Matrox® **Mura™ MPX Series**

MPX-4/4 • MPX-4/2 • MPX-4/0
MPX-V16 • MPX-V8
MPX-SDI

User Guide

www.matrox.com/graphics

matrox®
Graphics for Professionals

Contents

About this user guide

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

> ℹ️ **Note:** This guide has references specific to version 2.05.00 or later of the Matrox display driver. If you're using a previous version of the Matrox display driver, certain references in this guide may not reflect the software you have.

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 Mura MPX Series product. This product combines the capabilities of input and output cards onto a single card. Mura MPX Series cards are designed to work as a standalone solution and with other Matrox display wall products.

Hardware supplied*

- **Mura MPX-4/0** – Mura MPX card, 1 KX20 to quad-DVI cable, 4 DVI to HD-15 adapters, 2 ribbon cables (for framelock).

- **Mura MPX-4/2** – Mura MPX card, 1 KX20 to quad-DVI cable, 1 KX20 to dual-DVI cable, 6 DVI to HD-15 adapters, 2 ribbon cables (for framelock).

- **Mura MPX-4/4** – Mura MPX card, 2 KX20 to quad-DVI cables, 8 DVI to HD-15 adapters, 2 ribbon cables (for framelock).

- **Mura MPX-V8** – Mura MPX card, 1 DVI to BNC adapter, 1 ribbon cable (for framelock).

- **Mura MPX-V16** – Mura MPX card, 2 DVI to BNC adapters, 1 ribbon cable (for framelock).

- **Mura MPX-SDI** – Mura MPX card, 1 KX20 to dual-DVI cable, 2 DVI to HD-15 adapters, 2 DIN to BNC adapters, 2 ribbon cables (for framelock).

Optional hardware (sold separately)

Depending on your connection setup, you may also need any of the following hardware:

- BNC to Composite (RCA®) adapter

- BNC to S-video adapter

- DVI cable (male to male)

- DVI to Component adapter

- DVI to Composite (RCA) adapter

- DVI to S-video adapter

---

* The hardware supplied with your Matrox product may vary depending on the SKU or part number of your product. For more information, contact your Matrox representative.

For more information on connecting your product, see the "Connection setup" section for your Matrox product. To purchase any Matrox cables or adapters not included with your Matrox product, see the Matrox online store (shopmatrox.com).

Software supplied

- **Matrox PowerDesk** – to use your Matrox graphics hardware. Matrox provides a 64-bit version of the driver. Matrox PowerDesk software supports Windows® 7 (64-bit), Windows® Server® 2008 R2, Windows® Embedded Standard 7 (64-bit), and Windows® Embedded Enterprise 7 (64-bit).

- **Other software** – additional software may be available to help you configure and use your product. For more information, see the *Readme* file.

Installation overview

ℹ️ **Note:** If your Matrox product is already partially or fully installed in your system, 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 Plan the output layout – .

2 Install the Matrox card – .

3 Connect the cards – see the "Connection setup" section for the card you want to connect:

- Mura MPX-4/4, MPX-4/2, or MPX-4/0 – .
- Mura MPX-V16 or MPX-V8 – .
- Mura MPX-SDI – .

4 Install the Matrox software – .

Planning your output layout

This section describes the steps to consider if you're setting up a Mura MPX-based display wall for the first time. We recommend you review these steps *before* setting up your display wall.

Setting your card order

Mura MPX-4/4, MPX-4/2, MPX-4/0, MPX-SDI only – The DIP switches on your Mura MPX Series output cards are used to control the order in which the GPUs of your cards are used. Setting the DIP switches is useful if you're setting up a large display wall layout that uses multiple cards, because it enables PowerDesk software to properly lay out the outputs of your display wall and avoids you having to manually set up your multi-display layout.

For example, setting the first card to **0** means that card will be the first one used, and the first GPU of that card will be identified by PowerDesk as **A**.

To set the DIP switches on your cards, use the tip of a pen or pencil to flip the switch on or off. We recommend setting your card order as follows, starting with card **0**.[*]

---
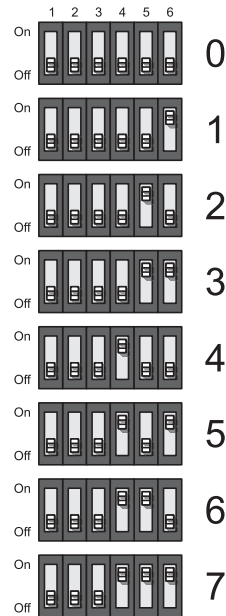
[*] The DIP switches use binary counting to set the card order.

Connecting your monitors

You can connect up to four (4) monitors at a time to each Mura MPX card, depending on your product. For more information on connecting your Mura product, see the "Connection setup" section for the card you want to connect.

Monitors are numbered consecutively based on which connector each is attached to. For example, the monitor attached to the connector labeled **1** on the cable is identified as **1**, the monitor attached to the connector labeled **2** on the cable is identified as **2**, and so on.
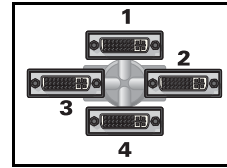
KX20 to quad-DVI cable

To facilitate the setup of your multi-display layout, we recommend connecting your monitors consecutively and arranging your monitors in pairs.

Using PowerDesk to manage your multi-display layout

In a multi-card setup using Matrox Mura MPX cards, PowerDesk assigns letters to the GPU and numbers to the outputs associated with that GPU.

In the examples below, the order of the first card (4 outputs) is set as **0**, so its GPUs are identified as **A** and **B**. The four monitors connected to the first card are then identified as **A1**, **A2**, **B1**, and **B2**, which correspond to the monitors attached to connectors labeled respectively **1**, **2**, **3**, and **4** on your KX20 to quad-DVI cable.

Using a multi-display layout with an even number of columns

This multi-display layout shows a 6 × 4 display wall. In this case, monitors are paired and follow each other sequentially from left to right (for example, **A1**, **A2**, **B1**, **B2**, **C1**, **C2**, and so on).
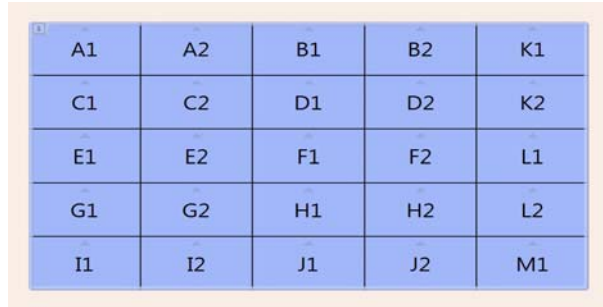
Using a multi-display layout with an uneven number of columns

This multi-display layout shows a 5 × 5 display wall. In this case, monitors are paired but don't follow each other sequentially from left to right. In this case, the GPUs associated with the last card (**K1**, **K2**, **L1**, **L2**, **M1**) are placed in the last column of the layout.

A1	A2	B1	B2	K1
C1	C2	D1	D2	K2
E1	E2	F1	F2	L1
G1	G2	H1	H2	L2
I1	I2	J1	J2	M1

Depending on your installation and connection, you may need to manually rearrange the outputs of your multi-display layout in PowerDesk to match the physical layout of your display wall.

For more information on setting up multiple displays, see "Setting up your multi-display layout", page 29.

After planning your output layout, you're ready to install your cards (see "Installing your cards", page 10).

Installing your cards

This section describes how to install your Matrox card. If your Matrox card is already installed in your system, skip to the "Connection setup" section for the card you want to install. For information specific to your system, like how to remove its cover, see your system manual.

Before you begin

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

Using a validated platform

- For detailed information on how to install your Matrox Mura MPX card in a validated systems, see the Matrox System Builder's Guide (www.matrox.com/graphics/en/products/display_wall/mura_mpx_series).

- For information on validated systems, motherboards, and chassis models, contact your Matrox representative or see the Matrox Web site (www.matrox.com/graphics).

Setting your card order

- If you're using multiple cards to set up a large display wall layout, we recommend setting your card order *before you install your cards*. For more information, see "Setting your card order", page 7.

Preventing damage to your hardware

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

- While your system 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 system).

- 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 system and remove your existing card

If a card *isn't* already installed, skip to step 2.

a Using **Programs and Features** in the Windows **Control Panel**, remove any currently installed display drivers. Restart your system for the changes to take effect.

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

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

c Open the system and remove your existing card (if any).

ⓘ **Note:** If graphics hardware is built into the motherboard of your system, make sure it's disabled. For more information, see your system manual.
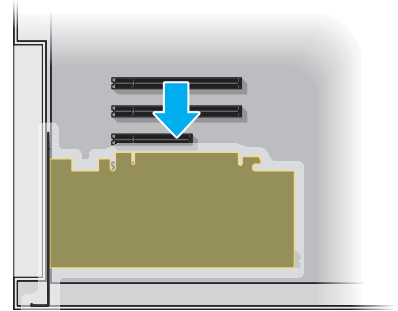
2 Choose an expansion slot

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

(Back of system)

PCI Express slots
- (×16)
- (×8)
- (×4)
- (×1)

PCI slots
- (32-bit)
- (64-bit)
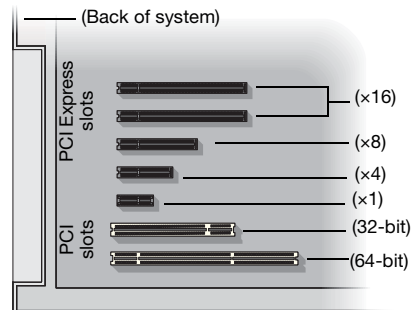
3 Insert your Matrox card

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 frame of your system.

4 Secure the bracket of your Matrox card

To support the weight of your cable and to avoid damaging your Matrox card, you need to properly secure the bracket of your card to your system.

a To secure your bracket, slip the washer provided with your Matrox product over the connectors, then screw the washer onto the bracket of your Matrox card.

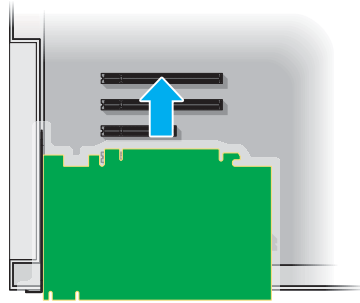**b** Make sure the washer lies flat against the frame of your system.

Washer
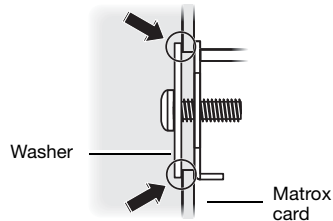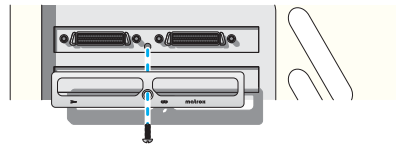
Matrox card

Your Matrox card is now installed. If you're installing more than one card, . *Before restarting your system*, connect your monitors or devices (see the "Connection setup" section for the card you want to connect). *After connecting*, restart your system and install your Matrox software.

Installing multiple cards

Your chassis model may support the installation of multiple Mura MPX cards in your system. For information on validated platforms, contact your Matrox representative or see the Matrox Web site (www.matrox.com/graphics).

⚠️ **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.
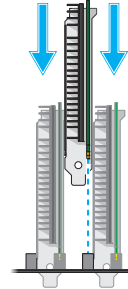
Interconnecting multiple cards

If you have multiple Mura MPX cards installed in your system, you can synchronize all your outputs by interconnecting your cards with the ribbon cable included with your product.

Attach the ribbon cable to the connector labeled **Out** on one card to the connector labeled **In** on the next card. Depending on the length needed, use either the long or short ribbon cable included with your product.

Repeat this for every card installed.

Out ⌐ ⌐ In
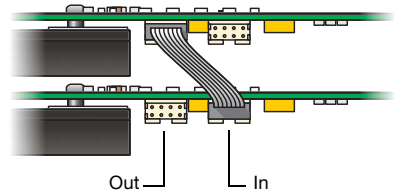
Description of LED indicators

Your Matrox Mura MPX card has LED indicators that show you the configuration status of your setup and help you troubleshoot your cards.

Mura MPX-4/4, MPX-4/2, or MPX-4/0

Your Matrox Mura MPX card has four LED indicators labeled (**Good**, **12V**, **Fail**, **CFG_Done**).
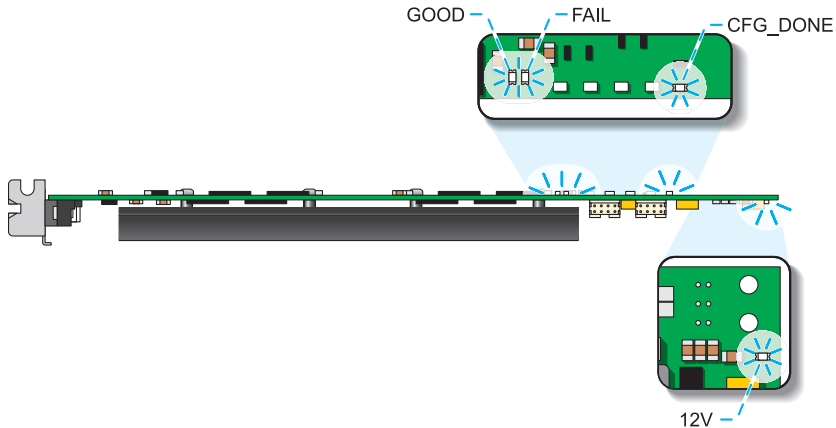
The following describes the behavior of these LED indicators.

LED	Color	Behavior
Good	Green	Card is active.
12V	Green	Card is properly powered.
Fail	Red	Card may have insufficient power. Try restarting your system. If after restarting your system the LED indicator is still red, contact your vendor for technical support (see "Customer support", page 49).
CFG_Done	Black (off)	Problem occured while programming your card. For more information, contact your vendor (see "Customer support", page 49).

Mura MPX-V16 or MPX-V8

Your Matrox Mura MPX-V16 card uses three LED indicators labeled (**Power Good**, **FP1 Done**, **FP2 Done**) and your Mura MPX-V8 card uses two LED indicators labeled (**Power Good**, **FP2 Done**).

POWER GOOD
FP1 DONE
FP2 DONE

(Mura MPX-V16 shown)
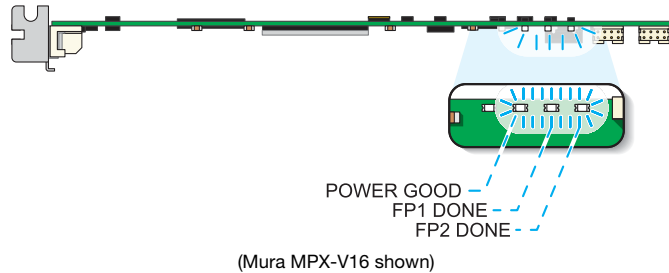
The following describes the behavior of these LED indicators.

LED	Color	Behavior
Power Good	Green	Card is properly powered.
FP1 Done or FP2 Done	Green	Card is active.
FP1 Done or FP2 Done	Black (off)	Problem occured while programming your card. For more information, contact your vendor (see "Customer support", page 49).

Mura MPX-SDI

Your Matrox Mura MPX-SDI card uses one LED indicator labeled (**CFG_Done**).
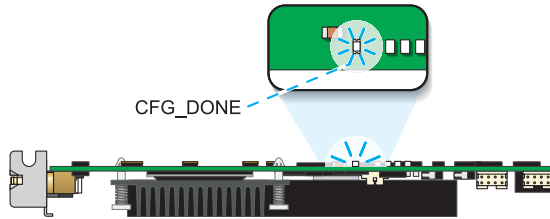
The following describes the behavior of these LED indicators.

LED	Color	Behavior
CFG_Done	Green	Card is active.
CFG_Done	Black (off)	Problem occured while programming your card. For more information, contact your vendor (see "Customer support", page 49).

Connecting your Mura MPX-4/4, MPX-4/2, or MPX-4/0 card

This section describes how to connect your Mura MPX-4/4, MPX-4/2, or MPX-4/0 card.

- To connect output devices (monitors), see "Connecting your output devices", page 17.

- To connect input sources (graphics card or video device), see "Connecting your input sources", page 19.

ℹ **Note:** To purchase any cables or adapters not included with your Matrox product, see the Matrox online store (shopmatrox.com).

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.

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

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

Connecting your output devices

This section explains how to connect your output devices (monitors) to your Mura MPX-4/4, MPX-4/2, or MPX-4/0 card.

1 Connect your KX20 to quad-DVI cable

Mura MPX-4/4 and MPX-4/2 – Attach your KX20 to quad-DVI cable to connector **B** on the bracket of your Matrox card. Make sure the connectors are properly fastened.

KX20 to quad-DVI cable (KX20)
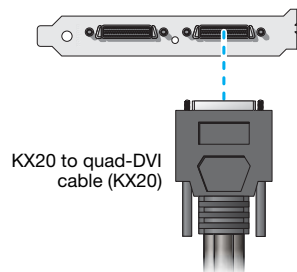
Mura MPX-4/0 – Attach your KX20 to quad-DVI cable to the connector on the bracket of your Matrox card. Make sure the connectors are properly fastened.

KX20 to quad-DVI cable (KX20)
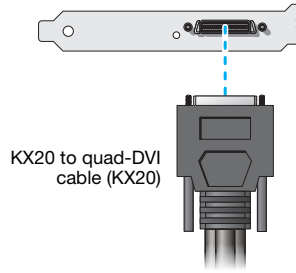
2 Connect your monitors

If your monitor has a DVI connector, connect your monitor cable directly to your KX20 to quad-DVI 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 KX20 to quad-DVI cable.

KX20 to quad-DVI 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, starting with connector labeled **1**.

1
2
3
4
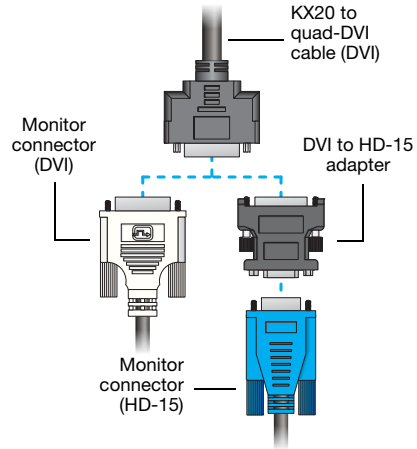
KX20 to quad-DVI cable

Your Matrox card is now installed. Restart your system and install your Matrox software (see "Installing your software", page 27).

Connecting your input sources

This section explains how to connect your input sources to your Mura MPX-4/4 or MPX-4/2 card.

Using graphics cards as input sources

This section describes how to connect the output of a graphics card (installed in another system) to the input connector on your Mura MPX-4/4 or MPX-4/2 card.

1 Connect your KX20 to quad-DVI cable or KX20 to dual-DVI cable

MPX-4/4 – Attach the KX20 to quad-DVI cable included with your Mura product to connector **A** on the bracket of your Matrox card. Make sure the connectors are properly fastened.

KX20 to quad-DVI cable (KX20)

MPX-4/2 – Attach the KX20 to dual-DVI cable included with your Mura product to connector **A** on the bracket of your Matrox card. Make sure the connectors are properly fastened.

KX20 to dual-DVI cable (KX20)

2 Connect a graphics card

Connect one end of your monitor cable to the connector on your graphics card. For more information on the connection setup of your graphics card, see its user guide.

Graphics card

DVI to HD-15 adapter

Monitor cable (DVI)
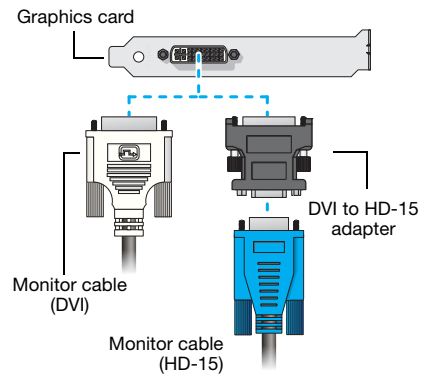
Monitor cable (HD-15)

3 Connect your monitor cable

If your monitor cable has a DVI connector, connect your monitor cable directly to your KX20 to quad-DVI cable or your KX20 to dual-DVI cable.

If your monitor cable has an HD-15 connector, use a DVI to HD-15 adapter included with your product to connect your monitor cable to your KX20 to quad-DVI cable or your KX20 to dual-DVI cable.

KX20 to quad-DVI cable (DVI)

Monitor connector (DVI)

DVI to HD-15 adapter

Monitor connector (HD-15)

Using video devices as input sources

This section describes how to connect a video device to the input connector on your Mura MPX-4/4 or MPX-4/2 card.

1 Connect your KX20 to quad-DVI cable or KX20 to dual-DVI cable

MPX-4/4 – Attach the KX20 to quad-DVI cable included with your Mura product to connector **A** on the bracket of your Matrox card. Make sure the connectors are properly fastened.

MPX-4/2 – Attach the KX20 to dual-DVI cable included with your Mura product to connector **A** on the bracket of your Matrox card. Make sure the connectors are properly fastened.
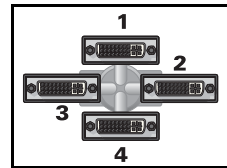
KX20 to quad-DVI cable

KX20 to dual-DVI cable

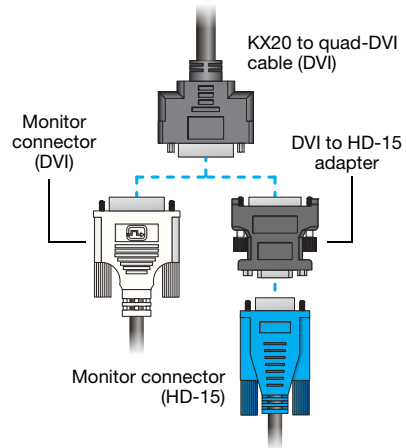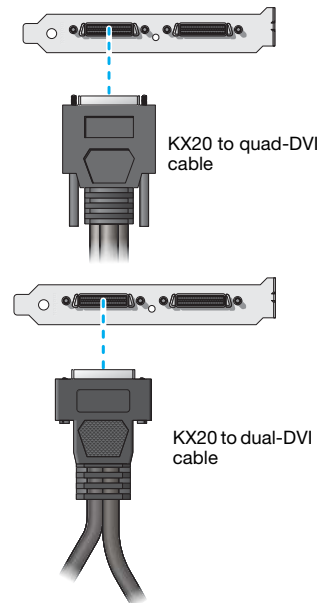## 2   Connect your video device

Component connector – If your video device has a component connector, you need a DVI to Component adapter.

Connect the adapter to the DVI connector on your KX20 to quad-DVI cable or your KX20 to dual-DVI cable. Connect your video device to the component connector on your adapter.

KX20 to quad-DVI cable (DVI)

DVI to Component adapter

Component video cable

Y P_B P_R
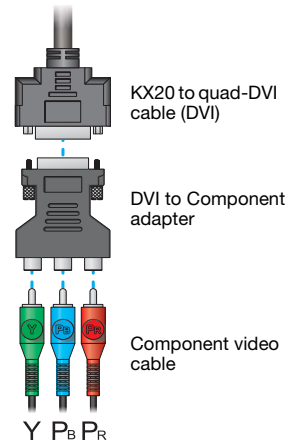
Composite connector – If your video device has a composite connector, you need a DVI to Composite (RCA) adapter.

Connect the adapter to the DVI connector on your KX20 to quad-DVI cable or your KX20 to dual-DVI cable. Connect your video device to the composite connector on your adapter.

KX20 to quad-DVI cable (DVI)

DVI to Composite (RCA) adapter

Composite video cable (RCA)
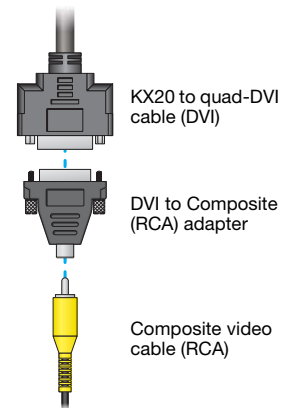
S-video connector – If your video device has an S-video connector, you need a DVI to S-video adapter.

Connect the adapter to the DVI connector on your KX20 to quad-DVI cable or your KX20 to dual-DVI cable. Connect your video device to the S-video connector on your adapter.

KX20 to quad-DVI cable (DVI)

DVI to S-video adapter

S-video cable
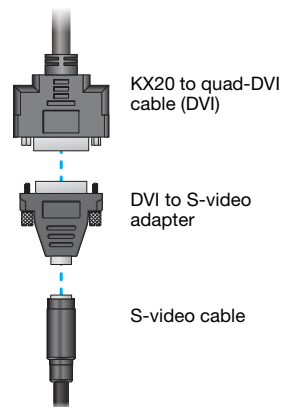
Your Matrox card is now installed. Restart your system and install your Matrox software (see "Installing your software", page 27).

Connecting your Mura MPX-V16 or MPX-V8 card

This section describes how to connect a video device to the input connectors on your Mura MPX-V16 or Mura MPX-V8 card.

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.

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

- Don't change connections while your system is turned on. Before changing connections, make sure your system is shut down and turned off.

Step-by-step connection setup

1   Connect your DVI to BNC cable

Attach your DVI to BNC cable to the connector on the bracket of your Matrox card. Make sure the connectors are properly fastened.

DVI to BNC cable

(Mura MPX-V16)

DVI to BNC cable

(Mura MPX-V8)
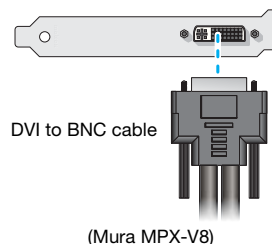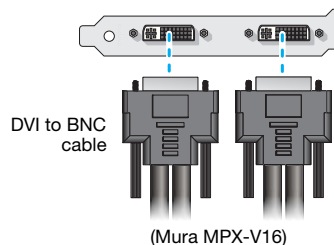
2 Connect your video device

Composite connector (**RCA**) – If your video device has an RCA composite connector, you need a BNC to Composite (RCA) adapter.

Connect the composite to BNC adapter to the **Y** connector on your DVI to BNC cable. Connect your video device to the composite connector on your adapter.

DVI to BNC cable
(Y connector)

BNC to Composite
(RCA) adapter

Composite video
cable (RCA)
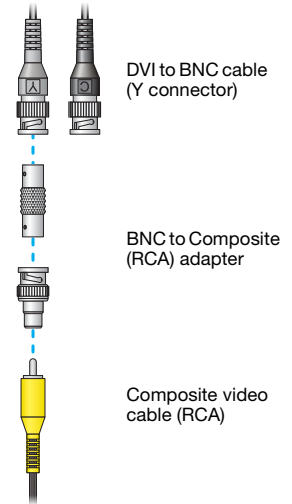
Composite connector (**BNC**) – If your video device has a BNC composite connector, connect the Composite cable directly to the **Y** connector on your DVI to BNC cable.

DVI to BNC cable
(Y connector)

Composite video
cable (BNC)
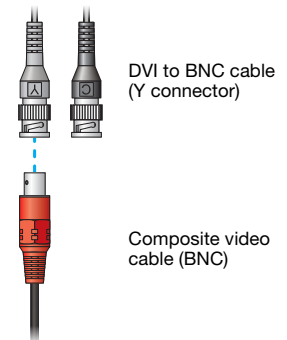
S-video connector – If your video device has an S-video connector, you need a BNC to S-video adapter.

Connect the adapter to the **Y** and **C** connectors on your DVI to BNC cable. Connect your video device to the S-video connector on your adapter.
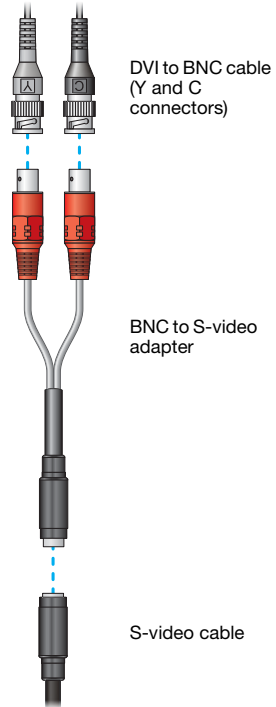
DVI to BNC cable (Y and C connectors)

BNC to S-video adapter

S-video cable

Your Matrox card is now installed. Restart your system and install your Matrox software (see "Installing your software", page 27).

Connecting your Mura MPX-SDI card

This section describes how to connect your Matrox MPX-SDI card.

⚠️ **WARNING:** To avoid damaging the DIN connector (1.0/2.3) on your DIN to BNC adapter or on your card, firmly hold the adapter, pull back the metal ring around the DIN connector on the cable, then carefully remove the DIN to BNC adapter.
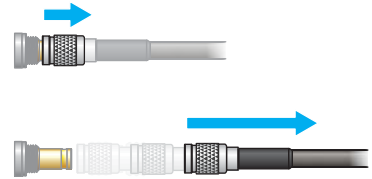
Before you begin

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 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 connections while your system is turned on. Before changing connections, make sure your system is shut down and turned off.

- 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

1 Connect your KX20 to dual-DVI cable

Attach your KX20 to dual-DVI cable to the connector on the bracket of your Matrox card. Make sure the connectors are properly fastened.

KX20 to dual-DVI cable (KX20)

2   Connect your monitors

If your monitor has a DVI connector, connect your monitor cable to the connectors labeled **1** and **2** of the KX20 to dual-DVI cable.
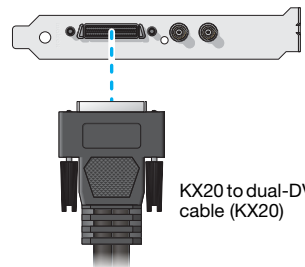
If your monitor has an HD-15 connector, use a DVI to HD-15 adapter included with your product to connect your monitor cable to the connectors labeled **1** and **2** of the KX20 to dual-DVI cable.

KX20 to dual-DVI cable (DVI)

Monitor connector (DVI)

DVI to HD-15 adapter

Monitor connector (HD-15)
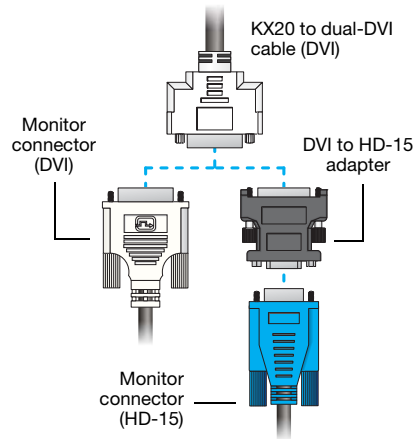
3   Attach your DIN to BNC adapter

Attach your DIN to BNC adapter to the DIN connector on your Matrox card.

Attach the cable from your video source to the BNC connector on the DIN to BNC adapter.
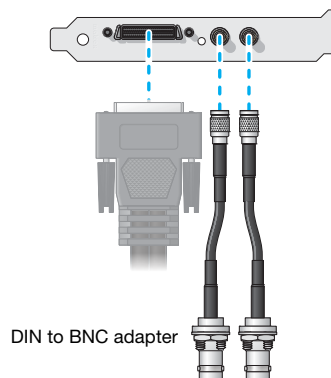
DIN to BNC adapter

Your Matrox card is now installed. Restart your system and install your Matrox software (see "Installing your software", page 27).

Installing your software

This section describes how to install Matrox software for *Windows 7*,*Windows Server 2008 R*2, *Windows Embedded 64-bit Standard 7*, and *Windows Embedded Enterprise 7 64-bit.*

⚠ **WARNING:** Depending on the number of Mura MPX cards installed and the system used, your software installation time may vary. Software installation may take up to 20 minutes (on setups using up to 6 cards) and up to 40 minutes (on setups using more than 6 cards).

Before you begin

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

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

- If your Matrox product was provided by the manufacturer of your system, check the Web site of that manufacturer for the latest driver. A driver provided by the manufacturer of your system is more likely to be tested with your system model.

- You may need administrator rights to install or uninstall certain software, or to change certain settings. For more information, see Windows documentation.

- To avoid potential problems, we recommend you install the latest Service Pack and hot fixes for your version of Windows.

Obtaining a driver and additional software

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

- Matrox makes additional software and utilities available on the Matrox Technical Support Web site (www.matrox.com/graphics/en/support/drivers/download/latest).

Hardware detection

- Windows detects new hardware when you restart and installs a standard VGA driver.

Installing your driver and software

1 Install driver and PowerDesk software

From the setup program, click **Install Drivers**. Follow the on-screen instructions. For more information on Matrox PowerDesk software, see "Matrox PowerDesk software", page 29.

2 Install additional software and utilities

After your system restarts, manually run the setup program to see a list of additional items you can install. Follow the on-screen instructions.

Matrox PowerDesk software

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

Accessing PowerDesk

Windows 7/Server 2008 R2 – To access Matrox PowerDesk:

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

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

Setting up your multi-display layout

Setting up your multi-display layout using PowerDesk software involves entering the number of columns and rows for your display wall layout and adjusting the settings for your outputs (such as rotation, resolution, color palette, and refresh rate).

To set up your multi-display layout:

1 Access Matrox PowerDesk.

2 From the main interface, click **Multi-Display Setup**.

3 Under **Basic configurations**, select **Use stretched mode**.

ⓘ **Note:** For information on using stretched mode, see Matrox PowerDesk help.

4 Enter the number of **Columns** and **Rows** for your multi-display setup, then click **OK**.

5 Preview your setup in the work area. If you're satisfied, click **OK** or **Apply** to apply your multi-display layout. Otherwise, click **Cancel**.

Depending on your installation and connection, you may need to manually rearrange the outputs of your multi-display layout in PowerDesk to match the physical layout of your display wall.

For more information on setting up multiple displays, see Matrox PowerDesk help.

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.

- Make sure you have administrator rights on the system you want to use. For more information, see Windows documentation.

- Review the documentation provided with your Matrox product, including the information in this section and in your Matrox System Builder's Guide (www.matrox.com/graphics/en/products/display_wall/mura_mpx_series), to see if your problem is already addressed.

If your problem persists, contact Matrox. For more information, see "Customer support", page 49.

Common problems and solutions

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

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

Cause   If you have more than one PCIe ×16 slot, your Matrox 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 system. For more information on the PCIe support of your system, see your system manual.

Cause   There may be unsupported graphics hardware in your system.

Solution   If graphics hardware is built into your system 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 system's built-in graphics hardware.

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

Solution   There may be a software update available for your motherboard. To find out what motherboard model your system is using, see your system manual. For more information, contact the maker of your motherboard or system. Many motherboard or system 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 34.

Problem   **System performance is slow or degraded**

Cause   If you have more than one PCIe ×16 slot, your Matrox 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 system. For more information on the PCIe support of your system, see your system manual.

Cause   Your system or cards may be overheating.

Solution   Make sure the operating temperature of your graphics chip is within a normal range:

   1   Access Matrox PowerDesk (see "Accessing PowerDesk", page 29).

   2   From the main interface, click **Help and Troubleshooting → Troubleshoot**.

   3   Check the peak temperature being reported.

Solution   Make sure your system is free of dust and is located in a well ventilated area.

Cause   You may be using a platform that hasn't been validated by Matrox.

Solution   Use a validated platform. For information on supported systems, motherboards, and chassis models, contact your Matrox representative or see the Matrox Web site (www.matrox.com/graphics).

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 the "Connection setup" section for your product.

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 the "Connection setup" section for your product.

Cause If the EDID of your monitor can't be detected, the driver default analog signal is used.

Solution Force the driver to use a digital signal instead:

1 Access Matrox PowerDesk software (see "Accessing PowerDesk", page 29).

2 From the main interface of PowerDesk, click **Help and Troubleshooting → Troubleshoot**.

3 Under **Monitor Connection Management**, enable the **Use digital signal when no EDID is detected** check box.

4 You'll be prompted to restart your system for changes to take effect.

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

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 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 system 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 800×600 at 60 Hz.

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

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 driver you reinstall supports *all* Matrox products in your system.

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

Windows 7 –

1   Restart your system in VGA mode:

   a   Click **Start**, point to the arrow (▷), then select **Restart** to restart your system.

   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:

    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 Driver** (or **Matrox M-Series Driver**) **→ Uninstall → Yes**.

3 Restart your system for changes to take effect.

4 After your system has restarted, install the latest driver for your Matrox card. You may also need to reinstall other Matrox software.

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

Cause Your monitor may not be detected by the software.

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

Solution Try using a different monitor.

Problem **Black borders appear around video capture content**

Cause Your video source (input device) is using a different aspect ratio than your output device.

Solution Change your aspect ratio so that all devices use the same aspect ratio. For more information, see Matrox PowerDesk help.

Problem **Built-in network hardware doesn't work after Matrox cards are installed**

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

Solution Try reinstalling your network drivers.

Solution Try moving your Matrox card to another PCIe slot in your system. For instructions on how to safely install your Matrox card, see "Installing your cards", page 10.

Problem   **Screen image defects appear 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 7** – Disable Windows effects:

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 driver. Matrox makes new drivers available on the Matrox Web site (www.matrox.com/graphics).

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

> ℹ️   **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   The program window or dialog box may be on a monitor that's unusable. (For example, your monitor may not be properly connected or configured.)

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

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.

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 7** – Use default Windows mouse pointers:

1   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.

Product information

Specifications

	Mura MPX-4/0	Mura MPX-4/2	Mura MPX-4/4	Mura MPX-SDI
Operating systems supported	Windows 7 64-bit, Windows Server 2008 R2 64-bit, Windows Embedded Standard 7 64-bit, Windows Embedded Enterprise 7 64-bit			
Card type	PCIe ×16 2.0	PCIe ×16 2.0	PCIe ×16 2.0	PCIe ×16 1.0
Form factor	ATX	ATX	ATX	ATX
Memory	2 GB	2 GB	2 GB	1 GB
Output formats supported	DVI, RGB/VGA	DVI, RGB/VGA	DVI, RGB/VGA	DVI, RGB/VGA
Input formats supported	—	DVI, RGB/VGA, Component, S-video, Composite	DVI, RGB/VGA, Component, S-video, Composite	SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 424M, SMPTE 425M
HDCP compliant*	✓	✓	✓	✓
Connectors	1× KX20	2× KX20	2× KX20	1× KX20, 2× DIN 1.0/2.3
Outputs supported	4	4	4	2
Inputs supported	0	2	4	2
Maximum ouput resolution	2048 × 1152 (DVI), 2048 × 1536 (RGB/VGA)	2048 × 1152 (DVI), 2048 × 1536 (RGB/VGA)		1920 × 1080
Maximum input resolution	—	2560 × 1600† (DVI), 2048 × 1536‡ (RGB/VGA), 1920 × 1080 (Component)		1920 × 1080
Maximum card dimensions	L: 9.50" / W: 0.75" / H: 4.407" L: 24.13 cm / W: 1.91 cm / H: 11.2 cm	L: 9.50" / W: 0.75" / H: 4.407" L: 24.13 cm / W: 1.91 cm / H: 11.2 cm	L: 9.50" / W: 0.75" / H: 4.407" L: 24.13 cm / W: 1.91 cm / H: 11.2 cm	L: 6.60" / W: 0.75" / H: 4.407" L: 16.80 cm / W: 1.91 cm / H: 11.2 cm
Certifications	Class A: FCC, CE, ACMA, VCCI, ICES, CSA, Korea			

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

† At 30 Hz. For specific requirements, contact Matrox.

‡ At 47 Hz. For specific requirements, contact Matrox.

	Mura MPX-V8	Mura MPX-V16
Operating systems supported	Windows 7 64-bit, Windows Server 2008 R2 64-bit, Windows Embedded Standard 7 64-bit, Windows Embedded Enterprise 7 64-bit	
Card type	PCIe ×4 1.0	PCIe ×4 1.0
Form factor	ATX	ATX
Memory	128 MB DDR SDRAM	256 MB DDR SDRAM
Input formats supported	S-video, Composite	S-video, Composite
HDCP compliant	—	—
Connectors	1× DVI-I	2× DVI-I
Outputs supported	—	—
Inputs supported	8	16
Maximum input resolution	NTSC/PAL/SECAM	NTSC/PAL/SECAM
Maximum card dimensions	L: 8.10" / W: 0.75" / H: 4.376" L: 20.6 cm / W: 1.91 cm / H: 11.1 cm	
Certifications	Class A: FCC, CE, ACMA, VCCI, ICES, CSA, KCC	

Environmental

Temperature, operational	0 to 40 ºC (32 to 104 ºF)
Temperature, non-operational storage and transportation	-40 to 65 ºC (-40 to 149 ºF)
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)

Mean Time Before Failure (MTBF)

	MTBF*
Mura MPX-4/4	71.11 years or 622,944 hours
Mura MPX-4/2	75.41 years or 660,615 hours
Mura MPX-4/0	90.03 years or 788,631 hours
Mura MPX-V16	89.48 years or 783,822 hours
Mura MPX-V8	142.26 years or 1,246,230 hours
Mura MPX-SDI	102.33 years or 896,427 hours

* Applies to fanless SKUs only. Calculated at operating temperature of 40 ºC, operating 24 hours/day. For more information, contact your Matrox representative.

Notes

- Your Matrox card is 100% VGA compatible and supports all VESA standards: VBE 2.0 (Super VGA modes), DPMS (energy saving), and DDC-2B (Plug-and-Play monitor).

- 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 card, driver, software monitor settings, and monitor. For information on the capabilities of your monitor, see your monitor documentation.

Digital monitor 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

Appendix A – Using a Matrox P690 graphics card as a console

You can use a Matrox P690 graphics card to add one or more console displays to your system. A console display is a display outside of the display wall. With a console display, you can run applications without affecting the appearance of your display wall and manage the layout of the display wall locally.

You can use one of the following graphics cards as a console display:

- Matrox P690 PCIe ×16
- Matrox P690 Plus LP PCIe ×16

This section describes how to install, connect, and configure a P690 graphics card to use as a console.

- To install your graphics card, see "Installing a Matrox P690 graphics card", page 41.
- To connect your output devices (monitors), see "Connecting your output devices", page 42.
- To install a display driver for your graphics card, see "Installing your software", page 46.
- To configure your layout to use a console display, see "Setting up your multi-display layout", page 47.

ⓘ **Note:** To purchase any cables or adapters not included with your Matrox product, see the Matrox online store (shopmatrox.com).

Installing a Matrox P690 graphics card

This section explains how to install a P690 graphics card in your system.

Before you begin

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

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

- 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.

Installing your card

1   Choose an expansion slot

Most systems have different types of
expansion slots. Choose a PCI Express®
(PCIe®) ×16 slot. Your system manual
should identify the location of each type of
expansion slot in your system.

(Back of system)

PCI Express slots

PCI slots

(×16)
(×8)
(×4)
(×1)
(32-bit)
(64-bit)
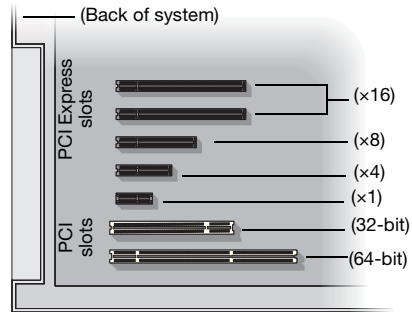
2   Insert your Matrox card

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 frame of your system.
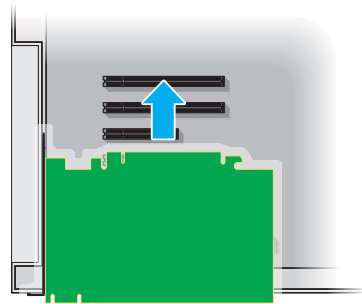
Connecting your output devices

This section explains how to connect your output devices (monitors) to your P690 card.

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.

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

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

P690 PCIe ×16

1   Connect your monitors

If your monitor has a DVI connector, connect your monitor cable directly to your DVI connector on your card.

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 DVI connector on your card.
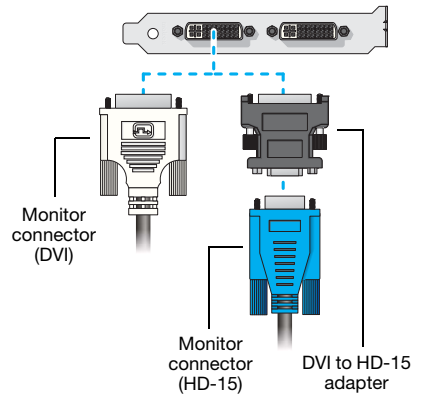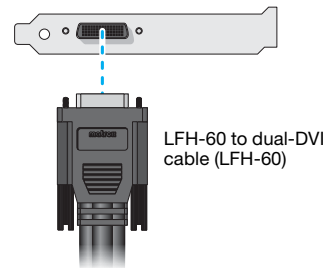
Monitor connector (DVI)

Monitor connector (HD-15)

DVI to HD-15 adapter

Your Matrox card is now installed. Restart your system and install your Matrox software (see "Installing your software", page 46).

P690 Plus LP PCIe ×16 with a dual monitor cable

1   Connect your LFH-60 to dual-DVI cable

Attach your LFH-60 to dual-DVI cable to the connector on the bracket of your Matrox card. Make sure the connector is properly fastened.

LFH-60 to dual-DVI cable (LFH-60)

⚠️ | **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 your LFH-60 to dual-DVI 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 LFH-60 to dual-DVI cable.
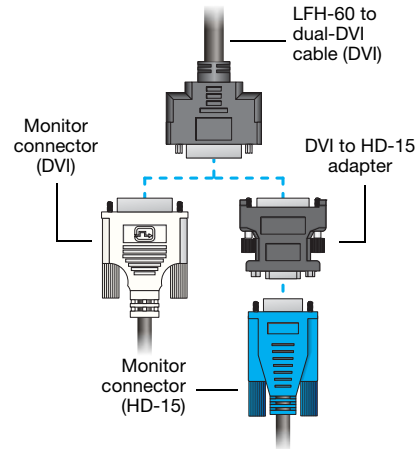
LFH-60 to dual-DVI cable (DVI)

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, starting with connector labeled **1**.

LFH-60 to dual-DVI cable
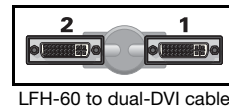
Your Matrox card is now installed. Restart your system and install your Matrox software (see "Installing your software", page 46).

P690 Plus LP PCIe ×16 with a quad monitor cable

To use 4 computer monitors at a time, you need a quad-monitor cable (available from your Matrox sales representative). This section describes how to connect your monitors to your Matrox graphics card using a quad-monitor cable.

Note: While using 4 computer monitors at a time, your monitors must support the same monitor settings (such as display resolution and refresh rates).

WARNING: 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.

1 Attach the quad-monitor cable

Attach the included quad-monitor cable to your Matrox graphics card. If a dual-monitor cable is already connected, detach it from the DVI connector on your graphics card.
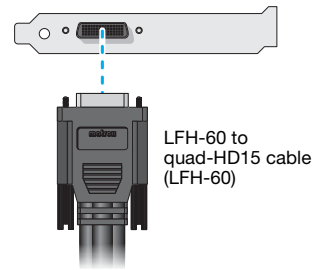
LFH-60 to quad-HD15 cable (LFH-60)

WARNING: To avoid damaging the LFH-60 connector on your dual-monitor cable or on your graphics card, carefully insert the connector on your quad-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 quad-monitor cable.

2 Connect your monitors

If your monitor uses an HD-15 connector, connect it directly to your quad-monitor cable.

If your monitor uses a DVI connector and supports analog input, you need a HD15-to-DVI adapter (sold separately). 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 analog input. For more information, see your monitor documentation.

Make sure all connectors are firmly in place and properly fastened.

Quad-monitor cable

HD15-to-DVI adapter

Monitor connector (DVI)

Monitor connector (HD-15)
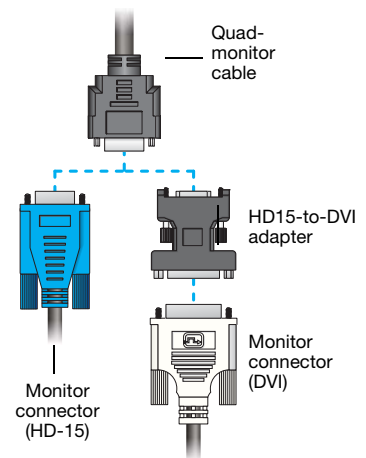
Note: Monitors are numbered consecutively based on which connector each is attached to. Also, each connector is labeled with a number. Numbering starts with the *primary display* – the one that first displays information when you restart your computer. If other graphics hardware is enabled in your system, display numbering may be different.

Your system detects that your P690 graphics card supports 4 monitors only if a monitor is connected to connector 3 or 4.
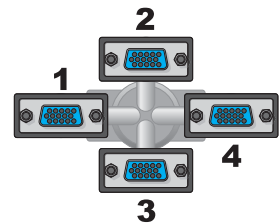
Installing your software

The standard Mura installation driver package installs both the P690 display drivers and the driver for the Matrox Mura cards.

i **Note:** Don't install the display driver included with your P690 graphics card. That display driver isn't supported on a display wall system.

To install a driver for your P690 graphics card, we recommend you uninstall, then reinstall Matrox software for your Mura product:

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

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

Windows 7 –

1 Restart your system in VGA mode:

   a Click **Start**, point to the arrow (▷), then select **Restart** to restart your system.

   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].

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

2 To uninstall Matrox software:

   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 Driver** (or **Matrox M-Series Driver**) **→ Uninstall → Yes**.

3 Restart your system for changes to take effect.

4 After your system has restarted, install the latest driver for your Matrox card. You may also need to reinstall other Matrox software.

Setting up your multi-display layout

Setting up your multi-display layout to use a display console using PowerDesk software involves entering the number of columns and rows for your display wall layout, adding an independent display, and adjusting the settings for your outputs (such as rotation, resolution, color palette, and refresh rate).

To set up your multi-display layout:

1 Access Matrox PowerDesk.

2 From the main interface, click **Multi-Display Setup**.

**3** Under **Basic configurations**, select **Use stretched mode**.

ⓘ **Note:** For information on using stretched mode, see Matrox PowerDesk help.

4 Enter the number of **Columns** and **Rows** for your multi-display setup, then click **OK**.

5 Drag one output of your P690 card from the **Unused outputs** section to your work area. You can also add an output by right-clicking it and selecting **Add output**.

The outputs of your P690 card are always identified as the last of your outputs.

6 Preview your setup in the work area. If you're satisfied, click **OK** or **Apply** to apply your multi-display layout. Otherwise, click **Cancel**.

Depending on your installation and connection, you may need to manually rearrange the outputs of your multi-display layout in PowerDesk to match the physical layout of your display wall.
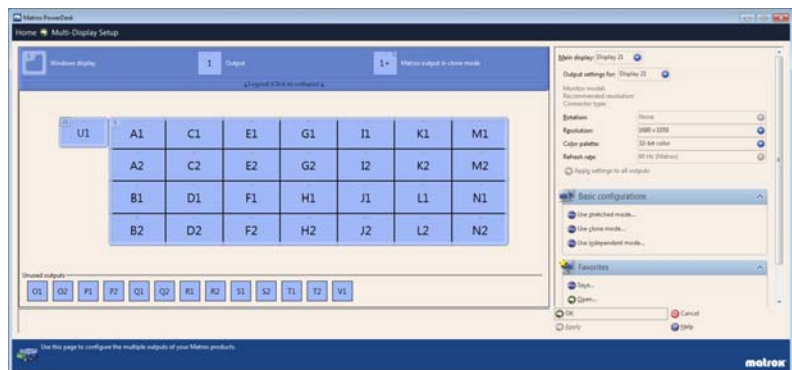
7 **Optional** – To view your **Start** menu to your console display and not on your display wall, set your console display as the main display of your multi-display configuration.

For more information on setting up multiple displays, see Matrox PowerDesk help.

Notes

- Only one Matrox P690 graphics card is supported in a system.

- A video may show a solid color in the video window when shown on your console display.

- When your console display is set as your main display and you have a saved display wall configuration:

  - Adding a console display to the left or above your display wall will change the position of your video windows.

  - If your console display is on the left or top of your Windows desktop, changing the the display resolution of your console display will change the position of your video windows.

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 you have a problem, we recommend you follow the procedure below for the quickest results.

1 **Contact your integrator** – This is usually the quickest and most effective method of technical assistance. Your integrator is familiar with your complete system. In the case of hardware warranty assistance, the product must be returned to the integrator, who will return it to Matrox.

2 If your Matrox product was provided by your computer manufacturer, contact this manufacturer. For contact information, see your computer documentation or contact the vendor.

3 **Direct Matrox technical support** – If you still can't resolve a problem (and your Matrox product wasn't provided by your computer manufacturer), you can get technical assistance by contacting Matrox technical support at dwcsupport@matrox.com.

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.

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 A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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.

(English) Industry Canada Compliance Statement

Remark for the Matrox hardware products supported by this guide   These digital apparatus does not exceed the Class A 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   Ce present appareil numérique n'émet aucun bruit radioélectrique dépassant les limites applicables aux appareils numériques de Classe A 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 A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。　　　　ＶＣＣＩ－Ａ

Ａ급 기기 (업무용 방송통신기자재)
이 기기는 업무용 (Ａ급) 전자파적합기기로서 판 매자 또는 사용자는 이 점을 주의하시기 바라 며 , 가정외의 지역에서 사용하는 것을 목적으 로 합니다 .

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

CE

Remark for the Matrox hardware products supported by this guide   These devices comply with EC Directive 2004/108/EC for a Class A 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 A compliant host system. It is assumed that these products will also achieve compliance in any class A 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 2004/108/EC pour les unités numériques de classe A. 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 A. On suppose qu'ils présenteront la même compatibilité dans tout système compatible classe A.

(Deutsch) Information für europäische Anwender – Konformitätserklärung

Anmerkung für die Matrox Hardware-Produktunterstützung durch dieses Handbuch   Diese Geräte entsprechen EC Direktive 2004/108/EC für ein digitales Gerät Klasse A. 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 A entsprechenden, Host-System getestet. Es wird davon ausgegangen, daß diese Produkte auch in jedem Klasse A 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 2004/108/EC relativamente ai dispositivi digitali di Classe A. 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 A. Inoltre, si dà per scontato che questi prodotti acquisiranno la conformità in qualsiasi sistema conforme alla classe A.

(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 2004/108/EC para dispositivos digitales de Clase A. 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 A. Se supone que estos productos cumplirán también con las normas en cualquier sistema que responda a los requisitos de la clase A.

ROVI CORPORATION

(English)   This item incorporates copy protection technology that is protected by U.S. patent(s) and other intellectual property rights of Rovi Corporation. Reverse engineering and disassembly are prohibited.

(Français)   Ce produit intègre une technologie de protection des droits d'auteur qui est protégée par un ou plusieurs brevets américains et par d'autres droits de propriété intellectuelle de Rovi Corporation. L'ingénierie inverse et le désassemblage sont interdits.

(Deutsch)   Dieses Produkt enthält Kopierschutztechnologien, die durch US-Patent(e) und andere Rechte am geistigen Eigentum der Rovi Corporation geschützt ist. Reverse Engineering und Demontage sind verboten.

(Italiano)   Questo prodotto incorpora la tecnologia di protezione di copia protetta da uno o più brevetti USA e da altri diritti di proprietà intellettuale di Rovi Corporation. È vietato decodificare o disassemblare il prodotto.

(Español)   Este producto incorpora tecnología de protección de copia que está protegida por patente(s) de EE. UU. y por otros derechos de propiedad intelectual de Rovi Corporation. La ingeniería inversa y el desmontaje están prohibidos.

(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.

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.

Trademarks • Marques déposées • Warenzeichen • Marchi registrati • Marcas registradas

Matrox Electronic Systems Ltd. /

Matrox Graphics Inc.	Matrox®, DualHead®, ASM™, ATC™, AuroraVX3mp™, AuroraVX™, Avio™, C-Series™, DualHead2Go™, Epica™, Equinox™, Extio™, G400™, G450™, G550™, GXM™, Maevex™, Marvel™, MED2mp™, MED2mp-DVI™, MED3mp-DVI™, MED4mp™, MED5mp-DVI™, MED5mp™, Millennium™, MMS™, Multi-Monitor Series™, MultiDesk™, Mura™, MuraControl™, Mura MPX™, Mystique™, P650™, P690™, P750™, Parhelia™, Parhelia™ APVe, Parhelia-512™, Parhelia-LX™, Parhelia HR256™, PJ4OLP™, QID™, Quad Information Display™, RAD™, Quick Connect™, MaxVIEW™, Onyx™, PixelTOUCH™, PrecisionCAD™, Precision SGT™, QuickDesk™, RAD2mp™, RAD3mp™, RAD9mp™, RADQ2mp™, Rainbow Runner®, TheatreVUE™, TripleHead™, TripleHead2Go™, VDA™, Veos™, Xenia™
Adobe Systems Inc.	Acrobat®, Reader®
Advanced Micro Devices, Inc.	AMD®
Apple Computer, Inc.	App Store®, Apple®, iPad®, Mac®, Mac OS®
Belden Inc.	Belden®
Cisco Systems Inc.	iOS®
Dolby Laboratories, Inc.	Dolby®, Dolby Digital®
Intel Corporation	Intel®, Pentium®, Thunderbolt™
Linus Torvalds	Linux®
Microsoft Corporation	Aero®, Direct3D®, DirectShow®, DirectX®, Microsoft®, MS-DOS®, PowerPoint®, Windows®, Windows NT®, Windows Server®, Windows Vista®
PCI-SIG	PCI™, PCI-X®, PCIe®, PCI Express®
Radio Corporation of America	RCA®
Rovi Corporation	Macrovision®
SD-3C, LLC	SD™, SDHC™, SDXC™
Silicon Graphics, Inc.	OpenGL®
Silicon Image, Inc.	PanelLink®, TMDS®
U.S. Environmental Protection Agency	ENERGY STAR®
Video Electronics Standards Association	DisplayPort™
VideoLAN	VideoLAN®, VLC®, VLC® media player, VNC®
Wibu-Systems	WIBU®

HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

SD, SDHC and SDXC Logos are trademarks of SD-3C, LLC.

(English) Disclaimer

THE INFORMATION IN THIS GUIDE IS SUBJECT TO CHANGE AT ANY TIME AND WITHOUT NOTICE.

Matrox Graphics Inc. reserves the right to make changes in specifications at any time and without notice. The information provided by this document is believed to be accurate and reliable at the time it is written. However, no responsibility is assumed by Matrox Graphics Inc. for its use, for its reproduction and/or distribution, in whole or in part; nor for any infringements of patents or other rights of third parties resulting from its use.

(Français) Responsabilité

LES INFORMATIONS CONTENUES DANS CE MANUEL PEUVENT ÊTRE MODIFIÉES EN TOUT TEMPS ET CE SANS PRÉAVIS.

Les Graphiques Matrox Inc. se réserve le droit de modifier les spécifications en tout temps et ce sans préavis quelconque. Les informations contenues dans ce manuel sont reconnues comme étant précises et fiables à la date de rédaction. Cependant, Matrox Graphics Inc. n'assume aucune responsabilité concernant leur utilisation, leur reproduction et/ou distribution, en tout ou en partie, ni leur contrefaçon de brevets ou de tout autre droit appartenant à des tiers résultant de leur utilisation. Aucune licence n'est accordée sur aucun brevet ou droit d'exploiter un brevet de Matrox Graphics Inc.

(Deutsch) Haftungsablehnungserklärung

DIE IN DIESEM HANDBUCH ENTHALTENEN ANGABEN UND DATEN KÖNNEN OHNE VORHERIGE ANKÜNDIGUNG GEÄNDERT WERDEN.

Die Matrox Graphics Inc. behält sich das Recht vor, jederzeit und ohne Ankündigung technische Daten zu ändern. Zum Zeitpunkt der Erstellung dieses Handbuchs sind die Inhalte korrekt und verlässlich. Weiterhin übernimmt Matrox Graphics Inc. keinerlei Verantwortung für die Benutzung dieses Handbuchs, die Vervielfältigung und/oder Verteilung im Ganzen oder zum Teil; weder für Verstöße gegen Patentrechte noch für andere Rechte Dritter, die aus seinem Gebrauch resultieren mögen. Es werden keinerlei Lizenzrechte gewährt für sämtliche Patente oder Patentrechte der Matrox Graphics Inc.

(Italiano) Discrezionalità

LE INFORMAZIONI CONTENUTE NEL PRESENTE DOCUMENTO SONO SOGGETTE A MODIFICHE IN QUALUNQUE MOMENTO E SENZA PREAVVISO.

Matrox Graphics Inc. si riserva il diritto di apportare variazioni di qualunque tipo alle specifiche tecniche in qualunque momento e senza alcun preavviso. Le informazioni contenute in questa documentazione sono ritenute corrette e attendibili al momento della pubblicazione. In ogni caso, non è imputabile a Matrox Graphics Inc. nessuna responsabilità per il loro utilizzo, per la loro distribuzione e/o riproduzione completa o in parte, come nessuna violazione a brevetti o diritti di altri produttori derivante dal loro utilizzo.

(Español) Renuncia

LA INFORMACION QUE CONTIENE EL PRESENTE MANUAL ESTA SUJETA A CAMBIOS SIN PREVIO AVISO EN CUALQUIER MOMENTO.

Matrox Graphics Inc. se reserva el derecho de realizar modificaciones en cualquier momento y sin previo aviso. La información facilitada en este documento se considera que es exacta y fiable hasta la fecha de publicación. Sin embargo, Matrox Graphics Inc. no asume ninguna responsabilidad por su uso, por su reproducción y/o distribución parcial o total; ni por cualquier infracción de patentes u otros derechos de terceras partes derivados de su uso. No se concede ninguna licencia bajo cualesquiera patentes o derechos de patentes de Matrox Graphics Inc.

Matrox Graphics Inc.

1055 Saint Regis Boulevard
Dorval, Quebec, Canada H9P 2T4

North America: 1-800-361-1408
International: (514) 822-6000

Email: graphics@matrox.com

Web site: www.matrox.com/graphics

Technical support:
www.matrox.com/graphics/support

To locate the sales office nearest you, visit
www.matrox.com/graphics/contact

matrox®

Graphics for Professionals