

# Matrox MXO

## Installation and User Guide

January 31, 2007



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# 1

## **Introducing Matrox MXO**

This chapter outlines the features of Matrox MXO, describes the MXO operation modes, lists the contents of your kit, provides the MXO system requirements, and describes the available MXO documentation.

## Welcome to Matrox MXO

Matrox MXO connects to your Mac computer or laptop to provide broadcast-quality audio/video output. You can view your Apple Final Cut Pro projects or the output of many other QuickTime-based applications without interlacing artifacts, and record them to tape at the same time. You can also use Matrox MXO to provide flicker-free recording of Keynote and PowerPoint presentations, web browser sessions, and software application training.

## Matrox MXO key features

The following are key features of Matrox MXO:

- Frame-accurate broadcast-quality audio/video output in HD and SD.
- Portable, hot-swappable external box.
- Genlockable HD/SD SDI, HD/SD analog component, S-Video, and composite video outputs.
- Up to eight channels of embedded SDI audio output with stereo audio monitoring.
- Workflow enhancements for Final Cut Pro and other QuickTime-based applications such as:
  - Frame-accurate audio/video output for insert editing and printing to tape with guaranteed audio/video synchronization.
  - Interlacing artifact elimination and gamma correction when previewing video on a secondary DVI display.
  - Hardware-accelerated output of DVCPRO HD, HDV, and Final Cut Pro Dynamic RT segments to full output resolution to save processing power for other applications.
  - Realtime downscaling of an HD project to SD resolution with proper color space conversions.
- Flicker-free, broadcast-quality video output of your computer desktop with any application.

## Matrox MXO operation modes

Matrox MXO works in two different modes depending on your application:

- **Mastering mode** This mode is for video editors using QuickTime-based applications such as Final Cut Pro. Matrox MXO uses the DVI port on your Mac computer in a unique way to output frame-accurate audio/video for insert editing and printing to tape. Up to eight channels of mono audio are available from your application and embedded in the SDI output signal. The MXO Preference pane allows you to choose which stereo pair you would like to monitor via MXO's RCA output. To use Matrox MXO in Mastering

mode, you must first select the MXO as the output device for your application. For more information on how to do this, see “[Specifying your video and audio output device settings](#)” on page 24.

- **Presentation mode** This mode mirrors the contents of your desktop and outputs it as high-quality video, such as for display on a video monitor or recording to a VTR. Presentation mode can be used to display and record Keynote and PowerPoint presentations or web browser sessions. It can also be used to create software application training. When working in Presentation mode, your system’s audio playback is routed to all the MXO audio outputs.

## Supported video output standards

Matrox MXO supports the following video output standards:

- NTSC 720×486i at 29.97 frames per second.
- PAL 720×576i at 25.00 frames per second.
- HDTV 1920×1080i at 29.97 frames per second.
- HDTV 1920×1080i at 25.00 frames per second.
- HDTV 1280×720p at 59.94 frames per second.

If you’re working with a project that has a video standard that isn’t supported by MXO, the video output will be automatically converted to one of the supported standards. For example, if you are working with a project that has a format of 1280×720p at 23.98 frames per second, it will be converted to 1280×720p at 59.94 frames per second for output.

## Hardware supplied for Matrox MXO

- Matrox MXO box.
- Matrox MXO cable (includes USB, DVI, and audio connectors).
- Y/C (S-Video) adapter cable.
- External AC/DC adapter and power cord.

## Matrox MXO system requirements

Matrox MXO requires a Mac system with the following system configuration:

- Mac OS X v10.4.7 or later.
- DVD-ROM drive to install the MXO software.
- Free USB port.
- Display card with a secondary DVI-I connector. Must be able to display 1920×1200 @ 60 Hz.



**Note** You must have a secondary DVI-I connector for use with Matrox MXO, and connect your primary DVI monitor to a different connector on your display card. If you are using an AGP display card, it needs to run at a speed of 4X or faster.

- DVI monitor that supports a native display resolution of 1920×1200 is recommended, such as an Apple Cinema Display.
- 512 MB physical memory (RAM) if using MXO with a QuickTime-based video editing program (Apple recommends 2 GB for HD editing).

### Check our website for equipment information

For up-to-date information about recommended computer systems and other MXO-compatible devices such as display cards and DVI monitors, check the Matrox Video Support site at [www.matrox.com/video/support](http://www.matrox.com/video/support).

## About this manual

This manual provides you with information about installing and using your Matrox MXO hardware and software, including how to configure your Matrox MXO for use with Final Cut Pro and Adobe After Effects.

### Style conventions

The following style conventions are used in this manual:

- The names of files, folders, and manuals appear in *italics*. For example:
  - The data is stored in the *Sample Movie* file.
  - The file is located in the *Clips* folder.
  - Please refer to your *Final Cut Pro User's Manual*.
- Menus and commands that you need to choose are displayed in the form **Menu > Command**. For example, **File > Save** means click **File** in the menu bar, then click **Save** in the menu that appears.

### Last-minute information

Any important information that wasn't available for inclusion in this manual by publication time is provided to you in the *Matrox MXO Release Notes*.

# 2

## **Connecting External Devices to Matrox MXO**

This chapter shows you how to connect external devices to Matrox MXO.

## MXO connections

Matrox MXO allows you to connect multiple devices for simultaneous output. The connections you make depend on which video formats you wish to output.



**Important** Only DVI monitors that accept digital input are supported for use as a secondary display with Matrox MXO. In order to preview full-resolution HDV video, your DVI monitor must support a display resolution of at least 1920×1200.

### Available MXO connections

- One DVI input.
- One DVI output.
- One USB 2.0 connector.
- Your choice of one of the following video output combinations:
  - HD SDI output with embedded audio and simultaneous HD analog component output.
  - SD SDI output with embedded audio and simultaneous SD analog component output.
  - SD SDI output with embedded audio and simultaneous S-Video and composite output.
- Genlock reference input.
- One RCA stereo output.
- DC power jack.

### Connecting your MXO to your Mac system

The Matrox MXO kit includes a cable to connect the MXO box to your Mac system. The cable has four connectors on the system end, and two connectors to attach to the MXO box.

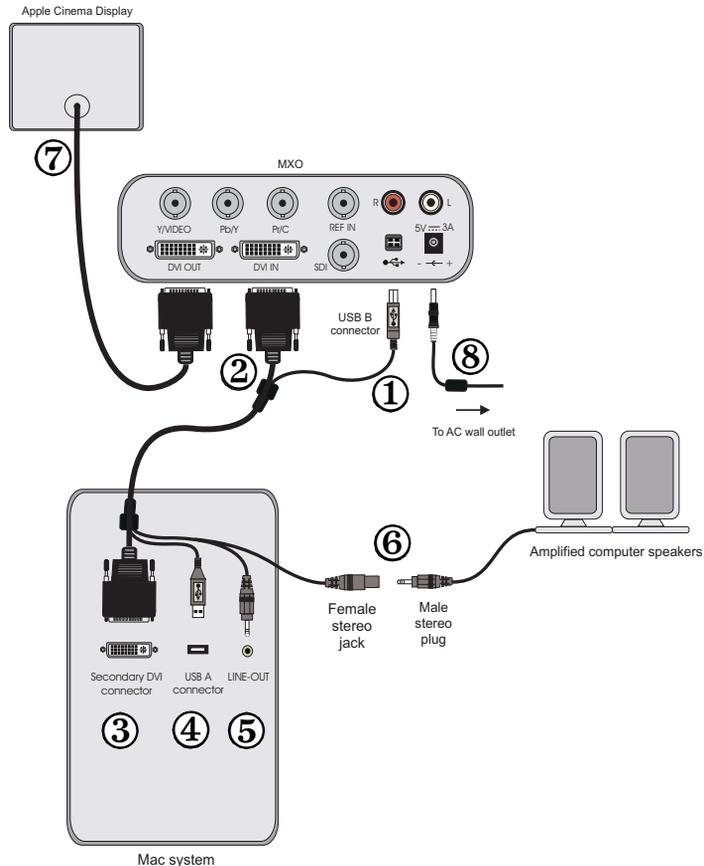


#### To connect the MXO to your Mac system:

- ① Connect the USB cable connector on the MXO end (two connectors) of the cable to the USB B socket on your MXO.
- ② Connect the DVI connector on the MXO end of the cable to the DVI IN connector on the MXO. Tighten the thumb screws to ensure a stable connection.
- ③ Connect the DVI connector on the system end of the cable (four connectors) to the secondary DVI connector on your Mac system. Tighten the thumb screws to ensure a stable connection.
- ④ Connect the USB cable connector on the system end of the cable to the USB A socket on your Mac system.

## Remarks

- The MXO requires a High-Speed USB 2.0 connection. **Do not** plug the USB cable connector to the USB socket on your keyboard.
  - If you disconnect the USB cable at any time or shut your system down, the MXO will automatically shut off.
- ⑤ Plug the male stereo audio connector on the system end of the MXO cable into the LINE OUT jack on your sound card or laptop.
  - ⑥ Plug the female stereo audio connector on the system end of the MXO cable into your speakers.
  - ⑦ Connect the DVI connector on your Apple Cinema Display (secondary display) to the DVI OUT connector on the MXO.
  - ⑧ Connect the AC/DC adapter to the power cord. Plug the DC adapter end into the DC power jack on the MXO, and the AC power cord end into an AC wall outlet.



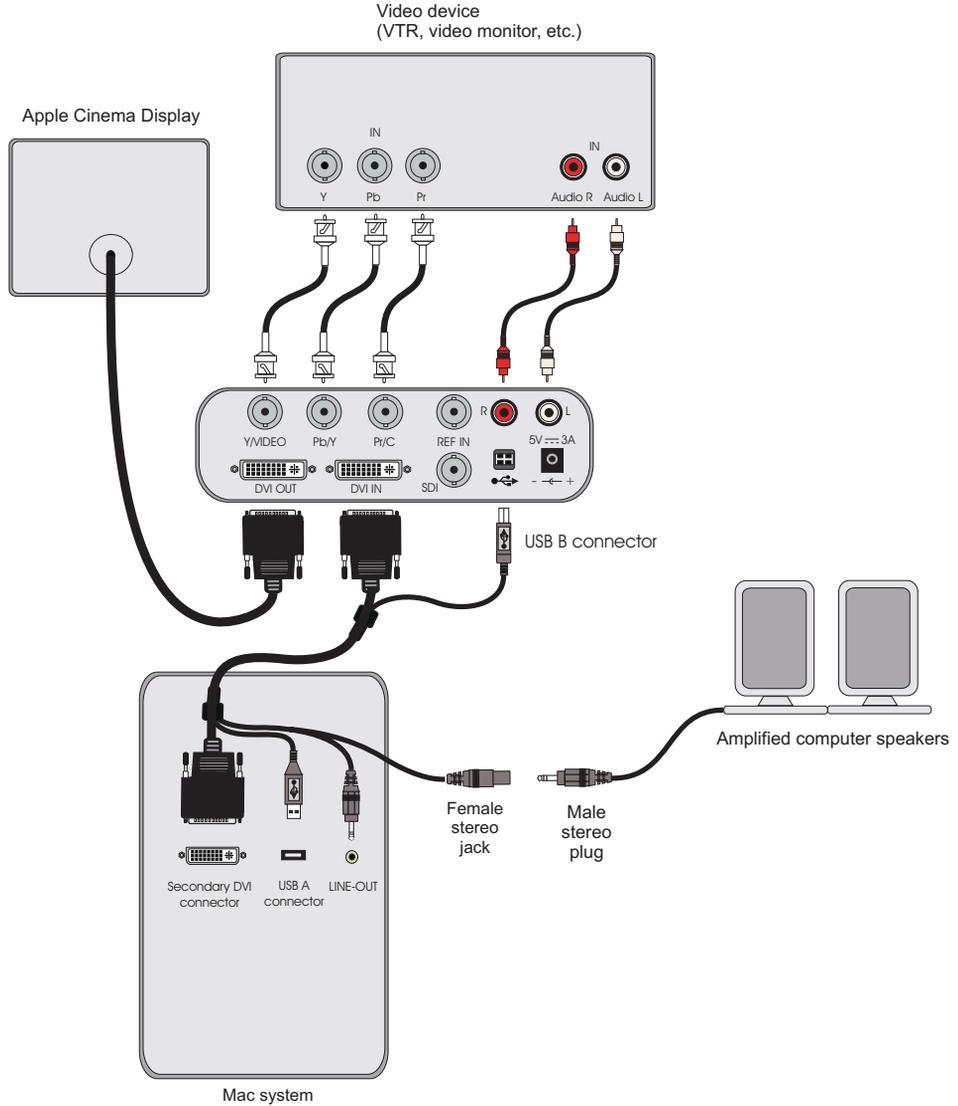
## Typical Matrox MXO connections

The following illustrations show some typical MXO connections. In these illustrations we've connected an Apple Cinema Display as the secondary display, and also connected a video device, such as a VTR or video monitor. We've connected the audio output from the MXO box to the video device, but you can connect it to a sound mixer if you are using one.

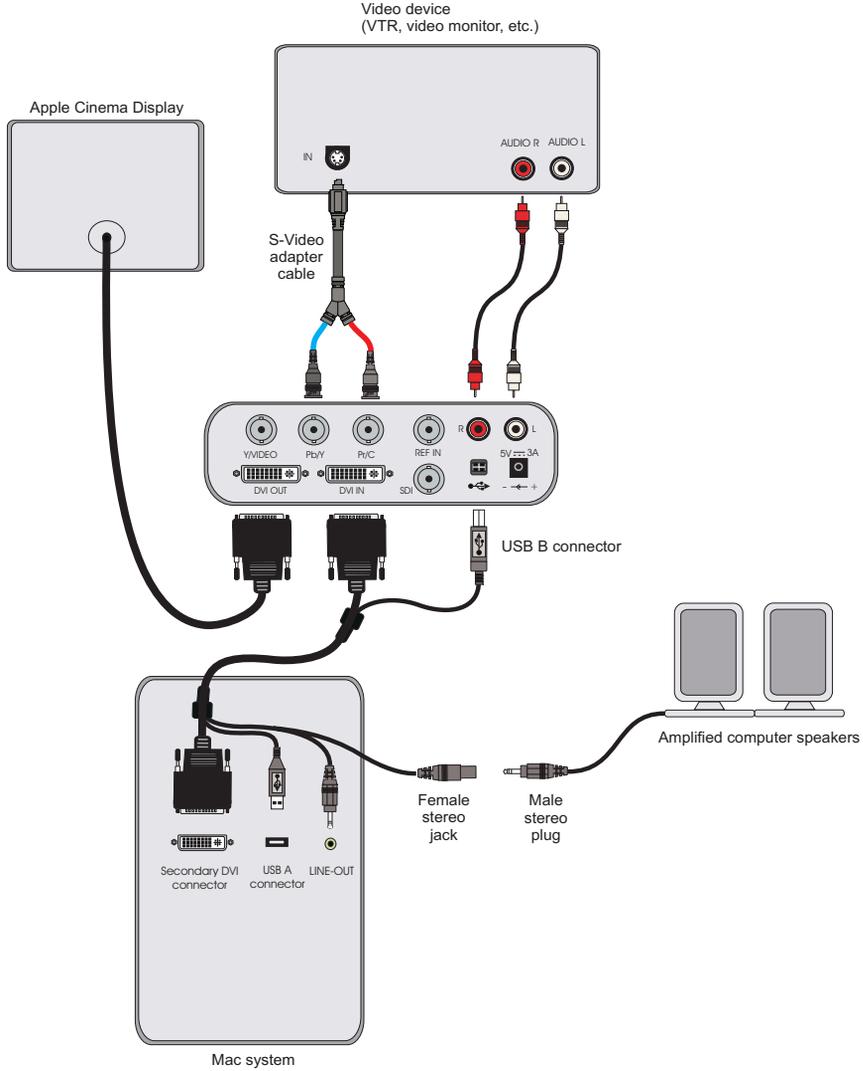


**Note** You can also connect an external sync generator to ensure proper equipment timing. However, this is optional as the MXO generates its own internal reference signal if an external genlock is not available.

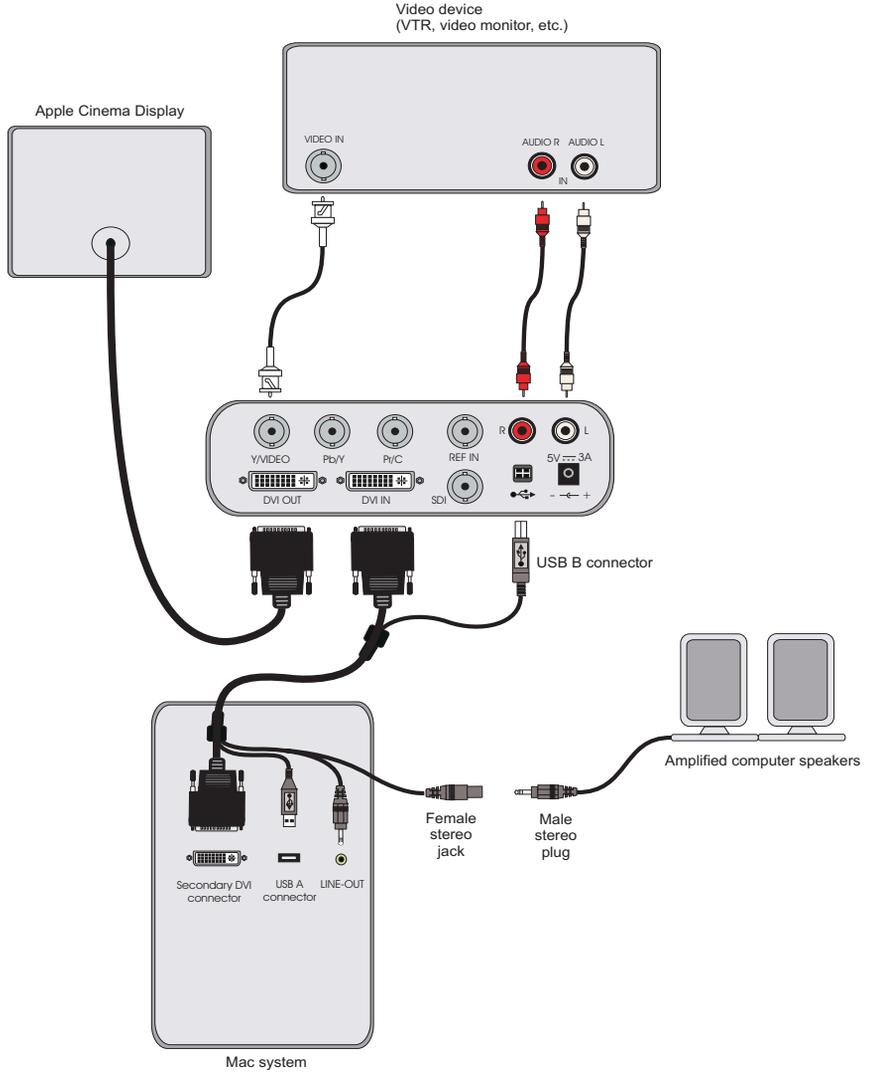
# Analog component connections



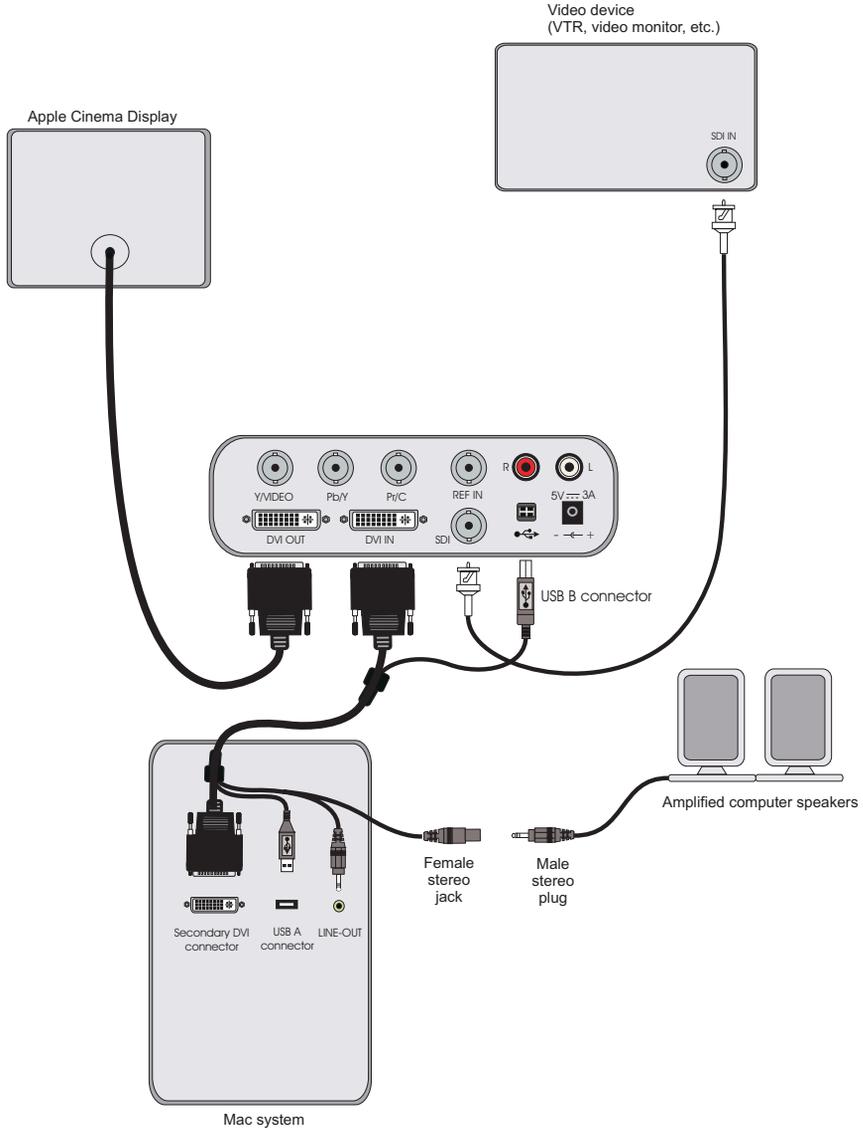
# S-Video connections



# Composite connections



# SDI connections



# 3

## **Installing Your Matrox MXO Software and Configuring Your System**

This chapter explains how to install the Matrox MXO software and how to configure your system in the MXO Preference pane.

## Installing your Matrox MXO software

If you are planning on using MXO in Mastering mode for video editing, you should install Final Cut Pro before installing the MXO software. For information on installing Final Cut Pro, see your *Final Cut Pro User's Manual*.

- 1 Insert your Matrox MXO installation CD in your DVD-ROM drive and run the installation program on the CD.
- 2 Follow the onscreen instructions to install the Matrox MXO software on your computer.
- 3 The installer will restart your computer at the end of the installation when you click **Restart**.

## Removing your Matrox MXO software

- 1 In the **Finder** menu, choose **File > New Finder Window**.
- 2 Choose **Applications > Matrox MXO Utilities > MXO Uninstaller**.
- 3 Enter your administrator password in the **Authenticate** dialog box, then click **OK**.

 **Important** The uninstall will not work unless you enter the correct administrator password.

## Calibrating your secondary display

For accurate and consistent color, it's recommended that you use the ColorSync utility that comes with your Mac, or a hardware calibration system to calibrate the DVI monitor that you've connected as your secondary display for use with Matrox MXO.

 **Important** Unless you have a secondary display monitor connected to the DVI OUT of the MXO, **do not** drag your menu bar off your primary display monitor in the **Arrangement** dialog box, as you will not be able to get the menu bar back.

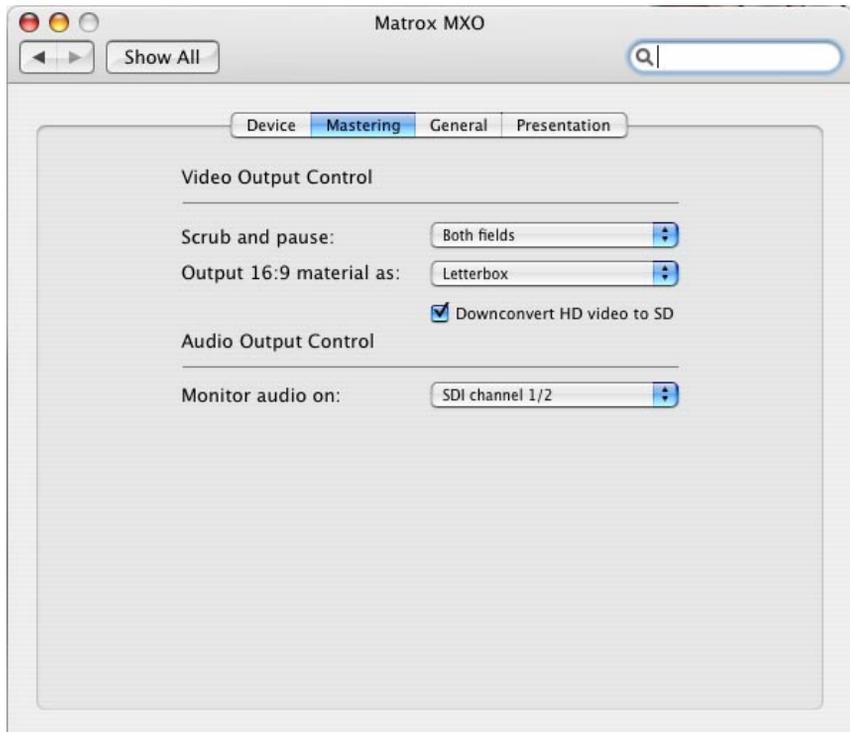
## Defining your settings in the MXO Preference pane

The MXO Preference pane allows you to specify various settings to configure your video and audio output from MXO for the Mastering and Presentation modes. You can also use the MXO Preference pane to view information about MXO, such as the serial number and current operating temperature.

### Specifying your Mastering mode settings

To specify your Mastering mode settings on Matrox MXO:

- 1 From the **Apple** menu, click **System Preferences**, and then click the **Matrox MXO** icon.
- 2 Click the **Mastering** tab.



- 3 Under **Video Output Control**, select **Both fields**, **First field**, or **Second field** from the **Scrub and pause** menu to indicate whether you want to display both fields or only one field when you scrub on the timeline in your project. For example, you may want to scrub the first or second field to eliminate the flickering that can be seen in your picture when you pause while scrubbing frames of interlaced video.

- 4 Under **Video Output Control**, select **Downconvert HD video to SD** if you want to downconvert HD video output to SD.



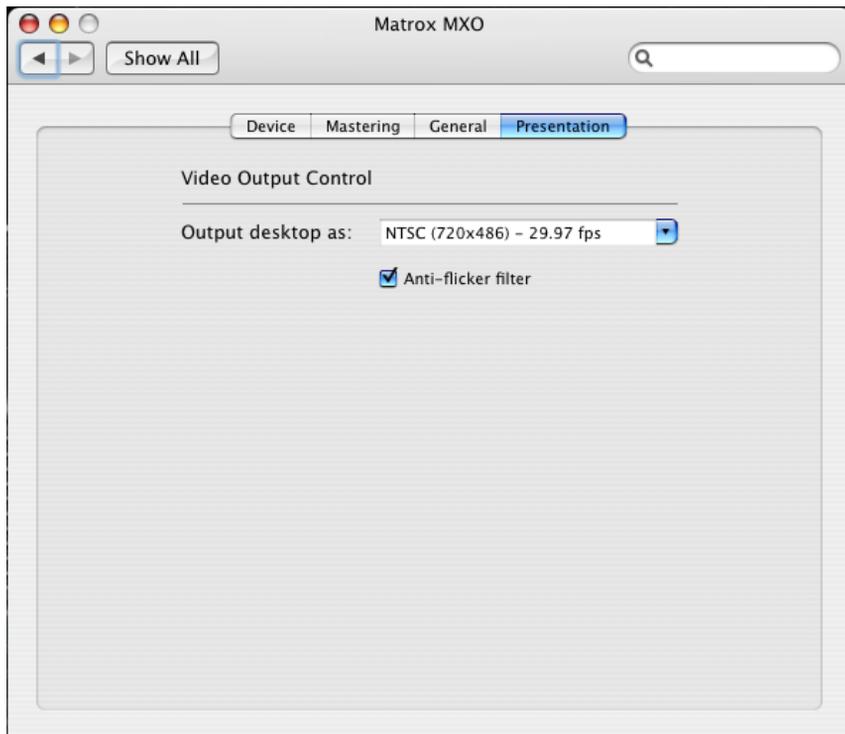
**Note** When you select **Downconvert HD video to SD**, you do **not** need to change your video playback settings in Final Cut Pro. Your project's video playback settings should always match your sequence settings.

- 5 If you select **Downconvert HD video to SD**, or if you are working with SD 16:9 material, you can select one of the following video output options from the **Output 16:9 material as** menu:
  - **Letterbox** Outputs the widescreen 16:9 picture in letterbox mode by adding black bars at the top and bottom of the picture for display on a standard 4:3 television screen.
  - **Anamorphic** Outputs the widescreen 16:9 picture as horizontally compressed 4:3 video, which retains the picture's full vertical resolution for display on a widescreen television. To display the video with the correct proportions on an NTSC or PAL monitor, select the 16:9 display setting on the monitor.
  - **Center cut** Outputs the widescreen 16:9 picture by evenly cropping the left and right edges of the picture for display on a standard 4:3 television screen.
- 6 Under **Audio Output Control**, from the **Monitor audio on** menu, select which audio channel pair you want to monitor from the embedded SDI audio.

## Specifying your Presentation mode settings

To specify your Presentation mode settings on Matrox MXO:

- 1 From the **Apple** menu, click **System Preferences**, and then click the **Matrox MXO** icon.
- 2 Click the **Presentation** tab.



- 3 Under **Video Output Control**, from the **Output desktop as** menu, select the video standard in which you want your desktop to be encoded and routed to the MXO video outputs, such as for display on a video monitor or recording to a VTR. If the resolution of your desktop is larger than the standard you select, MXO will scale the video output accordingly. If your desktop resolution is smaller, the video output will be centered.



**Note** For best results, you should set your Matrox MXO desktop resolution (using **Displays** in the **System Preferences** pane) to a (**stretched**) preset and make sure your output video standard and desktop resolution are close in size. For example, if you want to output your desktop as **NTSC (720 × 486) - 29.97 fps**, you should set your desktop resolution to **800 × 600 (stretched)**.

- 4 The **Anti-flicker filter** option is enabled by default to prevent flickering when previewing interlaced video. You may want to clear this option when working with graphics files in Photoshop, or when displaying full-screen video with QuickTime Player.

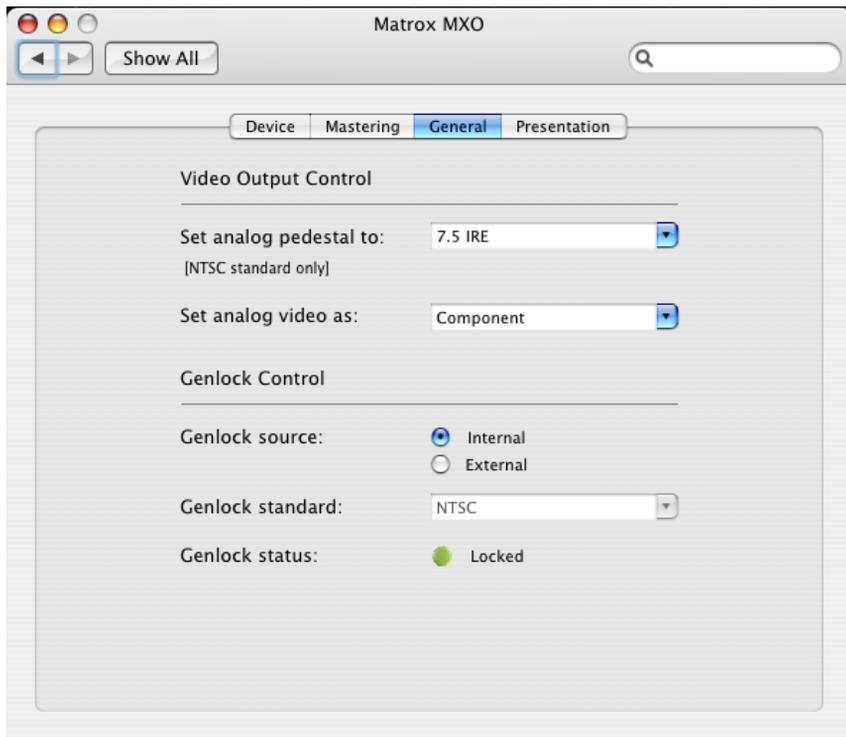


**Tip** Depending on the monitor you are using, you may notice color bleeding around the text in your display. To avoid this problem, from the **Apple** menu, choose **System Preferences > Appearance**, and then change the **Font smoothing style** to **Standard - best for CRT**.

## Specifying your General settings

To specify your General settings on Matrox MXO:

- 1 From the **Apple** menu, click **System Preferences**, and then click the **Matrox MXO** icon.
- 2 Click the **General** tab.



- 3 Under **Video Output Control**, select the setup level you want for your NTSC analog video from the **Set analog pedestal to** menu:
  - **7.5 IRE** Applies the standard NTSC setup level of 7.5 IRE.
  - **0 IRE** Applies a setup level of 0 IRE. You should select this option only when working with a commercial DV-1394 device that uses the Japanese analog NTSC setup of 0 IRE. For example, if the video appears too bright when you play back DV clips on your NTSC monitor, you can change the setup to 0 IRE to output your DV clips at the correct brightness.



**Note** This setting is applicable for NTSC video only. It has no effect when working with HD material.

4 Under **Video Output Control**, from the **Set analog video as** menu, select the type of analog video output you want by selecting **Component**, or **Composite & Y/C**.

- 5 Under **Genlock Control**, for **Genlock source** select one of the following:
- **Internal** Select this to genlock to MXO’s internal reference signal. Select this option only if you don’t have an external sync generator connected to the REF IN on your MXO.
  - **External** Select this if you connected an external sync generator to the REF IN on your MXO.

The status of your genlock source will be displayed next to **Genlock status** as **Locked** or **Not Locked** to indicate whether or not Matrox MXO is presently locked to your genlock source.

6 If you select **External** as the genlock source, from the **Genlock standard** menu, select your external genlock source’s video standard (this setting is not applicable if you select **Internal** as the genlock source).

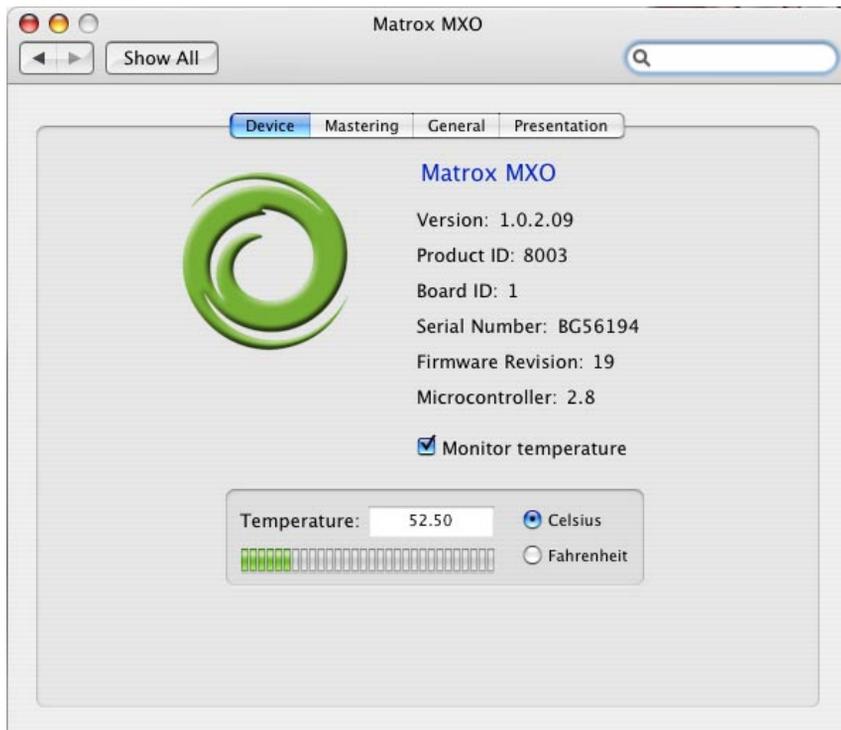


**Important** To ensure good output results, make sure that your genlock source’s video standard matches the standard of your project.

## Viewing MXO information

To view MXO information, such as the serial number and operating temperature:

- 1 From the **Apple** menu, click **System Preferences**, and then click the **Matrox MXO** icon.
- 2 Click the **Device** tab.



- 3 To display the current MXO operating temperature, select **Monitor temperature**.



**Important** If your MXO exceeds the maximum operating temperature at any time, it will display a warning and automatically shut down to avoid damage. Should this occur, make sure your MXO is not close to a heat source and that the ventilation holes are not obstructed.

## Your notes

# 4

## **Using Matrox MXO with Final Cut Pro and Other Supported Programs**

This chapter explains how to define various settings for using your MXO with Final Cut Pro and other supported programs.

## Loading project presets for Final Cut Pro

The Matrox MXO QuickTime video output component for Final Cut Pro includes project presets that you can load to immediately apply appropriate MXO settings.

⇒ **To load a Matrox MXO project preset:**

- 1 Start Final Cut Pro and select **Final Cut Pro > Easy Setup**.
- 2 From the drop down menu in the **Easy Setup** dialog box, select the preset that matches the format of your project. For example, if you are working with NTSC material, select **Matrox MXO Uncompressed 8-bit NTSC**.
- 3 Click **Setup** to apply the settings.

## Specifying your video and audio output device settings

The following sections explain how to specify your video and audio output device settings for Final Cut Pro and Adobe After Effects. Many programs share similar output device settings as Adobe After Effects, however, you should refer to your program's documentation for more details.



**Important** Depending on the application you are using, the MXO video output settings that are available may vary. In most cases, both YUV and RGB settings will be listed. Therefore, it is important to determine whether the program you are using is YUV or RGB based before choosing an MXO output setting. For example, Apple Final Cut Pro, Soundtrack Pro, and Motion 2, are all YUV based. Therefore, for best results when using these programs you should choose an MXO YUV output setting. When using programs such as Adobe After Effects or Autodesk Combustion, you should choose an MXO RGB output setting. If you are not sure whether the application you are using is YUV or RGB based, try using both and see which one offers the best performance.

### Specifying settings for Final Cut Pro

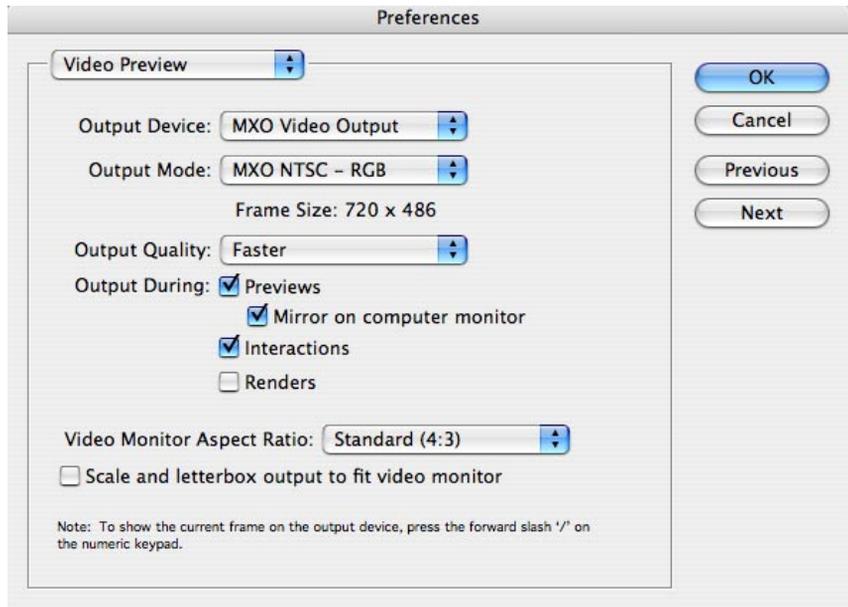
- 1 Start Final Cut Pro and choose **View > Video Playback**.
- 2 Select the MXO setting that matches your project's sequence setting. For example, if you're working with an NTSC project, select **MXO NTSC – YUV (720 × 486)**. Once you've selected an MXO setting from the video playback menu, **MXO Audio** will be automatically enabled in the **Audio Playback** menu.
- 3 Ensure that Mastering mode is enabled by choosing **View > External Video > All Frames**.

## Remarks

- The **MXO Audio** setting will not work unless you have an MXO setting selected from the **Video Playback** menu.
- If the **External Video** option is off in the **Video Playback** menu, you will not be able to monitor your audio through Matrox MXO. In order to hear your audio, you must choose a device other than **MXO Audio** from the **Audio Playback** menu.

## Specifying settings for Adobe After Effects

- 1 Start Adobe After Effects and choose **After Effects > Preferences > Video Preview**.



- 2 From the **Output Device** menu, select **MXO Video Output**.
- 3 From the **Output Mode** menu, select the setting that matches the format of your project. For example, if you're working with an NTSC project, select **MXO NTSC - RGB**.
- 4 Click **OK** to save your settings.

## Ensuring accurate printing to tape using Final Cut Pro

In order to perform an accurate print-to-tape using Final Cut Pro with Matrox MXO, you may need to adjust the **Playback Offset** value in the **Device Control Preset Editor**.

⇒ **To adjust the Playback Offset value:**

- 1 Start Final Cut Pro and choose **Final Cut Pro > Audio/Video Settings**, and then click the **Device Control Presets** tab.
- 2 Select the preset for your device, click **Edit** or **Duplicate**, and then click **OK**.
- 3 You can now adjust the value in the **Playback Offset** box.



**Note** To avoid having black frames recorded at the end of an insert edit, make sure that **Editing** (instead of **Mastering**) is selected in the **Edit to Tape** window. To do this, choose **File > Edit to Tape**, and then select **Editing** from the pop-up menu at the top of the window.

# A

## **Matrox MXO Specifications**

This appendix provides specifications for your Matrox MXO box.

# Matrox MXO box specifications

## General

<b>Video standards</b>	NTSC, PAL, NTSC-EIAJ, 720p, and 1080i
<b>Regulatory compliance</b>	FCC Class A, CE Mark Class A, C-Tick Mark, VCCI RoHS Directive 2002/95/EC
<b>Dimensions</b>	134mm (L) × 161mm (W) × 45mm (H)
<b>External AC/DC adapter</b>	100-240 VAC 50-60 Hz Input: IEC320-C8 inlet Output: +5V DC, 3A max., 2.5mm barrel type
<b>Total power consumption</b>	10 watts

## Connections

<b>DVI input and output</b>	DVI-I (single-link) 29-pin female connector
<b>Genlock reference input</b>	SD analog black burst (bi-level) or HD tri-level sync BNC connector (75 Ω), terminated
<b>SDTV SDI output</b>	SD-SDI with 8 channels of embedded SDI audio 24-bit, 48 kHz BNC connector (75 Ω) Compliant with SMPTE 259M-C, SMPTE 272M
<b>SDTV S-Video &amp; composite video output</b>	PAL, NTSC, NTSC-EIAJ Frequency response: +/- 0.25 dB max to 5 MHz 2T pulse response: 0.5% max Diff. Gain and Diff. Phase: < 2% BNC connectors (75 Ω)
<b>SDTV analog component video output</b>	Betacam, Betacam SP (NTSC & NTSC-EIAJ) SMPTE/EBU N10 (PAL) Frequency response Y: +/- 0.25 dB max to 5 MHz Frequency response Pb, Pr: +/-0.2 dB max to 2 MHz Component channel delay: +/- 3ns Component S/N (Y, Pb, Pr): > 54 dB, unified weighted BNC connectors (75 Ω)
<b>HDTV SDI output</b>	HD-SDI with 8 channels of embedded SDI audio 24-bit, 48 kHz Compliant with SMPTE 292M, SMPTE 299M BNC connector (75 Ω)

**HDTV analog component****video output**

Supported video formats: 720p and 1080i  
 Compliant with EIA-770.3  
 Frequency response Y: +/- 0.3 dB max to 28 MHz  
 Frequency response Pb, Pr: +/-0.4 dB max to 14 MHz  
 Component channel delay: +/- 0.5ns  
 Component S/N (Y, Pb, Pr): > 57 dB, unified weighted  
 BNC connectors (75  $\Omega$ )

**Analog stereo line out**

Left and right RCA connectors  
 4.35 Vp-p (+6 dBu) maximum output level

**Analog stereo loop through**

Input: Stereo 3.5mm female connector on MXO cable  
 Output: Stereo 3.5mm male connector on MXO cable  
 4.35 Vp-p (+6 dBu) maximum input/output levels

**Other**

USB 2.0 type B connector  
 2.5mm DC power jack

**Environmental specifications**

- Minimum/maximum ambient operating temperatures: 0 to 45° C
- Minimum/maximum storage temperature: -40 to 75° C
- Maximum altitude for operation: 3,000 meters
- Maximum altitude for transport: 12,000 meters
- Operating humidity: 20 to 80% relative humidity (non-condensing)
- Storage humidity: 5 to 95% relative humidity (non-condensing)

## Your notes

# B

## **Matrox MXO Customer Support**

This appendix explains how you can register your Matrox MXO and obtain customer support.

## How to get Matrox MXO Customer Support

If you have a problem that you're unable to solve by referring to your Matrox MXO documentation, please contact your Matrox MXO representative. He or she should be able to help you quickly correct any installation or system configuration problem.

If your representative is unable to solve your problem, contact Matrox for further information and assistance.

### Registration

You can register your Matrox MXO in the Matrox MXO Support section of our website at [www.matrox.com/video/support](http://www.matrox.com/video/support).



**Important** Only registered users are entitled to customer support, software updates, special promotional offers, and access to our MXO user forum at <http://forum.matrox.com/mxo/>.

### Keep up to date with our website

In addition to registering your Matrox MXO, our website offers you up-to-the-minute information about Matrox products, software updates, and access to our support databases. Be sure to place our site in your favorites or bookmarks: [www.matrox.com/video/support](http://www.matrox.com/video/support).

### Contacting us

Matrox is proud to offer worldwide customer support. Please use the Matrox MXO contact information for your area as provided on our website at [www.matrox.com/video/support](http://www.matrox.com/video/support).

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# Compliance Statements

## 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 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 equipment and other peripherals is required to meet FCC requirements.

## Canada

### (English) Industry Canada Compliance Statement

Remark for the Matrox hardware products supported by this guide

These digital devices do 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 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 A prescrites dans le Règlement sur le brouillage radioélectrique édicté par Industrie Canada.

## Europe

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

Remark for the Matrox hardware products supported by this guide



These devices comply with EC Directive 89/336/EEC for a Class 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 equipment and other peripherals.

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

Remarque sur les produits matériels Matrox couverts par ce guide

Ces unités sont conformes à la directive communautaire 89/336/EEC pour les unités numériques de classe 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 l'équipement et ses périphériques doivent être blindés.

### (Deutsch) Information für europäische Anwender – Konformitätserklärung

Anmerkung für die Matrox Hardware-Produktunterstützung durch dieses Handbuch

Diese Geräte entsprechen EC Direktive 89/336/EEC für ein digitales Gerät Klasse 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 ausrüstung und anderer Peripheriegeräte abgeschirmte Kabel verwendet werden.

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

Nota per i prodotti hardware Matrox supportati da questa guida

Questi dispositivi sono conformi alla direttiva CEE 89/336/EEC relativamente ai dispositivi digitali di Classe 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, l'apparecchiatura e le altre periferiche vanno collegati con cavi schermati.

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

Observación referente a los productos de hardware de Matrox apoyados por este manual

Estos dispositivos cumplen con la directiva de la CE 89/336/EEC para dispositivos digitales de Clase 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 equipo y demás periféricos.



[www.matrox.com/video](http://www.matrox.com/video)