROM, then follow the on-screen intructions.

# Matrox PowerDesk software

Your Matrox display driver includes Matrox PowerDesk software. This software helps you get the most out of your Matrox product. Use Matrox PowerDesk software to change certain display settings or access Matrox features.

## Accessing PowerDesk

To access Matrox PowerDesk:

**Windows 2000/XP/Vista –**

- Click the PowerDesk icon ( ) on your Windows taskbar. To see the PowerDesk icon, you may need to click the **Show hidden icons** button ( ) on your Windows taskbar.

  If you don't have an icon on your Windows taskbar, you can access Matrox PowerDesk by clicking **Start → All programs** (or **Programs**) **→ Matrox Graphics → Matrox PowerDesk**.

**Windows Vista –**

- Right-click your Windows desktop and select **Launch Matrox PowerDesk**.

## Accessing Matrox PowerDesk help

For information on Matrox PowerDesk software features and options, see the help file included with your PowerDesk software.

While using Matrox PowerDesk software, you can access the help file in several ways:

- Click the PowerDesk icon ( ) on your Windows taskbar, then click **Help**. To see the PowerDesk icon, you may need to click the **Show hidden icons** button ( ) on your Windows taskbar.

- From the main PowerDesk interface, click **Help and Troubleshooting → PowerDesk help**.

- For information on a specific feature or control on a page, click the **Help** button ( ) on that page.

- To find all topics that contain specific words, use the **Search** tab in the navigation window of the help file.

# Troubleshooting

## Basic procedures

This section explains basic procedures that are referred to by some troubleshooting items in this guide.

### Uninstalling PowerDesk software

**Windows 2000/XP/Vista** – To uninstall Matrox software:

**Windows 2000/XP** –

**1** Click **Start → Settings\* → Control Panel → Add/Remove Programs** (double-click\*) → **Matrox PowerDesk** (or **Matrox PowerDesk-SE**) → **Change/Remove → Yes**. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

**2** Click **Matrox Driver → Change/Remove → Yes**.

**3** Restart your computer for the changes to take effect.

**Windows Vista** –

**1** Click **Start → Settings\* → Control Panel → Programs\* → Programs and Features → Matrox PowerDesk** (or **Matrox PowerDesk-SE**) → **Uninstall → Yes**. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

**2** Click **Matrox Driver** (or **Matrox M-Series Driver**)→ **Uninstall/Change → Yes**.

**3** Restart your computer for the changes to take effect.

### Restarting in VGA mode

**Windows 2000/XP/Vista** – What follows is information on how to restart your computer in *VGA mode*.

**1** Click **Start → Shut Down\* → Restart → OK\*** to restart your computer. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

If your primary monitor is unusable, see your system manual for information on how to restart your computer using a hardware control.

**2** *Before* Windows starts, press [F8] for the Windows startup menu to appear. (If [F8] doesn't work, instead try pressing and holding [Ctrl] before Windows starts.)

**3**   Select "VGA mode" (or "Low resolution video"), then press [Enter].

ⓘ   **Note:** If your system stops responding while it's in VGA mode, select "Safe mode" instead.

## Updating the BIOS of your graphics hardware

**Windows 2000/XP/Vista – For advanced users –**

If your primary display is usable:

**1**   Download the latest BIOS update for your Matrox product. Matrox makes new BIOS updates available on the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers).

**2**   Run the software package you downloaded. Follow the on-screen instructions.

If your primary display is unusable and you have another VGA-compatible graphics card (PCI):

**1**   Turn off your computer and insert the other graphics card into an expansion slot. For more information on expansion slots, see "Choose an expansion slot", page 8.

**2**   Plug your monitor into the other graphics card and restart your computer.

ⓘ   **Note:** Make sure your computer uses the other graphics card to control your primary display. The graphics card that controls your primary display is the one that first displays information when you restart your computer.

Your computer BIOS (Basic Input/Output System) and the slot type (PCI or PCIe – see "Choose an expansion slot", page 8) of each graphics card help determine which graphics card controls your primary display.

To control which graphics card is used for your primary display, you may be able to change the configuration of your computer BIOS. For information on how to change your computer BIOS settings, see your system manual.

**3**   Download the latest BIOS update for your Matrox product. Matrox makes new BIOS updates available on the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers).

**4**   Run the software package you downloaded. Follow the on-screen instructions.

**5**   After the update is finished, turn off your computer, remove the other graphics card, then plug your monitor into your Matrox graphics card.

**6**   Restart your computer.

# Graphics – Main troubleshooting

This section addresses possible problems that could prevent you from using your computer.

**Problem** **Computer doesn't display information or boot after Matrox card is installed**

**Cause** Your Matrox card may not be properly installed.

**Solution** Make sure your Matrox card is properly installed. Specifically, make sure the card is firmly inserted in its expansion slot and that all connections to it are firmly in place. For more information, see "Installing your graphics hardware", page 7.

**Cause** If you have more than one PCIe ×16 slot, your graphics card may be using a slot that doesn't have 16 lane support.

**Solution** Try moving the PCIe card to another PCIe slot in your computer. For more information on the PCIe support of your system, see your system manual.

**Cause** There may be unsupported graphics hardware in your computer.

**Solution** If an unsupported graphics card is plugged into an expansion slot, remove it.

**Solution** If graphics hardware is built into your computer motherboard, your system may not have automatically disabled it when you inserted your Matrox card. Check your system manual for instructions on how to disable your computer's built-in graphics hardware.

**Cause** Your computer BIOS (Basic Input/Output System) settings may be incorrect.

**Solution** Change your BIOS settings. For more information on your computer BIOS, see your system manual.

**Cause** Your computer BIOS may not be up to date. For more information on your computer BIOS, see your system manual.

**Solution** Reinstall your previous graphics card and, if possible, update your computer BIOS. This can usually be done with software from the manufacturer of your computer. Contact your system vendor or manufacturer to get a BIOS update for your computer.

To get the correct BIOS update, you may need to know the serial number your computer displays when it restarts. (This number is usually in the lower-left corner of the display.)

**Cause** The BIOS of your Matrox graphics card may need to be updated or restored.

**Solution** **For advanced users** – Try updating the BIOS of your Matrox graphics card. For more information, see "Updating the BIOS of your graphics hardware", page 22.

| Problem | **Monitor connected to the DisplayPort connector isn't properly detected** |
|---|---|
| | (screen image defects, tearing, or no picture at all) |
| Cause | You may be using a DisplayPort to DVI adapter that wasn't provided with your Matrox product. |
| Solution | If a DisplayPort to DVI adapter was provided by Matrox, use that adapter. If an adapter wasn't provided with your Matrox product, try using a different DisplayPort to DVI adapter. |
| Cause | Your monitor's EDID may not have been properly detected. |
| Solution | Try turning off your monitor, then turning it back on. This may help redetect your monitor. |

| Problem | **Wrong color balance, screen image off-center, or no picture at all** |
|---|---|
| Cause | Your monitor video controls may be improperly set. |
| Solution | Adjust your monitor controls (brightness, contrast, and so on). For more information, see your monitor manual. |
| Cause | Your monitor may not be properly connected (the connectors aren't properly fastened or the monitor power cable isn't firmly in place) or may have been disconnected. |
| Solution | Make sure you're using the correct connectors, that all connectors are properly fastened, and that all power cables are firmly in place. For more information, see "Connecting your graphics hardware", page 12. |
| Cause | If your monitor supports multiple input sources (analog/digital), it may be configured to use the wrong source. |
| Solution | Make sure your monitor is using the correct input source. For more information on selecting the input source for your monitor, see your monitor documentation. |
| Solution | Change your connection setup to use a different input source. For more information, see "Connecting your graphics hardware", page 12. |

**Problem**  **After the startup screen, or after display settings are changed, the screen image is garbled or unusable**
(blank screen, rolling or overlapping screen images)

**Cause**  **Analog monitors only –** The Matrox display driver may be trying to use settings your monitor doesn't support. This can happen if the display resolution was changed to one your monitor doesn't support or if the monitor connected to your computer was changed without changing the display or monitor settings in the software.

⚠️ **WARNING:** If incorrect software monitor settings are applied, *some* monitors can be permanently damaged. For more information, see your monitor manual.

**Solution**  Make sure your monitor supports the display mode currently in use. After installing your Matrox product, your system uses either the preferred display mode for your monitor or a display mode of $800 \times 600$ at 60 Hz.

**Solution**  If none of your displays are available, reinstall your Matrox display drivers. For more information on reinstalling your display driver, see the following solution.

**Cause**  Files on your system may have been deleted or corrupted.

**Solution**  Uninstall, then reinstall Matrox software:

ℹ️ **Note:** Before removing software, make sure you have all the necessary files to reinstall software that may still be needed. Also, make sure the display driver you reinstall supports *all* Matrox products in your computer.

ℹ️ **Note:** You may need administrator rights to uninstall certain software. For more information, see Windows documentation.

**Windows 2000/XP/Vista –**

**1**  If your primary display is unusable, restart your computer in VGA mode (see "Restarting in VGA mode", page 21).

**2**  Uninstall Matrox software (see "Uninstalling PowerDesk software", page 21).

**3** After your computer has restarted, install the latest display driver for your Matrox card. You may also need to reinstall other Matrox software.

# Graphics – Extra troubleshooting

The following are extra troubleshooting items related to graphics hardware.

**Problem** **Can't use Windows, Windows reports a configuration error, and/or can't install or uninstall Matrox display driver**

> ⓘ **Note: Windows 2000/XP/Vista** – You may need administrator rights to install certain software. For more information, see Windows documentation.

**Cause** The problem may be specific to the motherboard in your computer.

**Solution** There may be a software update available for your motherboard. To find out what motherboard model your computer is using, see your system manual. For more information, contact the maker of your motherboard or computer. Many motherboard or computer manufacturers have software updates available on their Web site.

**Cause** Files on your system may have been deleted or corrupted.

**Solution** Uninstall, then reinstall Matrox software. For more information, see page 25.

**Problem** **Monitor settings aren't automatically detected**

> ⚠️ **WARNING:** If incorrect software monitor settings are used, your display may become unusable and *some* monitors can be permanently damaged. For more information, see your monitor manual.

**Cause** If a monitor was changed or added while Windows was running, the new monitor may not be detected by the software.

**Solution** Restart your computer. If your monitor is a Plug-and-Play (DDC) monitor, it should be automatically detected by the software.

**Problem**  **Built-in network hardware doesn't work after graphics card is installed**

**Cause**  The installation of a graphics card may have caused your computer to reallocate system resources.

**Solution**  Try reinstalling your network drivers.

**Solution**  Try moving your Matrox graphics card to another PCIe slot in your computer. For instructions on how to safely install your Matrox card, see "Installing your graphics hardware", page 7.

**Cause**  You may be using Windows XP Service Pack 2.

**Solution**  Install Service Pack 3 for Windows XP. To obtain a Microsoft Service Pack, contact your system vendor or see the Microsoft Web site (www.microsoft.com).

**Problem**  **After game for Windows 2000/XP/Vista starts, monitor doesn't display properly**
(blank screen, rolling or overlapping screen images)

**Cause**  If your game uses a low-resolution ($640 \times 480$ and below), full-screen display mode, your monitor may not support the refresh rate the Matrox driver is using.

**Solution**  **1**  If the game is still running in full-screen mode and your monitor is unusable, exit the game. To do this, press [Alt]+[Tab] *once*, right-click the name of the game on the Windows taskbar, then click **Close**.

**2**  Make sure the correct monitor is selected in Windows.

**Problem**  **3D and video programs don't work**

**Cause**  Your computer's BIOS settings may be incorrect.

**Solution**  Reset your computer BIOS settings to the factory defaults using your computer's built-in BIOS setup utility. The factory defaults are usually the "safest" settings. Check your system manual for more information.

**Problem**  **Using multiple displays under Windows 2000/XP/Vista, program doesn't work with your Matrox product**

**Cause**  Your main graphics card may not be controlling your primary display. The graphics card that controls your primary display is the one that first displays information when you restart your computer.

A program that doesn't recognize multiple displays may not work with a graphics card unless it's controlling your primary display.

Your computer BIOS (Basic Input/Output System) and the slot type (PCI or PCIe – see "Choose an expansion slot", page 8) of each graphics card help determine which graphics card controls your primary display.

**Solution**  If you're having problems with a program that can be moved on your Windows desktop, run this program on your primary display. Make sure the program window doesn't overlap any other display. If the program doesn't work with the graphics card controlling your primary display, or you want your main graphics card to control your primary display, see the other solutions.

**Solution**  **Windows 2000/XP and Windows Server 2003** – If you're having problems with a program that can't be moved on your Windows desktop, try changing your primary display.

**1**  Right-click your Windows desktop background, then click **Properties → Settings**.

**2**  Select the display you want as the primary display and enable **Use this device as the primary monitor**.

**3**  Click **OK** or **Apply** for your changes to take effect.

**Solution**  Change the configuration of your computer BIOS so that the slot type of your main graphics card has priority for becoming the primary display. For information on how to change your computer BIOS settings, see your system manual.

If your computer BIOS doesn't let you select which slot type has priority for becoming the primary display, a BIOS update may be available to let you do this. (The BIOS of most computers can be updated with software.) For a possible BIOS update for your computer, contact your system vendor.

**Solution**  If there's a graphics controller built into the motherboard of your computer, by changing your computer BIOS settings, you may be able to change which device controls your primary display. For more information, see your system manual.

**Solution**  If you don't need to use the graphics card that's controlling your primary display, remove it from your computer. If your primary display is controlled by the motherboard of your computer, see your system manual for information on how to disable this graphics controller.

**Cause**  The program you're using may not work properly with systems using more than one display at a time.

**Solution**  An update may be available for the program you're using. This update may fix problems this program has with multi-display systems. For more information, contact the software distributor for the program you're using.

**Solution**  If you're using multiple displays in *independent* mode, try using *stretched* mode instead. Programs that don't work in independent mode may work in stretched mode. For more information, see Matrox PowerDesk help.

**Problem**  **Not all graphics cards in the computer are fully supported**
**(Software doesn't work with a certain graphics card, or another graphics card doesn't work at all)**

**Cause**  If you have different models of graphics cards in your computer, your Matrox display driver may not support all the graphics cards in your computer.

**Solution**  Under Windows 2000/XP/Vista, you can use different display drivers for different products. Software that depends on a specific display driver feature may not work if your graphics hardware is using different display drivers.

> **Note:** If your Matrox product was provided by the manufacturer of your computer, check the Web site of that manufacturer for the latest display driver. A display driver provided by the manufacturer of your computer is more likely to be tested with your computer model.

**Solution**  If a graphics card isn't supported, you may need to remove it. If there's graphics hardware built into the motherboard of your computer that's not supported by your software, see your system manual for information on how to disable this graphics hardware.

**Cause**  **Windows 2000/XP/Vista** – If the Windows method for display driver installation was used (instead of running the setup program included with your Matrox display driver), the driver may not be installed for all the graphics cards it supports.

**Solution**  Run the setup program included with the Matrox display driver. The setup program automatically installs the display driver for each Matrox graphics card it supports.

**Cause**  **Windows Vista/Server 2008** – You may be using a WDDM (Windows Vista Display Driver Model) display driver that doesn't support all graphics hardware in your computer. For more information, see the Microsoft Web site (www.microsoft.com).

**Solution**  Make sure you're using a WDDM display driver that supports all the graphics hardware installed on your system.

<dt>Solution</dt> Uninstall the WDDM display driver and install XDDM (Windows XP Display Driver Model) display drivers for all your graphics cards. Windows Vista supports multiple XDDM display drivers running at once.

<dt>Solution</dt> Disable or remove any graphics cards not supported by the driver you want to use.

## Problem    In multi-display mode, displays aren't numbered consecutively

<dt>Cause</dt> If you have more than one graphics card in your computer, the display numbering may not be consecutive for the displays of a multiple-display card (for example, a card that supports three monitors). Display numbering depends on the types of expansion slots used in your computer (PCI and PCIe) and the BIOS settings of your computer.

<dt>Solution</dt> **Windows 2000/XP/Vista** – Move the displays in Windows.

1  **Windows 2000/XP** – Right-click your Windows desktop background, then click **Properties → Settings**.

   **Windows Vista** – Right-click your Windows desktop background, then click **Personalize → Display Settings**.

2  Select a display and move it according to the physical position of the monitor it's associated with.

3  Click **OK**.

## Problem    Screen image defects appear, program doesn't run properly, or Windows doesn't work properly
(example: mouse pointer not drawn properly)

<dt>Cause</dt> Some programs may not work properly with some Matrox acceleration.

<dt>Solution</dt> **Windows 2000/XP/Vista** – Disable Windows effects:

**Windows 2000** –

1  Right-click your Windows desktop background, then click **Properties → Effects**.

2  Disable one or more features under **Visual effects**.

3  Click **OK → OK**.

**Windows XP** –

1  Right-click your Windows desktop background, then click **Properties → Appearance → Effects**.

2  Disable one or more features.

**3** Click **OK → OK**.

**Windows Vista –**

**1** Right-click your Windows desktop background, then click **Personalize → Window Color and Appearance**.

**2** If you're using Windows Aero, click **Open classic appearance properties for more color options**. Under **Color scheme**, select **Windows Vista Basic**.

**3** Click **Effects** and then disable one or more features.

**4** Click **OK → OK**.

Solution   **Windows Vista** – Disable Windows Aero. Right-click your Windows desktop background, then click **Personalize → Window Color and Appearance → Open classic appearance properties for more color options**. Under **Color**, select **Windows Vista** or **Windows Classic**.

Solution   If possible, update your Matrox display driver. Matrox makes new display drivers available on the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers).

🛈   **Note:** If your Matrox product was provided by the manufacturer of your computer, check the Web site of that manufacturer for the latest display driver. A display driver provided by the manufacturer of your computer is more likely to be tested with your computer model.

🛈   **Note:** If you identify a program that doesn't work well with Matrox acceleration, please contact Matrox technical support () and describe the problem. This information may help us come up with a fix or work-around in a future driver release.

**Problem**   **Program window or dialog box doesn't appear on screen**

Cause   Another window or dialog box may be covering the window or dialog box you want to see.

Solution   Move, close, or minimize any window or dialog box that may be covering the window or dialog box you want to see.

Cause   If you're using multi-display mode, the program window or dialog box may be in a display or on a monitor that's unusable. (For example, your monitor may not be properly connected or configured.)

Solution   Make sure all the displays and monitors you want to use are usable. For more information, see other troubleshooting items in this guide.

Cause   The software may be using a display you didn't intend to use or the software may be configured to use more displays than the actual number of monitors you have. (For example, you may be in DualHead Multi-Display mode but you only have one monitor.)

**Solution**  Disable the display:

**Windows 2000/XP –**

**1**  Right-click your Windows desktop background, then click **Properties → Settings**.

**2**  Select the display you want to disable, then clear the **Extend my Windows desktop onto this monitor** check box.

**3**  Click **OK** or **Apply** for your changes to take effect.

**Windows Vista –**

**1**  Right-click your Windows desktop background, then click **Personalize → Display settings**.

**2**  Select the display you want to disable, then clear the **Extend the desktop onto this monitor** check box.

**3**  Click **OK** or **Apply** for your changes to take effect.

**Cause**  The program window or dialog box may be somewhere off-screen.

**Solution**  If the program window you want to see is named on the Windows taskbar, right-click on it and select **Maximize**. (If you click **Restore** the program window goes back to its previous position. To fix this problem, see the other solutions.)

**Solution**  Manually move the program window or dialog box:

**1**  Press [Alt]+[Space].

**2**  If you see a pop-up menu, click **Move**. If you don't see a pop-up menu, press [M] (for **Move**).

**3**  Press on one of the arrow keys once and move your mouse pointer to where you want the window or dialog box to appear, then click. The program window or dialog box should appear where you clicked.

**Problem**  **Display on digital monitor appears blurry or uses only a portion of the screen**

**Cause**  You may be using a lower display resolution than what your digital monitor supports. If your monitor supports display scaling, the image on your screen may appear blurry. If display scaling isn't supported, the display may use only a portion of your screen.

**Solution**  Select the highest display resolution available. This generally results in better image quality. (While using two digital monitors at the same time, certain limitations may apply. For more information, see page 35.)

**Problem    Can't apply Windows Aero color scheme**

Cause    You may be using a display driver designed for Windows XP (XDDM).

Solution    Windows Aero is supported only with a display driver designed for Windows Vista (WDDM). For a Windows Vista display driver, see the Matrox Technical Support Web site ([www.matrox.com/graphics/en/support/drivers](www.matrox.com/graphics/en/support/drivers)).

Cause    You may be using a 16-bit color palette.

Solution    Try using a 32-bit color palette instead.

# Video

The following troubleshooting items address problems related to video files.

**Problem    Video file playback is jerky (skipping frames)**

ⓘ **Note:** Jerky video file playback may be the result of slow playback or recording. Slow recording causes frames to be dropped (frames aren't recorded). If jerky video is caused by frames that were dropped during recording or by the video settings such as the encoding method, the problem can only be fixed by recapturing the video under better conditions or with different video settings.

Cause    Your hard disk may be too slow.

Solution    Try *defragmenting* your hard disk. To defragment a hard disk:

**Windows 2000/XP** – Click **Start → Programs → Accessories → System Tools → Disk Defragmenter**.

**Windows Vista** – Click **Start → Settings\* → Control Panel → System and Maintenance\* → Performance Information and Tools → Advanced Tools → Open Disk Defragmenter**. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

Solution    If possible, try using a faster disk.

ⓘ **Tip:** If your computer has more than one hard disk, you may get better results if you play back video files from a disk *other than* the one where the Windows swap file is stored. The Windows swap file is usually stored on drive "*C:*".

**Solution**   Make sure the drive you're using (a hard disk or DVD drive) is using DMA (if your drive supports DMA transfers). To use DMA:

⚠️ **WARNING:** Not all drives support DMA well. For more information, see the documentation that came with your hard disk.

**Windows 2000/XP –**

**1**   Click **Start → Settings**\* **→ Control Panel → Performance and Maintenance**\* **→ System** (double-click\*) **→ Hardware → Device Manager**. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

**2**   Double-click the **IDE ATA/ATAPI controllers** list item to expand it, then double-click the name of the appropriate controller.

**3**   Change each **Transfer Mode** setting to "**DMA if available**".

**4**   Click **OK** to accept the changes.

**Windows Vista –**

**1**   Click **Start → Settings\* → Control Panel → System and Maintenance**\* **→ System → Device Manager**. (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

**2**   Double-click the **IDE ATA/ATAPI controllers** list item to expand it, then double-click the name of the appropriate controller.

**3**   Click **Advanced Settings**.

**4**   Under **Device Properties** click "**Enable DMA**".

**5**   Click **OK** to accept the changes.

**Cause**   Too many programs may be running (using up computer resources).

**Solution**   Close other programs, including memory-resident programs like **System Agent**.

**Cause**   Your video player may not properly support the video file format.

**Solution**   Try using a different video player.

**Problem**  **Mouse pointer flickers or disappears when it's over a video window**

**Cause**  You may be using a customized mouse pointer. Windows draws customized mouse pointers in a way that may cause them to flicker or disappear while they're over a video window.

**Solution**  **Windows 2000/XP/Vista** – Use default Windows mouse pointers:

1  **Windows 2000/XP** – Click **Start → Settings**\* **→ Control Panel → Printers and Other Hardware**\* **→ Mouse** (double-click\*). (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

   **Windows Vista** – Click **Start → Settings**\* **→ Control Panel → Hardware and Sound**\* **→ Mouse** (double-click\*). (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

2  Click the **Pointers** tab.

3  In the **Scheme** box, select (or reselect) "**(None)**", then click **OK**.

## DVD

The following troubleshooting items address problems related to DVD. (For general video-related troubleshooting items, .)

**Problem**  **DVD video playback is jerky (skipping frames)**

**Cause**  Your DVD drive may be too slow.

**Solution**  If your DVD drive supports DMA transfers, enable this feature ().

**Problem**  **Can't play certain DVD videos**

**Cause**  A DVD video may not play back because the region setting on your DVD player doesn't match the region code on the DVD-ROM disc. DVD players and videos use region codes to prevent the playback of video that was intended only for a certain region or market.

**Solution**  To get a copy of a DVD video that's compatible with the region code of your DVD player, contact the vendor of that video.

**Problem   Can't record DVD video**

Cause   The video source may be copy protected. Your Matrox product may not let you make copies of copy-protected video. (Some video sources let you make a copy of a video, but you may not be able to make a copy of that copy.)

Solution   To get copies of a copy-protected video, contact the vendor of the video.

## Sound

The following troubleshooting items address problems related to sound cards.

**Problem   Sound doesn't record, video files play back with no sound, or sound output is distorted or too loud**

Cause   If the sound problem is with a particular device (for example, TV or speaker), the volume control on the device itself may need adjusting.

Solution   Adjust the volume control on the device itself.

Cause   Audio cables may be loose or incorrectly wired.

Solution   Make sure your sound card cables are properly connected.

Cause   Your sound card's Windows software settings may be incorrect. Specifically, input or output may be disabled, or volume levels may be too low or too high.

Solution   Make sure your sound card's Windows software settings are correct.

**Windows 2000/XP** –

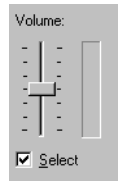**1**   Double-click the speaker icon ( or ) on the Windows taskbar.

If you *don't* see the speaker icon:

**Windows 2000** –

**a**   Click **Start → Settings → Control Panel**.

**b**   Double-click the **Multimedia** or **Sounds and Multimedia** icon.

**c**   Enable "**Show volume control on the taskbar**".

**d**   Click **OK**.

**e**   Double-click the speaker icon on the taskbar.

**Windows XP –**

**a**   Click **Start → Settings*** **→ Control Panel → Sound, Speech, and Audio Devices*** **→ Sounds and Audio Devices** (double-click*). (* Depending on your configuration of Windows, this part of the step may not be necessary.)

**b**   Enable "**Place volume icon in the taskbar**".

**c**   Click **OK**.

**d**   Double-click the speaker icon on the taskbar.

**2**   Click **Options → Properties**.

**3**   Click the **Recording** button, enable all check boxes in the list box, then click **OK**.

**4**   For the **Line In** and/or **Microphone** controls, make sure the **Volume** slider levels are okay (if you're not sure, try half level), and the appropriate **Select** check box is enabled.

**5**   Click **Options → Properties**.

**6**   Click the **Playback** button, enable all check boxes in the list box, then click **OK**.

**7**   For the **Master**, **Line**, **Aux**, and/or **Wave** controls, make sure the **Volume** sliders are at one-quarter to one-half levels (if you're not sure, try half level), and the **Mute** check boxes are cleared.

**8**   Close the dialog box.

> **Note:** Depending on your sound driver, certain labels may be different. For example, **Line In** may be labeled **Line**.

**Windows Vista –**

**1**   Right-click the speaker icon ( ◁)) ) on the Windows taskbar.

If you *don't* see the speaker icon:

**a**   Right-click the taskbar and select **Properties → Notification area**.

**b**   Under **System icons**, enable the **Volume** check box.

**c**   Click **OK**.

**d**   Right-click the speaker icon on the Windows taskbar.

**2**  Select **Playback** and make sure all the devices you want to use are listed as working. If a device is listed as not working, right-click the device icon and select **Enable**.

ⓘ **Note:** To see all your devices, right-click anywhere on the property sheet and make sure **Show disabled devices** and **Show Disconnected Devices** are enabled.

**3**  For each device you want to use, double-click the device icon and select **Levels**. Make sure the volume slider value is okay and the volume button is enabled (🔊). Click **OK**. (To test the volume of a playback device, right-click the device icon in the **Playback** property sheet and select **Test**.)

**4**  Select **Recording** and make sure all the devices you want to use are listed as working. If a device is listed as not working, right-click the device icon and select **Enable**.

ⓘ **Note:** To see all your devices, right-click anywhere on the property sheet and make sure **Show disabled devices** and **Show Disconnected Devices** are enabled.

**5**  For each device you want to use, double-click the device icon and select **Levels**. Make sure the volume slider value is okay (if you're not sure, try a value of 50) and the volume button is enabled (🔊). Click **OK**. (To test the volume of a recording device, make sure an audio source plugged into it and playing, then watch the volume meter next to the audio device icon. The volume meter should be between 60 and 100%.)

**Cause**  The problem may be specific to the audio hardware of your computer.

**Solution**  For more information, see the documentation for the audio hardware of your computer.

# Product information

## Specifications

| | Matrox M9120 PCIe | Matrox M9120 Plus LP PCIe | Matrox M9125 PCIe | Matrox M9140 LP PCIe |
|---|---|---|---|---|
| **Operating systems supported** | Windows 2000, Windows Server 2003, Windows Server 2008, Windows XP, and Windows Vista | | | |
| **Digital monitor support** | DVI | DVI | Dual-link DVI | DVI |
| **Memory** | 512 MB | 512 MB | 512 MB | 512 MB |
| **Card type** | PCIe ×16 | PCIe ×1 or ×16 | PCIe ×16 | PCIe ×16 |
| **Form factor** | ATX | Low-profile | ATX | Low-profile |
| **# of displays supported** | 2 | 2* | 2 | 4 |
| **# of dual-monitor cables** | — | 1 | — | — |
| **# of quad-monitor cables** | — | — | — | 1 |
| **# of DVI to HD-15 adapters** | 2 | 2 | 2 | 4 |
| **Connectors** | 2× DVI | 1× LFH-60 | 2× DVI | 1× KX20 |
| **Maximum card dimensions** | 6.6" (L) × 0.75" (W) × 4.376" (H) / 16.8 cm (L) × 1.91 cm (W) × 11.1 cm (H) | 6.6" (L) × 0.75" (W) × 2.712" (H) / 16.8 cm (L) × 1.91 cm (W) × 6.9 cm (H) | 6.6" (L) × 0.75" (W) × 4.376" (H) / 16.8 cm (L) × 1.91 cm (W) × 11.1 cm (H) | 6.6" (L) × 0.75" (W) × 2.712" (H) / 16.8 cm (L) × 1.91 cm (W) × 6.9 cm (H) |

\* Quad analog display upgrade kit available (see http://shopmatrox.com).

|  | Matrox M9138 LP PCIe | Matrox M9148 LP PCIe |
|---|---|---|
| Operating Systems supported | Windows 2000, Windows Server 2003, Windows Server 2008, Windows XP, and Windows Vista | |
| Digital monitor support | DVI and DisplayPort | DVI and DisplayPort |
| Memory | 1 GB | 1 GB |
| Card type | PCIe ×16 | PCIe ×16 |
| Form factor | Low-profile | Low-profile |
| # of displays supported | 3 | 4 |
| # of Mini DisplayPort to DisplayPort adapters | 3 | 4 |
| # of DisplayPort to DVI-D adapters | —* | 4 |
| Connectors | 3× Mini DisplayPort | 4× Mini DisplayPort |
| Maximum card dimensions | 6.6" (L) × 0.75" (W) × 2.712" (H) / 16.8 cm (L) × 1.91 cm (W) × 6.9 cm (H) | 6.6" (L) × 0.75" (W) × 2.712" (H) / 16.8 cm (L) × 1.91 cm (W) × 6.9 cm (H) |

\* DVI support available with DisplayPort to DVI adapter (sold separately).

# Notes

ℹ️ **Note:** For the latest display driver and user guide for your product, check the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers). A more recent display driver may support more features and may offer increased capabilities (such as higher display resolutions).

- Your Matrox graphics card is 100% VGA compatible and supports all VESA standards: VBE 3.0 (Super VGA modes), DPMS (energy saving), and DDC-2B (Plug-and-Play monitor), and DDC-CI.

- To get the most of your Matrox product, we recommend using the highest color palette setting (a 32-bit color palette) for all your displays.

- The display resolutions and refresh rates available depend on your Matrox graphics card, display driver, software monitor settings, and monitor. For information on the capabilities of your monitor, see your monitor documentation.

- **M9120, M9120 Plus LP, and M9125** – The maximum supported display resolution is 1920 × 1200 at 60 Hz (with reduced blanking) for digital (DVI) monitors and 2048 × 1536 at 85 Hz for analog monitors.

- **M9125** – A display resolution of 2560 × 1600 at 60 Hz (with reduced blanking) is supported only while using a dual-link monitor cable.

- **M9140** – The maximum supported display resolution is 1920 × 1200 at 60 Hz (with reduced blanking) for both digital (DVI) and analog monitors.

- **M9138 LP or M9148 LP** – The maximum supported display resolution is 1920 × 1200 (with reduced blanking) for digital (DVI) monitors. The maximum supported display resolution is 2560 × 1600 at 60 Hz for DisplayPort monitors.

- If your monitor doesn't support reduced blanking, your screen image may not display properly.

- While using four monitors in *stretched* mode, using a resolution higher than 1600 × 1200 may cause tearing or reduced performance during video playback.

## Digital flat panel information

- TMDS (Transition Minimized Differential Signaling) encoding for DVI connectors

- DDWG (Digital Display Working Group) compliant DVI connector

- EDID (Extended Display Identification Data) 1.2 and 1.3 support

- VESA Display Data Channel (DDC) support

- DDC-CF 1.0 support

- VESA DisplayPort 1.1a support

# Warranty

## A. Limited Warranty Statement

1. Matrox Graphics Inc. ("Matrox") warrants to the end-user customer, who provides adequate proof of purchase that Matrox hardware products purchased from Matrox authorized dealers will be free from defects in materials and workmanship for a period of three (3) years from the date of purchase. This warranty applies only to the original end-user purchaser and is non-transferable. Conditions and limitations of Matrox's warranty are stated below.

2. Matrox's limited warranty covers only those defects which arise as a result of normal use of the hardware and does not apply to any:

    a. improper or inadequate maintenance;

    b. incompatibilities due to the user's hardware or software applications with or in which the Matrox product interfaces;

    c. product of a special or custom-made nature;

    d. unauthorized modification or misuse;

    e. improper installation, misapplication or negligence;

    f. operation outside the product's environmental specifications;

    g. improper site preparation or maintenance;

    h. software;

    i. other causes that do not relate to a product defect;

    j. defects or damage suffered as a result of force majeure (including theft);

    k. defects or damage suffered as a result of normal wear and tear, and/or

    l. stolen goods.

3. If Matrox receives, during the applicable warranty period, notice of a defect in a warranted hardware product and the defective Matrox product in question, Matrox shall at its sole option, either repair or replace the product, and shall return the repaired product or a replacement product within a reasonable delay. The replacement product may not be new, provided that it has functionality at least equal to that of the product being replaced.

4. This warranty is valid in any country where Matrox hardware products are distributed by Matrox or its authorized dealers.

5. This Limited Warranty Statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state in the United States, from province to province in Canada, and from country to country elsewhere in the world.

## B. Limitations of Warranty

1. NEITHER MATROX NOR ANY OF ITS THIRD PARTY SUPPLIERS MAKES ANY OTHER WARRANTY OF ANY KIND, WHETHER EXPRESSED OR IMPLIED, WITH RESPECT TO MATROX PRODUCTS. MATROX SPECIFICALLY DISCLAIMS (and the customer, by accepting the Matrox product, specifically accepts such disclaimer and waives) ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR OR INTENDED PURPOSE OR USE AND THE WARRANTY AGAINST LATENT DEFECTS, WITH RESPECT TO THE HARDWARE AND/OR SOFTWARE. MATROX FURTHER DISCLAIMS ANY WARRANTY THAT MATROX PRODUCTS, IN WHOLE OR IN PART, WILL BE FREE FROM INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY OR PROPRIETARY RIGHTS.

2. To the extent that this Limited Warranty Statement is inconsistent with the law of the locality where the customer purchases the Matrox product, this Limited Warranty Statement shall be deemed modified to be consistent with such local law. Under such local law, certain limitations of this Limited Warranty Statement may not apply to the consumer.

3. To the extent allowed by local law, the remedies provided in this Limited Warranty Statement are the customer's sole and exclusive remedies.

# C. Limitations of Liability

**1.** EXCEPT FOR THE OBLIGATIONS SPECIFICALLY SET FORTH IN THE LIMITED WARRANTY STATEMENT, IN NO EVENT SHALL MATROX BE LIABLE FOR:

    **a.** any direct, indirect, special, incidental, consequential, foreseeable or unforeseeable, or punitive damages, whether based on contract, tort, delict or any other legal theory and whether advised of the possibility of such damages, and/or

    **b.** damages arising from the loss of use, data, production revenue and/or profit of in connection with the Matrox product or any business interruption.

**2.** Without prejudice to the foregoing, any liability of Matrox for any breach of warranty shall be limited to the amount paid by the customer for the defective hardware in question.

**3.** To the extent allowed by local law, Matrox's entire liability and the customer's exclusive remedy shall be the repair or replacement of any defective product during the warranty period. Matrox does not offer any other warranty with respect to Matrox hardware or software or any other hardware or software.

**4.** Customer shall be responsible for all applicable taxes, duties and customs fees on any replacement unit, as well as all transport, insurance, storage and other charges incurred on all returned products.

# D. Obtaining Service

**1.** Verify that your Matrox product was installed and configured according to the information in its accompanying documentation.

**2.** Read the "Troubleshooting" information included with the Matrox product to see if you can solve the problem yourself.

**3.** If you are still experiencing difficulties, please contact your dealer where you purchased your Matrox product.

**4.** If you must return a Matrox product, leave the configuration as it was when you were using it, and leave all identification stickers on the product. Pack the product in its original box and return to your Matrox dealer where the product was purchased, together with your proof of purchase. Your Matrox dealer will return the product for you. Alternatively, if this first option is unavailable to you, you may contact the Matrox Technical Support group who will issue an Return Merchandise Authorization (RMA) number, upon receipt of adequate proof of purchase, and inform you of shipping instructions. DO NOT RETURN THE PRODUCT TO MATROX WITHOUT MATROX'S RMA NUMBER AND EXPRESS AUTHORIZATION.

# E. General

This limited warranty shall be governed by the laws of the Province of Quebec, Canada and the federal laws of Canada applicable therein and the courts of the Province of Quebec shall have exclusive jurisdiction to hear and decide any dispute instituted by the customer in connection with this limited warranty; the customer waives, by accepting the product, its rights to institute proceedings in connection with this warranty against Matrox in any jurisdiction other than Quebec.

# Software license agreement

**Single User Products**   This Matrox software (the "Software") is copyrighted by Matrox Graphics Inc. All rights are reserved. The purchaser is granted a license to use the software only, subject to the following restrictions and limitations:

1. The license is for the original purchaser only, and is not transferable without written permission of Matrox.

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4. The original purchaser may not engage in, nor permit third parties to engage in, any of the following:
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   • Attempting to unassemble, de-compile or reverse engineer the Software in any way.
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   • Making telecommunication data transmissions of the Software.

Matrox reserves the right to terminate this license if there is a violation of its term or default by the Original Purchaser. Upon termination, for any reason, all copies of the Software must be immediately returned to Matrox, and the Original Purchaser shall be liable to Matrox for any and all damages suffered as a result of the violation or default.

**Limited warranty**   Matrox warrants to you, for a period of 90 days normal use from your date of purchase, that:

1. The CD/disks on which the software is furnished and the documentation are not defective.

2. The Software is properly recorded upon the CD/disks included.

3. The documentation is substantially complete and contains all the information Matrox deems necessary to use the software.

4. The Software functions substantially as described in the documentation.

Matrox's entire liability and your exclusive remedy shall be the replacement of any CD/Disks or documentation not meeting these warranties, which is returned to Matrox or an authorized dealer, together with a copy of your paid receipt. The above is the only warranty of any kind, either express or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular use that is made by Matrox on this Licensed Software. In no event shall Matrox be liable to you or to any third party for consequential, special, indirect or incidental damages which you may incur as a result of using the licensed software, including, but not limited to, loss of data, or information of any kind which you may experience.

# Customer support

## Matrox Web

Our Web site has product literature, press releases, technical material, a sales office list, trade show information, and other relevant material.

- Visit the Matrox Graphics Web site at www.matrox.com/graphics.

- E-mail questions or comments regarding the site to webmaster@matrox.com.

## If you have a problem

Matrox values your business and offers professional support for your Matrox product. For product support, contact your Matrox representative or visit our technical support Web site at www.matrox.com/graphics/support/.

### Information we need

Please give a complete description of the problem, and include:

- Matrox card serial number, model number, revision number, BIOS number, driver type and version, and memory address at which the Matrox card is installed.

- Computer brand and model name.

- Monitor brand and model name.

- Operating system, version, and service pack.

- Brand and model of any other cards and devices installed on your system.

### Program specific problems

If a problem appears with a specific program, please give us the following information:

- Display settings (color palette, display resolution, and so on) applied when the problem occurs.

- If possible, take note of the file and segment address that caused the problem.

- Detailed steps known to cause the bug, so we can reproduce it.

# Where to get information

For system information:

- **Windows 2000** – Right-click the **My Computer** icon on your Windows desktop background, then click **Properties**.

- **Windows 2000/XP** – Click **Start → Programs** (or **All programs**) → **Accessories → System Tools → System Information**.

- **Windows XP** – Click **Start → Settings\* → Control Panel → Performance and Maintenance\* → System** (double-click\*). (\* Depending on your configuration of Windows, this part of the step may not be necessary.)

- **Windows Vista** – Click **Start → Settings\* → Control Panel → System and Maintenance**\* **→ System** (double-click\*). (\* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

## Thank you for choosing Matrox

Please register online (http://www.matrox.com/graphics/en/registration) to be eligible for customer support, new product announcements, and information on special offers and upcoming events.

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**Graphics for Professionals**

# Index

## FCC Compliance Statement

**Remark for the Matrox hardware products supported by this guide**   This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful 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: • Reorient or relocate the receiving antenna • Increase the separation between the equipment and receiver • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected • Consult the dealer or an experienced radio/TV technician for help.

**WARNING**   Changes or modifications to this unit not expressly approved by the party responsible for the compliance could void the user's authority to operate this equipment. The use of shielded cables for connection of the monitor to the card is required to meet FCC requirements.

## Declaration of conformity of a Class B digital device according to the FCC rules

**We, the Responsible Party**   Matrox, 625 State Route 3, Unit B, Plattsburg, NY 12901 • Telephone: (514) 822-6000 (extension 2026) • Attention: Conformity Group Matrox

**Declaration**   The Matrox hardware products supported by this guide comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) these devices may not cause harmful interference, and (2) these devices must accept any interference received, including interference that may cause undesired operation. Any question regarding this declaration should be forwarded to the above coordinates.

## (English) Industry Canada Compliance Statement

**Remark for the Matrox hardware products supported by this guide**   These digital devices do not exceed the Class B limits for radio noise emission from digital devices set out in the Radio Interference Regulation of Industry Canada.

## (Français) Conformité avec les exigences du ministère de l'Industrie Canada

**Remarque sur les produits matériels Matrox couverts par ce guide**   Ces appareils numériques n'émettent aucun bruit radioélectrique dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par Industrie Canada.

## VCCI Compliance Statement

**Remark for the Matrox hardware products supported by this guide**   This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

## (English) European user's information – Declaration of Conformity

**Remark for the Matrox hardware products supported by this guide**   These devices comply with EC Directive 89/336/EEC for a Class B digital device. They have been tested and found to comply with EN55022/CISPR22 and EN55024/CISPR24. In a domestic environment these products may cause radio interference in which case the user may be required to take adequate measures. To meet EC requirements, shielded cables must be used to connect the monitor and other peripherals to the card. These products have been tested in a typical class B compliant host system. It is assumed that these products will also achieve compliance in any class B compliant system.

## (Français) Informations aux utilisateurs Européens – Déclaration de conformité

**Remarque sur les produits matériels Matrox couverts par ce guide**   Ces unités sont conformes à la directive communautaire 89/336/EEC pour les unités numériques de classe B. Les tests effectués ont prouvé qu'elles sont conformes aux normes EN55022/CISPR22 et EN55024/CISPR24. Le fonctionnement de ces produits dans un environnement résidentiel peut causer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre les mesures appropriées. Pour respecter les impératifs communautaires, les câbles de connexion entre le moniteur ou autres périphériques et la carte doivent être blindés. Ces produits ont été testés dans un système hôte typique compatible classe B. On suppose qu'ils présenteront la même compatibilité dans tout système compatible classe B.

## (Deutsch) Information für europäische Anwender – Konformitätserklärung

**Anmerkung für die Matrox Hardware-Produktunterstützung durch dieses Handbuch**   Diese Geräte entsprechen EC Direktive 89/336/EEC für ein digitales Gerät Klasse B. Sie wurden getestet und entsprechen demnach EN55022/CISPR22 und EN55024/CISPR24. In einer Wohnumgebung können diese Produkte Funkinterferenzen erzeugen, und der Benutzer kann genötigt sein, entsprechende Maßnahmen zu ergreifen. Um EG-Anforderungen zu entsprechen, müssen zum Anschließen des Monitors und anderer Peripheriegeräte an die Karte abgeschirmte Kabel verwendet werden. Diese Produkt wurden in einem typischen, der Klasse B entsprechenden, Host-System getestet. Es wird davon ausgegangen, daß diese Produkte auch in jedem Klasse B entsprechenden System entsprechend funktionieren.

## (Italiano) Informazioni per gli utenti europei – Dichiarazione di conformità

**Nota per i prodotti hardware Matrox supportati da questa guida**   Questi dispositivi sono conformi alla direttiva CEE 89/336/EEC relativamente ai dispositivi digitali di Classe B. Sono stati provati e sono risultati conformi alle norme EN55022/CISPR22 e EN55024/CISPR24. In un ambiente domestico, questi prodotti possono causare radiointerferenze, nel qual caso all'utente potrebbe venire richiesto di prendere le misure adeguate. Per soddisfare i requisiti CEE, il monitor e le altre periferiche vanno collegati alla scheda grafica con cavi schermati. Questi prodotti sono stati provati in un tipico sistema host conforme alla classe B. Inoltre, si dà per scontato che questi prodotti acquisiranno la conformità in qualsiasi sistema conforme alla classe B.

## (Español) Información para usuarios europeos – Declaración de conformidad

**Observación referente a los productos de hardware de Matrox apoyados por este manual**   Estos dispositivos cumplen con la directiva de la CE 89/336/EEC para dispositivos digitales de Clase B. Dichos dispositivos han sido sometidos a prueba y se ha comprobado que cumplen con las normas EN55022/CISPR22 y EN55024/CISPR24. En entornos residenciales, estos productos pueden causar interferencias en las comunicaciones por radio; en tal caso el usuario deberá adoptar las medidas adecuadas. Para satisfacer las disposiciones de la CE, deberán utilizarse cables apantallados para conectar el monitor y demás periféricos a la tarjeta. Estos productos han sido sometidos a prueba en un típico sistema anfitrión que responde a los requisitos de la clase B. Se supone que estos productos cumplirán también con las normas en cualquier sistema que responda a los requisitos de la clase B.

## (English) European user's information – Directive on Waste Electrical and Electronic Equipment (WEEE)

Please refer to the Matrox Web site (www.matrox.com/environment/en/weee) for recycling information.

## (Français) Informations aux utilisateurs Européens – Règlementation des déchets d'équipements électriques et électroniques (DEEE)

Se référer au site Web de Matrox (www.matrox.com/environment/en/weee) pour l'information concernant le recyclage.

### (Deutsch) Information für europäische Anwender – Europäische Regelungen zu Elektro- und Elektronikaltgeräten (WEEE)

Bitte wenden Sie sich an der Matrox-Website (www.matrox.com/environment/en/weee) für Recycling-Informationen.

### (Italiano) Informazioni per gli utenti europei – Direttiva sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE)

Si prega di riferirsi al sito Web Matrox (www.matrox.com/environment/en/weee) per le informazioni di riciclaggio.

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**FRANCE**

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## Avertissement sur l'épilepsie

**À lire avant toute utilisation d'un jeu vidéo par vous-même ou votre enfant**    Certaines personnes sont susceptibles de faire des crises d'épilepsie ou d'avoir des pertes de conscience à la vue de certains types de lumières clignotantes ou d'éléments fréquents dans notre environnement quotidien. Ces personnes s'exposent à des crises lorsqu'elles regardent certaines images télévisées ou qu'elles jouent à certains jeux vidéo. Ces phénomènes peuvent apparaître alors même que le sujet n'a pas d'antécédent médical ou n'a jamais été confronté à une crise d'épilepsie.

Si vous-même ou un membre de votre famille avez déjà présenté des symptômes liés à l'épilepsie (crise ou perte de conscience) en présence de stimulations lumineuses, veuillez consulter votre médecin avant toute utilisation.

Nous conseillons aux parents d'être attentifs à leurs enfants lorsqu'ils jouent avec des jeux vidéo. Si vous-même ou votre enfant présentez un des symptômes suivants: vertige, trouble de la vision, contraction des yeux ou des muscles, perte de conscience, trouble de l'orientation, mouvement involontaire ou convulsion, veuillez immédiatement cesser de jouer et consultez un médecin.

**Précautions à prendre dans tous les cas pour l'utilisation d'un jeu vidéo**    Ne vous tenez pas trop près de l'écran. • Jouez à bonne distance de l'écran de TV et aussi loin que le permet le cordon de raccordement. • Utilisez de préférence les jeux de vidéo sur un écran de petite taille. • Évitez de jouer si vous êtes fatigué ou si vous manquez de sommeil. • Assurez-vous que vous jouez dans une pièce bien éclairée. • En cours d'utilisation, faites des pauses de dix à quinze minutes toutes les heures.

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