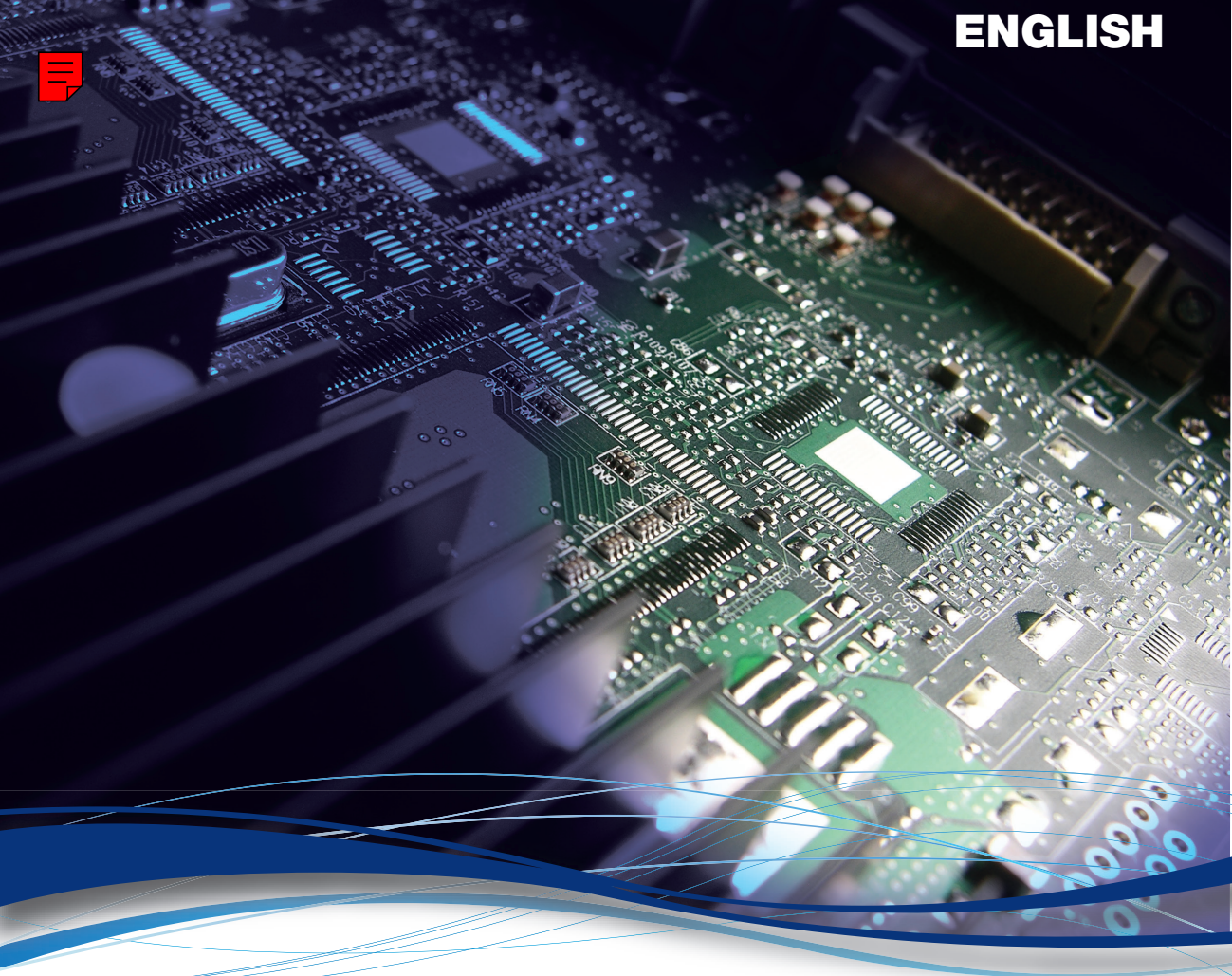


ENGLISH



Matrox® C-Series™

C680 • C420

User Guide

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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.
- ***Bold Italics*** for emphasis.
- 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 C-Series graphics card. This is a high-performance graphics card that supports PCIe® (PCI Express®) ×16 compliant systems and multi-monitor setups.

System requirements

Hardware	<ul style="list-style-type: none">▪ Minimum 2 GB RAM▪ Motherboard with available PCI Express® ×16 slot▪ Internet access for software installation
Software	<ul style="list-style-type: none">▪ Windows® 8.1 (32-bit, 64-bit)▪ Windows® Server® 2012 R2 (64-bit)▪ Windows® Server® 2008 R2 (64-bit)▪ Windows® 7 (32-bit, 64-bit)▪ Windows® Embedded Standard 7 (32-bit, 64-bit)
Monitor	<ul style="list-style-type: none">▪ DisplayPort™▪ DVI*▪ HDMI®*

* Supported using identical third-party active adapters (sold separately).

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 your Matrox graphics hardware – [see page 6](#).
- 2** Connect your monitors – [see page 11](#).
- 3** Install your Matrox software – [see page 13](#).

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.



Note: Most Matrox low-profile graphics cards ship with ATX brackets compatible with most systems. If you have a low-profile system, you may need to change the ATX bracket on your graphics card to a low-profile bracket. For more information, [“Replacing brackets on your graphics card”](#), page 8.

Before you begin

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.
- Don't operate your system near a heat source or restrict airflow to your system, and make sure the ambient temperature doesn't exceed the maximum recommended temperatures.
- **C420 only** – To maintain adequate airflow for your Matrox C420 product, we strongly recommend running the internal system fan at medium speed, instead of the default low or automatic. Because the internal system temperature is normally read from the CPU (and the system airflow is optimized for the CPU), the temperature near the add-in cards may not be properly controlled.

Step-by-step installation

1 Open your computer and remove your existing graphics card

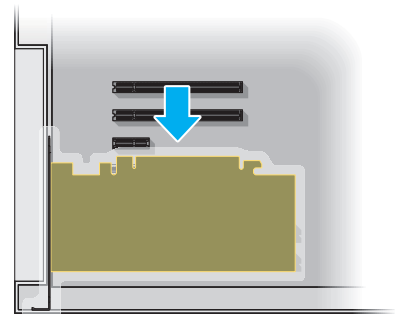
If a graphics card *isn't* already installed in your computer, skip to [step 2](#).

If a graphics card *is* already installed in your computer:

- a Using **Programs and Features** (Windows 8.1/7) in the Windows **Control Panel**, remove any currently installed display drivers. Restart your computer for the changes to take effect.

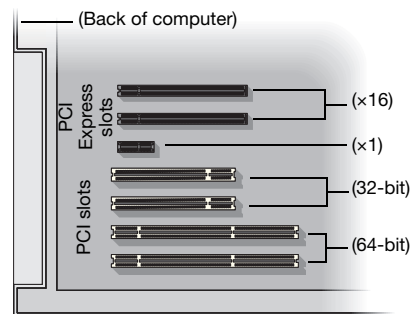
After your computer restarts, you're prompted to install drivers for the new graphics hardware detected. Click **Cancel**.

- 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

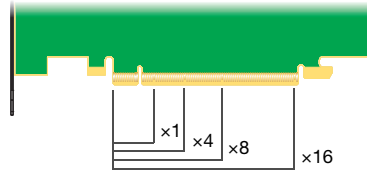
Most computers have different types of expansion slots. Choose a PCI Express (PCIe) ×16 slot depending on the type of card you have. Your system manual should identify the location of each type of expansion slot in your computer.



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.



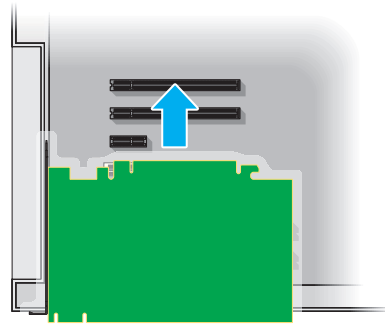
WARNING: Inserting your Matrox card into the wrong type of slot could damage your card, your computer, or both.



PCI Express 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 monitors”, page 11). *After connecting*, restart your computer and install your Matrox software (see “Installing your Matrox software”, page 13).

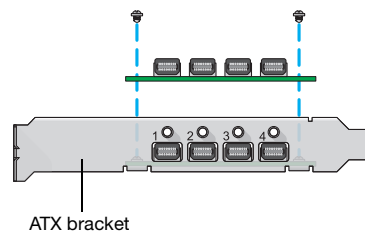
Replacing brackets on your graphics card

Most Matrox low-profile graphics cards ship with ATX brackets compatible with most systems.

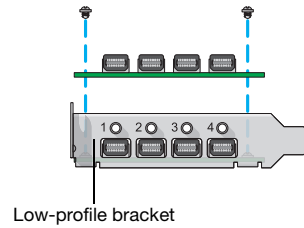
Low-profile graphics cards

The following explains how to change brackets on your low-profile product.

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



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

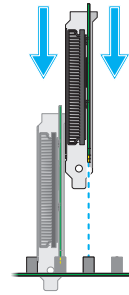


Installing multiple graphics cards

You can install up to either two (2) Matrox C680 graphics cards or two (2) Matrox C420 graphics cards in your system.



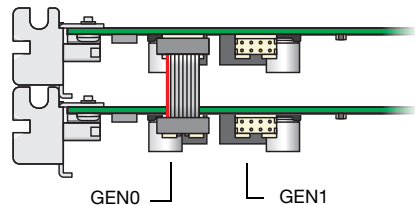
WARNING: To avoid damaging your cards, always insert your card as straight as possible into the slot. Don't rock the card from side to side. If you meet resistance, don't force the card into the slot.



Interconnecting multiple graphics cards (FrameLock)

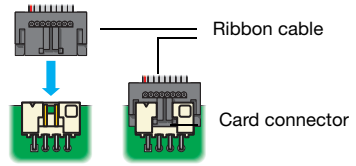
Matrox C680 only – If you have multiple Matrox C680 graphics cards installed in your system, you can frame-lock all your outputs by interconnecting your graphics cards with a ribbon cable (sold separately).

Attach the ribbon cable to the connector labeled **GEN0** on one card and to the connector labeled **GEN1** on the next graphics card.





WARNING: To make sure the cable is inserted properly, the cable edge marked with a red line should be closest to the bracket.



Connecting your monitors

This section describes how to connect your monitors to your Matrox graphics hardware. Depending on your Matrox product, your connection setup changes (see “[Step-by-step connection setup](#)”, page 12).

Before you begin

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.

- Your Matrox product supports the following adapters:
 - Mini DisplayPort to DisplayPort
 - Mini DisplayPort to DVI (active)
 - Mini DisplayPort to HDMI (active)
- To get the most out of your Matrox product, we recommend you use identical monitors.
- 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.

Step-by-step connection setup

This section guides you through the step-by-step connection setup of your graphics hardware.

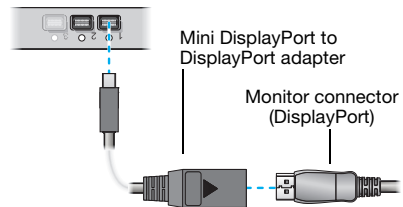
Matrox C680 or Matrox C420

1 Connect the first monitor

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

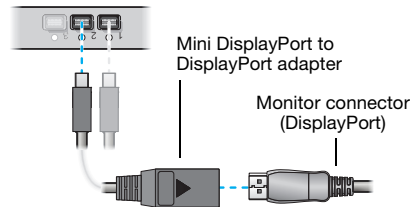
If your monitor has an HDMI connector, use a mini DisplayPort to HDMI adapter (active) to connect your monitor cable to the mini DisplayPort connector labeled **1** on the bracket of your Matrox card.

If your monitor has a DVI connector, use a mini DisplayPort to DVI adapter (active) to connect your monitor cable to the mini DisplayPort connector labeled **1** on the bracket of your Matrox card.



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 13).

Installing your Matrox software

This section describes how to install Matrox software for *Windows 8.1*, *Windows Server 2012 R2*, *Windows Server 2008 R2*, *Windows 7*, and *Windows Embedded Standard 7*. The installation of the display driver is the same for the 32-bit and 64-bit versions.

Before you begin

- 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.
- **Windows 8.1** – Make sure you disable automatic driver installations from Windows Update. In **Device Installation Settings**, enable the **Never install driver software from Windows Update** option. For more information, see your Windows documentation.
- You may need administrator rights to install or uninstall certain software. For more information, see Windows documentation or contact your system administrator.

Obtaining a display driver

- Matrox makes the latest display drivers available on the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers).

Hardware detection

- **Windows 8.1** – Windows detects new hardware when you restart and installs a Microsoft Basic Display Adaptor driver.
- **Windows 7** – Windows detects new hardware when you restart and installs a standard VGA driver.

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.



Note: To avoid possible problems, unless otherwise specified, we recommend you use *only* PowerDesk software to change your display settings.

Accessing PowerDesk

Windows 8.1/7 – To access Matrox PowerDesk:

Windows 8.1 –

- Open the **Start** screen, go to **All Apps**, then select **Matrox PowerDesk**.
- Right-click your Windows desktop and select **Launch Matrox PowerDesk**.

Windows 7 –

- Click **Start** → **All programs** (or **Programs**) → **Matrox Graphics** → **Matrox PowerDesk**.
- 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:

- 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

What to do if you have a problem

If you experience problems with your Matrox product:

- Make sure your Matrox card is properly installed, you're using the correct connectors, and that all connectors are properly fastened. For more information, see [“Installing your graphics hardware”](#), page 6 and [“Connecting your monitors”](#), page 11.
- Review the documentation provided with your Matrox product, including the information in this section, to see if your problem is already addressed.
- If graphics hardware is built into your computer motherboard, make sure you disable your computer's built-in graphics hardware. Also, remove any currently installed display drivers for that graphics hardware.

If your problem persists, contact Matrox. For more information, see [“Customer support”](#), page 26.

Common problems and solutions

This section addresses common problems that could prevent you from using your computer or graphics hardware.

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

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 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.

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 monitors”](#), page 11.

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 monitors”](#), page 11.

Cause **Digital monitors only** – Your monitor cable may have an integrated analog/digital connector (DVI-I).

Solution Make sure the DVI connector on your monitor cable is digital only (DVI-D). For more information, see your monitor documentation.

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 Files on your system may have been deleted or corrupted.

Solution Uninstall, then reinstall Matrox software:




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.



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

Windows 8.1/7 –

- 1 If your primary display is unusable, restart your computer in VGA mode:
 - a **Windows 8.1** – From the **Start** screen, go to **Shut down or sign out**, then select **Restart** to restart your computer.
Windows 7 – Click **Start**, point to the arrow (), then select **Restart** to restart your computer.
If your primary monitor is unusable, see your system manual for information on how to restart your computer using a hardware control.
 - b *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.)
 - c 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.

- 2 To uninstall Matrox software:

Windows 8.1 –

- a From the **Start** screen, go to **All Apps** → **Windows Systems** → **Control Panel** → **Programs** → **Programs and Features** → **Uninstall a program** → **Matrox PowerDesk** → **Uninstall** → **Yes**.
- b Click **Matrox C-Series WDDM Driver** → **Uninstall** → **Yes**.

Windows 7 –

- a Click **Start** → **Settings*** → **Control Panel** → **Programs*** → **Programs and Features** → **Matrox PowerDesk** → **Uninstall** → **Yes**. (* Depending on your version and configuration of Windows, this part of the step may not be necessary.)
- b Click **Matrox C-Series WDDM Driver** → **Uninstall** → **Yes**.

- 3 Restart your computer for the changes to take effect.
- 4 After your computer has restarted, install the latest display driver for your Matrox card. You may also need to reinstall other Matrox software.

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



Note: 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 16](#).

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 Your 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 6](#).

Problem Using multiple displays under Windows 7 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 7) 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 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 Disable or remove any graphics hardware not supported by the display driver you want to use. 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 8.1/7** – 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.

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

Cause Some programs may not work properly with some Matrox acceleration.

Solution **Windows 8.1/7** – Disable Windows effects:

Windows 8.1 –

- 1 From the **Start** screen, go to **All Apps** → **Windows Systems** → **Control Panel** → **System and Security** → **System** → **Advanced system settings**.
- 2 Under **Performance**, click **Settings**.
- 3 Disable one or more features.
- 4 Click **OK** → **OK**.

Windows 7 –

- 1 Click **Start** → **Settings*** → **Control Panel** → **System and Security*** → **System** → **Advanced system settings**. (* Depending on your version and configuration of Windows, this part of the step may not be necessary.)
- 2 Under **Performance**, click **Settings**.
- 3 Disable one or more features.
- 4 Click **OK** → **OK**.

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).

i **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.

i **Note:** If you identify a program that doesn't work well with Matrox acceleration, please contact Matrox technical support (see page 26) 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 the 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.

Solution Disable the display:

Windows 8.1/7 –

- 1 From the main interface of PowerDesk (see "Accessing PowerDesk", page 14), click **Multi-Display Setup**.
- 2 In the work area, select the display you want to disable, and then drag it to the **Unused outputs** section. (You can also disable the display by right-clicking it and selecting **Remove**.)
- 3 Click **OK** to apply your changes.

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 Make sure the window you want to move is selected, then 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.

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 8.1/7 – Use default Windows mouse pointers:

- 1 Windows 8.1 – From the **Start** screen, go to **All Apps** → **Windows Systems** → **Control Panel** → **Hardware and Sound** → **Mouse**.
Windows 7 – 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**.

Problem Can't play certain videos

Cause The video source may be copy protected.

Solution The media player you're using may not allow you to play back copy-protected video content.

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.

Product information

Specifications

	Matrox C680	Matrox C420
Operating systems supported	Windows 8.1, Windows Server 2012 R2, Windows Server 2008 R2, Windows 7, and Windows Embedded Standard 7	
GPU	AMD®	
Audio output formats	Multi-stream audio through DisplayPort	
Digital monitor support*	DVI, DisplayPort, HDMI	DVI, DisplayPort, HDMI
Memory	2 GB GDDR 5	2 GB GDDR 5
Card type	PCIe x16	PCIe x16
Form factor	ATX	Low-profile
Monitors supported	6	4
Connectors	6x Mini DisplayPort	4x Mini DisplayPort
Maximum resolution	4096 × 2160 @ 30 Hz 4096 × 2160 @ 60 Hz (Max. 3 monitors)	2560 × 1600
HDCP compliant†	✓	✓
Framelock	✓	—
Maximum card dimensions	L: 6.60" / W: 0.75" / H: 4.045" L: 16.76 cm / W: 1.91 cm / H: 11.2 cm	L: 6.60" / W: 0.75" / H: 2.70" L: 16.76 cm / W: 1.91 cm / H: 6.9 cm
Certifications	Class B: FCC, CE, ACMA, VCCI, ICES, CSA, Korea	

* DVI and HDMI monitors are supported using identical third-party active adapters (sold separately).

† Certain limitations may apply. Matrox strongly recommends that you review the HDCP Web site (www.digital-cp.com) and make sure you understand your legal obligations and responsibility.

Environmental

Temperature, operational	5 to 55 °C (41 to 131 °F) (near board ambient)
Temperature, non-operational storage and transportation	-40 to 70°C (-40 to 158 °F)
Humidity, operational (indoor)	20 to 80% (non-condensing)
Humidity, non-operational storage and transportation	10 to 95% (non-condensing)
Atmospheric pressure, operational	650hPa (3,580 meters / 11,745 feet) to 1013hPa (0 meters / 0 feet)
Atmospheric pressure, non-operational and transportation	192hPa (12,000 meters / 39,370 feet) to 1020hPa (-50 meters / -164 feet)

Notes and limitations

- Your Matrox graphics card is 100% VGA compatible. It's also compatible with the following VESA® standards: VBE 3.0 (Super VGA modes), DPMS (energy saving), and DDC-2B (Plug-and-Play monitor), and DDC-CI.
- EDID (Extended Display Identification Data) 1.2 and 1.3 support.
- Compatible with VESA DisplayPort 1.2 (C680) and DisplayPort 1.1 (C420).
- 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.
- **C680 only** – Matrox C680 products support 4K UHD (Ultra High Definition) monitors, including those that require internal MST. Monitors that use internal MST are seen by PowerDesk as two (2) daisy-chained monitors.

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.

Technical support

Matrox values your business and offers professional support for your Matrox product.

If your product was purchased through a Matrox dealer, contact your dealer for product support. This is the quickest and most effective method of technical assistance. Your dealer is familiar with your complete system.

If your product was purchased through Matrox, 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.

Driver and software download

A more recent display driver may support more features and may offer increased capabilities (such as higher display resolutions). Matrox makes the latest display drivers, software, and system utilities available on the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers).

View your warranty information

Matrox makes warranty information available on the Matrox site (<http://www.matrox.com/hr/en/company/legal/en/warranty>).

Register your Matrox product

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

USA

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.

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.

CANADA

(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.

JAPAN

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、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。 VCCI-B

B 급 기기 (가정용 방송통신기자재)

이 기기는 가정용 (B 급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

(English) European user's information – Information on Conformity

Remark for the Matrox hardware products supported by this guide These devices comply with EC Directive 2004/108/EC 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. 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 – Informations sur la conformité

Remarque sur les produits matériels Matrox couverts par ce guide Ces unités sont conformes à la directive communautaire 2004/108/EC 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. 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 – Konformitäts-Informationen

Anmerkung für die Matrox Hardware-Produktunterstützung durch dieses Handbuch Diese Geräte entsprechen EC Direktive 2004/108/EC 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. Diese Produkte 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 – Informazioni sulla conformità

Nota per i prodotti hardware Matrox supportati da questa guida Questi dispositivi sono conformi alla direttiva CEE 2004/108/EC 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. 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 – Información sobre la conformidad

Observación referente a los productos de hardware de Matrox apoyados por este manual Estos dispositivos cumplen con la directiva de la CE 2004/108/EC 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. Se supone que estos productos cumplirán también con las normas en cualquier sistema que responda a los requisitos de la clase B.

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EUROPE

(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 Elektronikgeräten (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.

FRANCE

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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