

ENGLISH



Matrox® Maevex™ 6020 Remote Recorder

User Guide

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Matrox safety information



To ensure safe and reliable operation of your Matrox product, to avoid personal injury, and to prevent damage to your computer or Matrox hardware, read the following guidelines.

Installation and operation

- Read and retain all instructions. Only use your Matrox product according to the instructions, operating ranges, and guidelines provided in the Matrox user guide and other related Matrox documentation. Failure to follow these instructions could result in damage to your product or injury to the user or installer.
- Don't expose your Matrox product to rain, water, condensation, or moisture.
- Your Matrox product (card or unit) can become hot while operating. Always turn off your computer, unplug it, then wait for it to cool before touching any of the internal parts of your computer or installing your Matrox card. Allow hot surfaces to cool before touching your Matrox unit. 
- Static electricity can severely damage electronic parts. Before touching any electronic parts, drain static electricity from your body (for example, by touching the metal frame of your computer).
- When handling a card, carefully hold it by its edges and avoid touching its circuitry.
- Don't stack devices or place devices so close together that they're subject to recirculated or preheated air.
- Don't operate your system or Matrox product near a heat source or restrict airflow to your system, and make sure the ambient temperature doesn't exceed the maximum recommended temperatures. Don't block ventilation holes on your unit or system.

If a power supply (internal or external) was included with your product

- Don't place the external power supply directly on top of the device.
- Only use power supplies originally supplied with the product or use a replacement that's approved by Matrox. Don't use the power supply if it appears to be defective or has a damaged chassis.

- Don't defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug doesn't fit into your outlet, consult an electrician to replace the obsolete outlet.
- Make sure that nothing rests on the power cables and that the cables aren't located where they can be stepped on, pinched, or tripped over.
- Don't use damaged power cables.
- Unplug your system or device during lightning storms or if unused for long periods of time.

If your product includes laser-based technology

- The device contains a Class 1 laser product for use only under the recommended operating conditions and guidelines. For more information, see your Matrox user guide.
- Invisible laser radiation may be emitted from disconnected fibers or connectors. Don't stare into beams or view directly with optical instruments.
- Only use optical transceivers originally supplied with the product or use a replacement that's approved by Matrox.
- For more information on laser support and compliance, see your Matrox user guide.

If your product includes a battery

- The battery is non replaceable.
- To dispose of your product, see www.matrox.com/environment/weee.



Repair

- Don't attempt to open or repair a power supply unit (if one was supplied).
- Don't attempt to open or repair your Matrox product.
- If there's a fault with your Matrox product, review your Matrox warranty for more information.

Overview

Thank you for purchasing a Matrox Maevox 6020 Remote Recorder. Your Matrox Maevox 6020 product is a dedicated multi-encoder and multi-recorder device designed specifically for the Panopto™ online video management platform.

Hardware supplied*

- Maevox 6020 remote recorder device, 1 power supply

Hardware required (sold separately)

- Network cable (CAT 5, 5e, 6, or 7)
- Shielded HDMI® cable or certified high-speed HDMI cable

Optional hardware (sold separately)

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

- Kuando™ Busylight
- Analog audio cable
- Microphone
- HDMI cable or adapter (for your monitor type)
- DisplayPort cable or active adapter (for your monitor type)†

More information

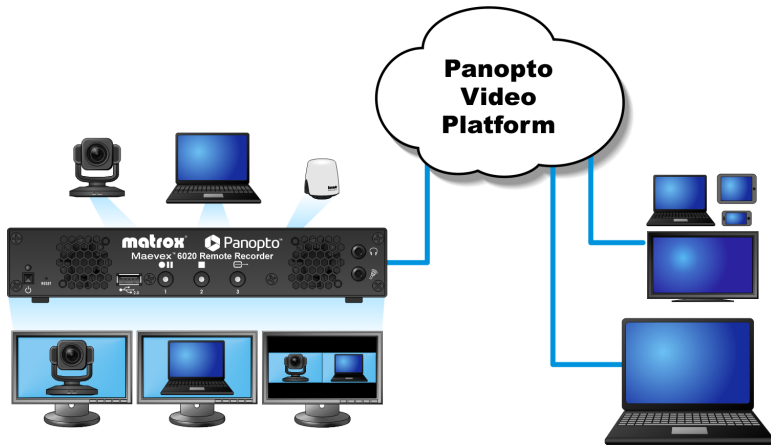
- **Matrox hardware** – Your Matrox user guide provides information on connecting and configuring your Matrox hardware. Be sure to check for any last-minute release notes included with your product. Also, check the Matrox web site (www.matrox.com/graphics) for the latest Matrox software and product information.
- **Panopto software** – For more information on scheduling and managing your recordings, see your Panopto documentation.

* 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.

† Only active adapters (sold separately) are supported. Passive adapters aren't supported.

Getting started

Maevox 6020 Remote Recorder provides hardware streaming and recording technology that's integrated into the Panopto™ cloud video platform. Your Maevox device has two (2) Full HD channels of live video that can be used simultaneously. Each channel of live video can have up to five (5) recordings being recorded simultaneously, and uploaded to the Panopto cloud for immediate delivery, video-on-demand (VOD), or later transmission.



Before you begin

We recommend you have the following:

- IP address or host name for your remote recorder
- NTP (Network Time Protocol) server
- DHCP (Dynamic Host Configuration Protocol) server
- DNS (Domain Name System) server
- System running Microsoft® Windows®
- One output device (monitor) for previewing your recording session
- Camera or video source
- Panopto account

Setup overview

To set up your Matrox product:

- 1 Connect your product – see “Connecting your Maevox remote recorder”, page 9.
- 2 Validate your setup – see “Validating your Maevox setup”, page 15.
- 3 Configure your product – see “Configuring your Maevox remote recorder”, page 17.
- 4 Manage your recordings – see “Managing your recordings”, page 26.

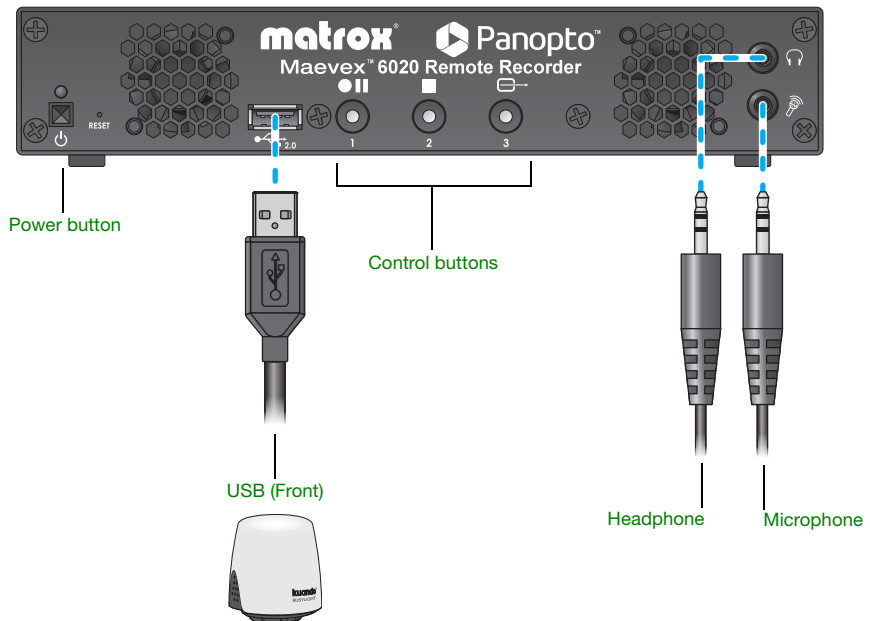
Connecting your Maevox remote recorder

Before you begin

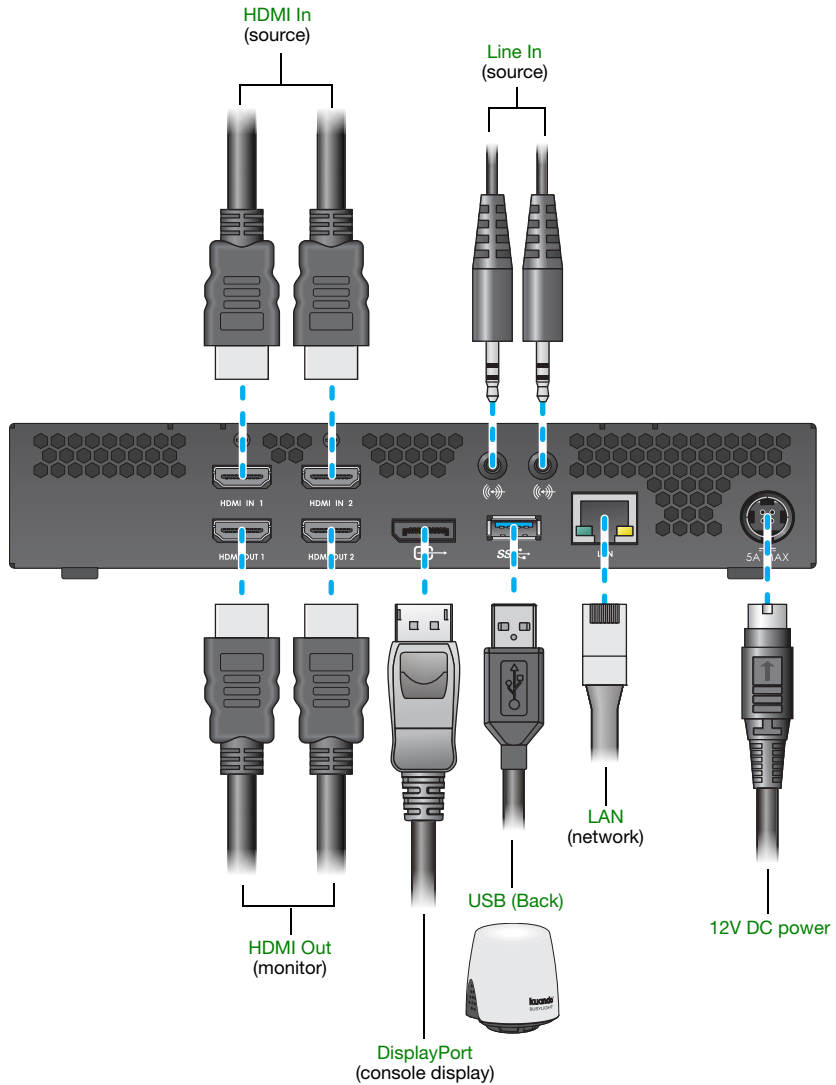
- Whenever you change your connection setup, make sure you're using the correct connectors and that all connectors are properly fastened.
- Don't change input connections while your Maevox device is turned on. If connections are changed while your Maevox device is turned on, your video sources will be lost.
- Review the safety information provided. For more information, see [“Matrox safety information”](#), page 5.

Connection overview



Maevox 6020 remote recorder (Front)



Maevex 6020 remote recorder (Back)



Description of supported connections

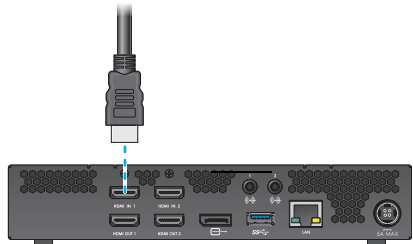
Connector	Description
12V DC power	Connect the 12V DC power supply included with your product to this connector. While the 12V DC power supply is connected to the device and electrical socket, the power LED () is active (not black). For more information on LEDs, see “Description of LEDs”, page 15 .
Control buttons	Use these buttons to manually control the recording process. For more information, see “Understanding the control buttons”, page 13 .
DisplayPort	Optional – Connect a DisplayPort monitor to this connector to use as a console display. You can use a console display to preview your video source and what’s being recorded. Note: Your DisplayPort monitor must support a resolution of 1280 × 720. For more information, see “Notes and limitations”, page 34 .
Headphone	Optional – Connect your headphones to this jack.
HDMI In	Connect your camera or video source to this connector. Note: To connect to this connector, you need a shielded HDMI cable.
HDMI Out	Connect a digital monitor to this connector. Note: To connect to this connector, you need a shielded HDMI cable.
LAN	Connect a network cable to this connector.
Line In	Optional – Connect the analog audio output of your video source to this jack.
Microphone	Optional – Connect your microphone to this jack. Note: Audio priority is given to the microphone connector. For more information, see “No audio”, page 30 .
Power button	Use the power button () to power your device on or off. For more information, see Powering your device on and off .
USB (Front)	Connect your Kuando™ Busylight UC Omega device either to the USB 2.0 connector (front) or to the USB 3.0 connector (back) on your MaeveX device.
USB (Back)	

Step-by-step connection setup

This section guides you through the step-by-step connection setup of your Maevex 6020 remote recorder.

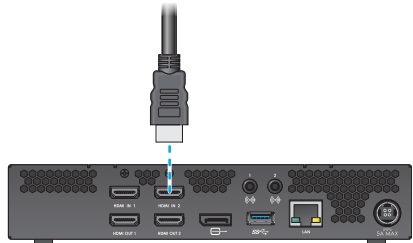
1 Connect your camera

Connect your camera to the **HDMI In 1** connector on your remote recorder unit.



2 Connect your video source

If you're using a video source (such as a laptop), connect your video source to the **HDMI In 2** connector on your remote recorder unit.

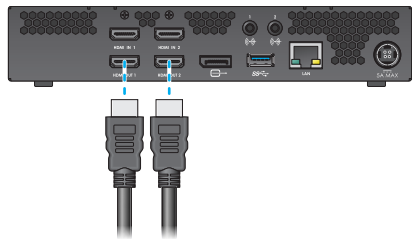


3 Connect your monitor

Connect the monitor cable to the **HDMI Out 1** connector on your remote recorder unit.

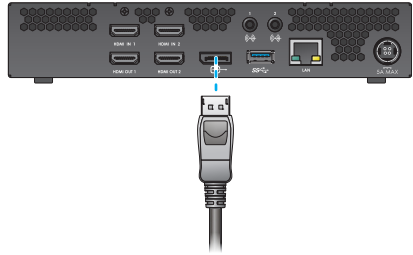
If you're connecting a second monitor, connect the monitor cable to the **HDMI Out 2** connector on your remote recorder unit.

If your monitor doesn't support HDMI output, use an HDMI adapter to connect your monitor to your remote recorder unit.



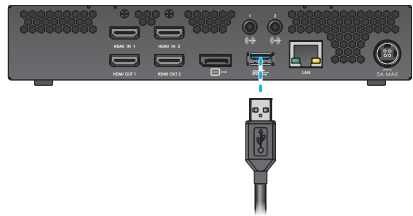
4 Connect your console display (optional)

If you're connecting a console display to your unit, connect the monitor cable to the **DisplayPort** connector on your remote recorder unit.



5 Connect your USB device (optional)

If you're connecting a Kuando™ Busylight UC Omega device to your unit, connect the USB cable to the **USB (Front)** connector on your remote recorder unit.



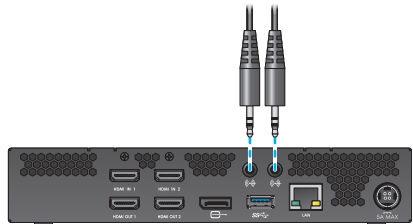
6 Connect to your network

Connect a network cable to the **LAN** connector on your remote recorder unit.



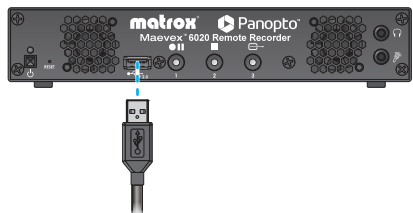
7 Connect your analog audio input (optional)

Connect the analog audio output of your video source to the **Line In** (⚡) connector on your remote recorder unit.



8 Connect your USB device (optional)

If you're connecting a Kuando™ Busylight UC Omega device to your unit, connect the USB cable to the **USB (Back)** connector on your remote recorder unit.



9 Connect your headphone or microphone (optional)

Connect your headphone to the **Headphone** (🎧) connector on your remote recorder unit.

Connect your microphone to the **Microphone** (🗣️) connector on your remote recorder unit.



Note: Audio priority is given to the microphone connector. For more information on audio priority, see “No audio”, page 30.

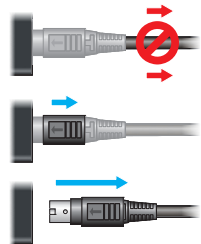
10 Connect your power supply

Connect your power supply included with your product to the **12V DC** connector on your remote recorder unit. While the 12V DC power supply is connected to the unit and electrical socket, the power LED (⏻) is active (not black).

For more information on LEDs, see “Description of LEDs”, page 22.



WARNING: To avoid damaging the power connector on your unit or on your power cable when unplugging a unit, firmly hold the power connector, pull back the connector on the cable, then carefully remove the power cable.



Powering your device on and off

To power on or off your device, press the (⏻) button on your device.

After connecting your MaeveX remote recorder, validate your connection setup (see “Validating your MaeveX setup”, page 15).



Validating your Maevox setup

After connecting your Maevox devices, we recommend you validate your connection setup and network discovery before you continue.

Connection checklist

After connecting your Maevox device, we recommend you validate your audio and video connections before you continue:

- Audio connection** – Connect headphones to the **Headphone** jack on your remote recorder.
- Video connection** – Connect a console display to the **DisplayPort** connector on your remote recorder.

Description of status LEDs

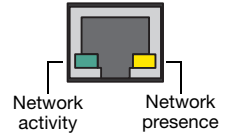
The LED on your Maevox device provides information to help you troubleshoot your Maevox product. The following describes the LED on your Maevox device.



LED color	Maevox 6020 remote recorder
No LED (black)	Device isn't powered.
Green (solid)	Device is active.
Green (slow blink)	Device is rebooting.
Green (fast blink)	Configuration reset in process.
Amber (solid)	Device is in maintenance mode.
Amber (slow blink)	Device is restarting and is in maintenance mode.
Amber (fast blink)	Device is updating the firmware.
Red (solid)	Device has detected a fatal error. Try powering your device off and on (see “Powering your device on and off” , page 14). If, after restarting your device, the LED is still red, contact your vendor for technical support (see “Customer support” , page 38).

Network connector

The network connectors on your product use LEDs to provide information on the network activity and presence. The following describes the different network connector LEDs.



LED color	Network activity	Network presence
LED off (black)	No data transfer in progress or no network detected.	No communication established.
Green (flashing)	Data transfer in progress.	—
Orange	—	Network communication established.

Validating network discovery

Maevex devices are initially assigned their IP addresses through DHCP (Dynamic Host Control Protocol). After connecting your devices, we recommend verifying that all of your devices are discovered by the network. For more information, contact your network administrator.

Multiple subnet support

Maevex devices that are in the same subnet are detected through the UPnP (Universal Plug and Play) protocol. If your devices are in different network subnets, you need to validate network discovery in each subnet separately. For more information on using different subnets, contact your network administrator.

After validating your connection setup, configure and update your Matrox Maevex remote recorder (see [“Configuring your Maevex remote recorder”](#), page 17).

Configuring your Maevox remote recorder

This section describes how to configure and update your Matrox Maevox remote recorder.

Before you begin


- Make sure you connect your product *before* configuring it. For more information on connecting your product, see [“Connecting your Maevox remote recorder”](#), page 9.
- You may need administrator rights to install or uninstall certain software. For more information, see Windows documentation or contact your system administrator.
- Make sure you have an NTP (Network Time Protocol) server. For more information, contact your network administrator.
- Make sure you have a Panopto account. For more information, contact your Panopto administrator.
- Windows Server 2016, Windows Server 2012, and Windows Server 2012 R2 – Make sure the SSDP Discovery service, network discovery, and file sharing options are enabled.
- Make sure you’re using the *Matrox Maevox 6020 Configuration and Firmware Utility* on a system that’s running Microsoft® Windows®.
- Make sure you have a recorder registration key from Panopto. For more information, see [“Obtaining a registration key for your remote recorders”](#), page 18.

Assigning an IP address or a host name

To locate a remote recorder, Matrox software uses the device IP address through UPnP or the host name through a DNS server. For more information on which network protocol you should use contact your network administrator.

Obtaining a registration key for your remote recorders

To configure your remote recorder, you need a registration key from Panopto:

- 1 Sign in to the Panopto server as an administrator.
- 2 Click **System** →  **Remote Recorders** → **Manage registration keys** → **Create a new registration key**.
- 3 Take note of your registration key. The same registration key can be used for multiple recorders.

Downloading your Matrox MaeveX 6020 Configuration and Firmware Utility

Matrox makes the latest software available on the Matrox web site (www.matrox.com/graphics/en/support/drivers/).



Running your configuration and firmware utility

Run the *MVX-6020_Setup-FW_Util.msi* program locally (not over a network) on a system running Microsoft® Windows® and follow the on-screen instructions.

This installs the *Matrox MaeveX 6020 Configuration and Firmware Utility*.

Silent installation

For information on the silent installation and remote installation of firmware updates, contact Matrox technical support (maevexsupport@matrox.com).

Understanding your configuration and firmware utility

Your Matrox MaeveX 6020 configuration and firmware utility guides you through the steps to *enter a device password* for (step 1), *search* for (step 2), and *configure and update* (step 3) your MaeveX 6020 devices.

The screenshot shows the configuration utility interface with three numbered steps:

- 1 Enter device password**: A text input field labeled "Enter password" and a button labeled "Enter password".
- 2 Search for devices**: Radio buttons for "Automatic detection" (selected) and "Manual detection". Below is a text input field for "Address or URL" and a "Search" button.
- 3 Configure devices**: A button labeled "Options..." and a button labeled "Update".

The right side of the interface displays a list of discovered devices:

Serial number	Address or URL	Firmware version
CB55739	192.168.152.216	2.00.00.065
A554941	192.168.155.219	2.00.00.065
CB67449	192.168.167.134	2.00.00.065
CB55745	192.168.152.20	1.00.02.037
A358806	192.168.155.171	2.00.00.065

At the bottom, a status bar indicates: "5 devices found, 3 devices selected for an update."

Configuration overview

To configure your devices:

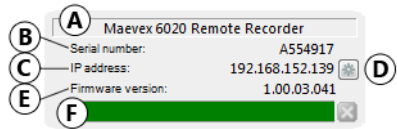
- 1 Enter device password** – Enter a password for your MaeveX devices (see “Enter device password”, page 21).
- 2 Search for devices** – Search for the MaeveX devices to configure and update by selecting **Automatic detection** or **Manual detection** (see “Search for devices”, page 22).
- 3 Configure devices** – Configure your device settings (such as your Panopto™ account, your proxy server, and the date and time settings of your MaeveX devices), and update the firmware of your devices (see “Configure devices”, page 23).



WARNING: For your configuration settings to be properly applied, you must **Update** your devices (complete step 3).

Understanding your device tile







The tile provides the following information about your device.



A	Device name.
B	Device serial number.
C	IP address.
D	Advanced options for your device. For more information, see “Device settings” , page 24.
E	Firmware version.
F	Device status. For more information, see “Understanding your device status” , page 20.

Understanding your device status

Depending on the status of a device, the color of the status bar changes:

Detected (Green) 	Device is detected and firmware is up to date.
Updating (Yellow) 	Device update in progress.
View only (Orange) 	Device information can be viewed, but not modified. (Device isn't detected, device is locked or unauthorized, or the firmware is out of date). For more information, see “Using your configuration and firmware utility” , page 21.
Error detected (Grey) 	Device has encountered an error. The status and information of the device can't be updated. To fix this, try rebooting your device.
Update failed (Red) 	Device update has failed. To fix this, try rebooting your device.
Undetected (Black) 	Device can't be detected. When a device is no longer detected, the tile lists the last known IP address of that device. To fix this, review your settings and search for your devices again.

Managing your device tiles

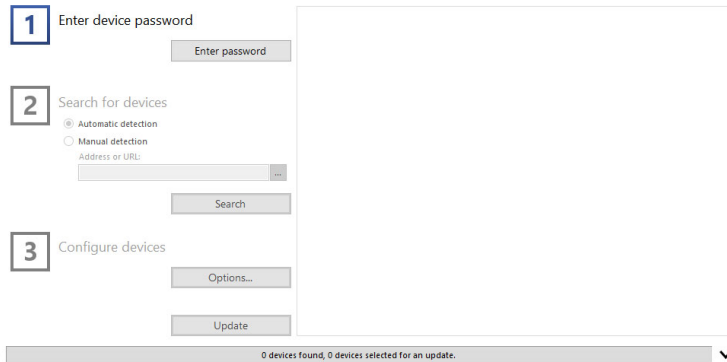
To access the shortcut menu, right-click your device tile. The menu items include:

Sort by	Sort the device tiles listed by Product name , Serial number , IP address , and Updated status .
Unselect all devices	Unselect all the devices listed.

Progress update

To see the progress of your device search or update, click the **Show log** (▼) icon at the bottom of the program window.

Using your configuration and firmware utility



1 Enter device password

Enter a password for your Maevox devices. This prevents unauthorized users from making changes to your device.

Enter password Click **Enter password** to assign a password to your devices. When you're done, click **OK**.

1 Enter device password

Enter password



Note: We strongly recommend you take note of the password entered. You will need this password to update or change the configuration of your device.

2

Search for devices

Search for the Maevox devices to configure and update by selecting **Automatic detection** or **Manual detection**.

Automatic detection To search for the Maevox devices on your subnet, select **Automatic detection**.

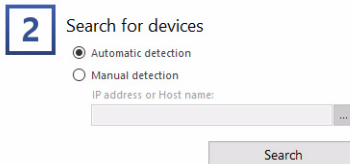
To start searching for devices, click **Search**.

Manual detection If devices aren't automatically detected, you can manually locate one or more Maevox devices using their IP address or host name. To manually locate the devices, select **Manual detection**, and then enter the IP address or DNS host name of each Maevox device you want to locate.

If you're entering multiple addresses, separate each address with a space. (You can also enter the IP addresses or host names by clicking the browse button (⋮) and entering one IP address or host name per line.)

When you're done, click **Apply**. To discard the last changes made, click **Cancel**.

To start searching for devices, click **Search**.

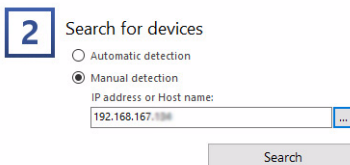


2 Search for devices

Automatic detection
 Manual detection

IP address or Host name:

Search

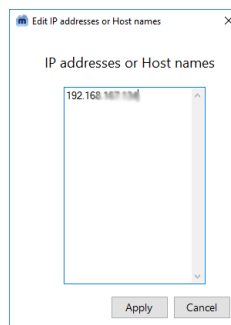


2 Search for devices

Automatic detection
 Manual detection

IP address or Host name:

Search



Edit IP addresses or Host names

IP addresses or Host names

192.168.167.138

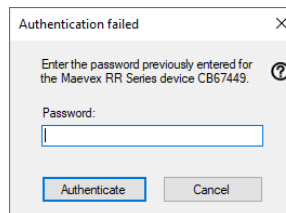
Apply Cancel

Stopping the search Searching for the Maevox devices on your network may take a few minutes. Once your device or devices are located, you can stop the search. To stop searching for devices, click **Stop**. To resume searching for devices, click **Search** again.

Authenticate the devices found

If you enter a different password for the Maevox devices found, you may be prompted to authenticate the devices found.

If prompted, enter the **Password** for the devices found, then click **Authenticate**.



Authentication failed

Enter the password previously entered for the Maevox RR Series device CB67449.

Password:

Authenticate Cancel

3

Configure devices

Enter your Panopto™ account information, and configure the **Advanced settings** (such as your proxy server, and the date and time settings) of your Maevox devices.

To configure your devices, click the **Options** button.

Panopto account Enter your Panopto account information (**Site name** and **Recorder registration key**).

Panopto account

Site name:
Example: customer.hosted.panopto.com

Recorder registration key:

Additional options To lock the record button on your Maevox device, click **Lock recording button (no manual recording)**. This prevents users from recording manually (see “[Starting a recording manually](#)”, page 26).

Additional options

Lock recording button (no manual recording)

To apply your changes, click **OK**. To discard the last changes made, click **Cancel**.

Advanced settings

To view and edit your advanced settings (such as proxy and NTP server settings), click **Advanced settings**.

Proxy configuration If your Maevox devices are behind a proxy server, you must set a proxy.

Enable the **Set a proxy** option, then enter the proxy settings (**Server**, **Port**, **User name**, and **Password**) for your system.

For more information, contact your network administrator.

Proxy configuration

Set a proxy

Server:

Port:

User name:

Password:

Date and time The default NTP server name is *time.matrox.com*. If you have your own NTP server, enter the name of your server.

Date and time

NTP server:

To apply your changes, click **OK**. To discard the last changes made, click **Cancel**.

Updating your devices

Select the devices you want to update. If the utility detects a device that has an older firmware version, that device is automatically selected to be updated.

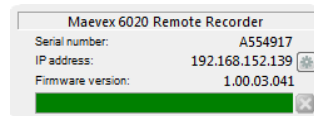
You can only select devices that have been authenticated (see “Authenticate the devices found”, page 22). Authenticated devices have a green status bar. Unauthenticated devices have an orange status bar.

To update the firmware of your devices and apply any changes made to your configuration, click **Update**. Wait while the devices are being updated (up to 10 minutes).

Device settings

To access additional settings for your device:

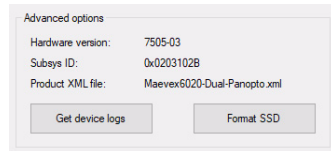
- 1 From the list of detected Maevox 6020 devices, select the tile of the device you want to modify.
- 2 Click the **Settings** button (⚙️) next to the **IP address**.



Getting your device logs

The device logs contain information on your Maevox 6020 device. This information is useful for troubleshooting purposes.

To download the logs for your device, click **Get device logs**.



Formatting the SSD

To format the internal solid state drive (SSD) on your device, click **Format SSD**.



WARNING: Formatting the SSD permanently erases all recordings from this device. Any recordings that haven't been uploaded to the Panopto server will be lost.

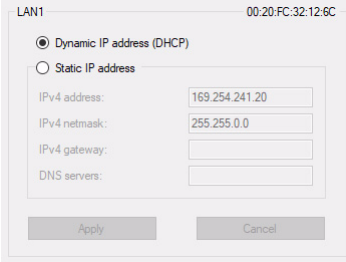
Assigning a static IP address to your device

By default, your Matrox device is configured to use a **Dynamic IP address (DHCP)**. You can manually assign a static IP address to your device through the network settings of your Maevox product.

1 Select **Static IP address**, then specify the **IPv4 address, IPv4 netmask, IPv4 gateway, and DNS servers** for your Maevox device.

2 When you're done, click **Apply**.

For your devices to be detected, you may need to search for the devices again.



LAN1 00:20:FC:32:12:6C

Dynamic IP address (DHCP)

Static IP address

IPv4 address: 169.254.241.20

IPv4 netmask: 255.255.0.0

IPv4 gateway:

DNS servers:


Apply Cancel

More information on network settings

- **IPv4 address** – An IP address between 192.168.0.0 and 192.168.255.255 (recommended). Also, we recommend you assign an IP address within the subnet of your network.
- **IPv4 netmask** – The subnet mask defining group of IP addresses in your subnet. By default, the subnet mask is 255.255.255.0.
- **IPv4 gateway** – The gateway is often the same as your IP address, but the last byte may be 0 or 1.
- **DNS servers** – The address of your DNS (Domain Name System) server or servers. If you're entering multiple addresses, separate each address with a space.

For more information on assigning a static IP address, contact your network administrator.

Verifying your Panopto settings

- 1** Sign in to the Panopto server as an administrator.
- 2** Click **System** →  **Remote Recorders**, then configure your remote recorder settings.

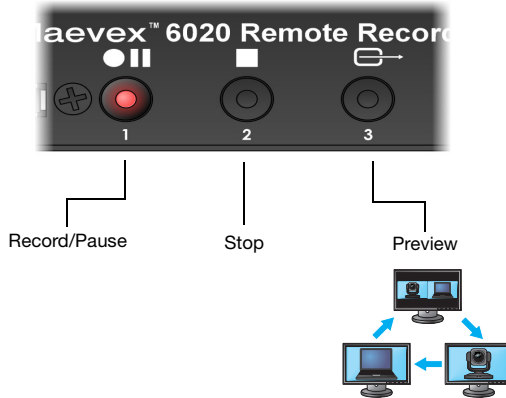
For more information, go to <http://support.panopto.com>, search for *remote recorders*, and look for the article titled *Remote Recorder Configuration and Quality Settings*.




After configuring your Maevox remote recorder, you can start recording (see “[Managing your recordings](#)”, page 26).

Managing your recordings

Starting a recording manually

Your Maevox device enables you to manually start a recording. Use the three (3) buttons on the front of the device to manually control the recording process.



Button	Description
 Record/Pause	<ul style="list-style-type: none">▪ Record – To start a recording, press this button. When the recording starts, the button LED turns solid red.▪ Pause/Unpause – To pause or unpause a recording, press this button again. When the recording is paused, the button LED turns blinking red.
 Stop	Press this to stop recording.
 Preview	Press this to cycle through the preview modes. The preview modes enable you to view what's being recorded, your video source, or both. For more information, see “Choosing a preview mode” , page 27.

Locking the record button

You can use the *Matrox Maevox Remote Recorder Configuration and Firmware Utility* to lock the **Record** button on your Maevox device. Locking the record button prevents users from recording manually. For more information, see [“Configure devices”](#), page 23.

Scheduled recording rules

Scheduling a recording through Panopto software affects the functionality of the recording buttons on your Maevox device:

Up to 15 minutes before the start of a scheduled recording	Only the Pause and Stop buttons work.
At the start of a scheduled recording	If a scheduled session is running, the current manual recording is stopped.
During a scheduled recording (session is running)	Only the Pause button works.

Choosing a preview mode

Your Matrox device supports the following three preview modes.

Primary preview The primary preview enables you to view what's being recorded.



Secondary preview The secondary preview enables you to view your video source information (for example, a slideshow or video).



Side-by-side preview The side-by-side preview enables you to view both the primary preview and secondary preview in a side-by-side view.



Viewing your device status information

When you cycle through the preview modes, certain status information may appear on your screen, such as the:

- Preview mode selected
- Connection status
- Serial number and IP address of the device
- Recording notification (red circle indicates the device is recording)

- Volume meter
- Internal SSD space used

Uploading your sessions to the Panopto server



Note: The recording buffer of the internal SSD has a capacity of approximately 18 hours (before upload to the Panopto server) when the video quality settings are set to maximum values and the target resolution is 1920 × 1080 60 fps. If more recording time is required, we recommend reducing the primary and/or secondary video quality settings through your Panopto software. For more information on adjusting video quality settings, see Panopto documentation.

Once connected to the Panopto server, your Maevox remote recorder automatically uploads your recording sessions to the Panopto video platform.

Managing your sessions on the Panopto server

Use Panopto software to create, schedule, and manage your recording sessions. For more information, see your Panopto documentation.

Troubleshooting

What to do if you have a problem

If you experience problems with your Matrox product:

- Make sure your Matrox device is properly connected, 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.
- Verify the LEDs on your MaeveX device (see [“Description of status LEDs”](#), page 15).
- Review the status information of your MaeveX device (see [“Viewing your device status information”](#), page 27).
- Try rebooting your device (see [“Powering your device on and off”](#), page 14). If rebooting your device doesn't work, you may need to perform a configuration reset of your device (see [“Resetting your device”](#), page 31).

If your problem persists, contact Matrox. For more information, see [“Customer support”](#), page 38.

Common problems and solutions

This section addresses specific problems to your Matrox product that could prevent you from using your system or product.

Problem MaeveX device can't connect to Panopto video platform

Cause Your Panopto user credentials are incorrect.

Solution Contact your Panopto administrator to verify the user credentials for your Panopto account.

Cause The firewall for your system or network may be enabled and may prevent communication with your MaeveX devices.

Solution Make sure your firewall is properly configured to allow the necessary communication between your MaeveX devices and the various networked components. For more information, see [“Appendix A – Firewall requirements”](#), page 35.

Problem Maevox device not discovered on the network

Cause Your Matrox product may not be properly connected or configured.

Solution Verify the status information of your Matrox product (see “Validating your Maevox setup”, page 15).

Cause Windows Server 2016/2012 R2/2008 R2 only – The Windows SSDP Discovery service may be disabled on your system.

Solution Make sure the SSDP Discovery service is enabled on your system.

Cause Network discovery and file sharing may not be enabled on your system.

Solution Enable network discovery and file sharing on your system.

Cause The firewall for your system or for your network may be enabled and may prevent communication with your Maevox devices.

Solution Make sure your firewall is properly configured to allow the necessary communication between your Maevox devices and the various networked components. For more information, see “Appendix A – Firewall requirements”, page 35.

Problem No audio (Can’t capture or play back audio)

Cause Your audio capture settings may be disabled or not properly selected.

Solution Verify your audio **Capture** settings through Panopto software. Make sure you enable your primary audio source (**Audio 1** or **Audio 2**). Depending on your settings, audio priority is given to the connectors in the following order:

Audio 1	<ul style="list-style-type: none"> ▪ Microphone ▪ Line In 1 ▪ HDMI In 1
Audio 2	<ul style="list-style-type: none"> ▪ Microphone ▪ Line In 2 ▪ HDMI In 2

For more information, see your Panopto software and documentation.

Problem Internal SSD buffer space is low or full

Cause The primary and/or secondary video quality settings are set to **1080p** (maximum value), with a target resolution of 1920 × 1080 60 fps.

Solution The recording buffer of the device's internal SSD has a capacity of approximately 18 hours (before upload to the Panopto server). To increase the total recording time, try reducing your video quality settings through Panopto software. For example, using **Ultra** quality settings increases the total recording time to 34 hours, and using **High** quality settings increases the total recording time to 48 hours. For more information on adjusting video quality settings, see Panopto documentation.

Problem RTMP bandwidth failure

Cause There may not be enough bandwidth available.

Solution Make sure your network and network equipment support the bandwidth required for your session. For more information, contact your network administrator.

Resetting your device

In some cases, you may need to perform a *configuration reset* of your Maevox 6020 device.



WARNING: A configuration reset restores the default settings of your Maevox 6020 device. This *resets all* of your device settings, including the IP configuration and password.

To restore the default settings of your Maevox 6020 device, press and hold the **Reset** button on your device with the tip of a paper clip for **5 seconds** (until the LED turns fast blinking green).

This reboots your device and restores the default settings of your device.



Product information

Specifications

	Maevex 6020 remote recorder
Product type	Standalone appliance
Form factor	1 RU, half width
System memory	2 GB
Video input connectors	2× HDMI Type A (with 16-bit stereo L-PCM audio)
Video output connectors	2× HDMI Type A (with 16-bit stereo L-PCM audio), and 1× DisplayPort (for console display)
Audio input connector (analog)	2× mini-stereo jacks
Audio output connector (headphone)	1× mini-stereo jack
Microphone input connector	1× mini-stereo jack
Networking interface	RJ45 Gigabit Ethernet
USB ports (Kuando™ Busylight support)	1× USB 2.0 (front), 1× USB 3.0 (back)
Supported resolutions (input and output)	Maximum 1920 × 1080 @ 60 Hz
Video encoding	H.264/MPEG-4 Part 10 (AVC), 4:2:0 (8-bit)
Streaming protocols	RTMP, RTMPS
Command protocols	UPnP, HTTP, HTTPS
Streaming to Panopto cloud	Up to 2× 1920 × 1080p60 RTMP live streams
Recording resolutions	Maximum 1920 × 1080p60 and up to 4 downscaled versions
Recording format	Fragmented MP4
Recording location	Panopto cloud (120 GB local SSD buffer)
Power requirements	+12V DC, maximum 5A (5A fuse for overcurrent protection)
Power connector	DIN 4 female (4-pin)
Power consumption*	Maximum: 38W Typical: 35W
Certifications	Class A: CE, FCC, ICES-3, KC, RCM, VCCI

* Excluding power drawn by external USB devices.

Product dimensions

Length	21.7 cm (8.53 inches)
Width/Depth	4.3 cm (1.68 inches)
Height	19.1 cm (7.52 inches)

External power supply

Input AC voltage range	100V to 240V AC
Input frequency	50 to 60 Hz
Input connector	IEC 60320-C13
Output voltage	+12V DC, 5A
Output connector	DIN 4 male (4-pin) with lock
Maximum power	60W

Environmental

Temperature, operational	0 to 45 °C (32 to 113 °F)
Temperature, non-operational storage and transportation	-40 to 70 °C (-40 to 158 °F)
Humidity, operational (indoor)	20% to 80% (non-condensing)
Humidity, non-operational storage and transportation	5% 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)

Supported standards

HDMI version 1.4b compatible	✓
DVI 1.0 compatible (using HDMI to DVI-D adapter)	✓
EDID (Extended Display Identification Data) 1.3 and VESA E-EDID Standard Release A, Revision 1	✓
USB 2.0 compatible	✓
USB 3.0 compatible	✓
VESA DisplayPort Standard, version 1.1	✓

Notes and limitations

- While using a console display, certain limitations may occur (for example, poor image quality or black borders around the screen). Also, for the splash screen to appear properly, your DisplayPort monitor must support a resolution of 1280 × 720.

Appendix A – Firewall requirements

The following are the firewall requirements for your Maevox device and firmware updater.

Firmware updater and configuration utility

The following are the firewall requirements for a system running the Matrox Firmware Updater and Configuration Utility.

Network Port	Type	Inbound	Outbound	Functionality
20,21	TCP	—	✓	FTP: File upload
22*	TCP	✓	✓	SSH: Firmware update
80	TCP	—	✓	HTTP: Authentication and firmware update
443*	TCP	—	✓	HTTPS: Authentication and firmware update
1900*	UDP	✓	✓	UPnP: Microsoft SSDP for discovery of UPnP devices

* Minimum requirements.

Maevox 6020 devices

The following are the requirements for a network firewall present on a network with a Maevox environment.

Network Port	Type	Inbound	Outbound	Functionality
20,21	TCP	✓	—	FTP: File upload
22*	TCP	✓	✓	SSH: Firmware update
123	UDP	✓	✓	NTP: Network Time Protocol
161	UDP	✓	✓	SNMP: Network management (public community string)
443	TCP	—	✓	HTTPS: File transfer and upload
1900*	UDP	✓	✓	UPnP: Microsoft SSDP for discovery of UPnP devices
1935	TCP	—	✓	RTMP/RTMPS: Streaming

* Minimum requirements.

Adding rules to your Windows Firewall settings



Note: You may need administrator rights to modify your Windows Firewall settings. For more information, see Windows documentation or contact your system administrator.

You may need to add rules to your Windows Firewall settings. For more information on accessing and adding rules to your Windows Firewall settings, see your Windows documentation.

Appendix B – Providing adequate airflow to your Maevox device

Because your device disperses heat, it requires adequate airflow to ensure proper operation and to prevent damage. The following provides guidelines for effective airflow around your device.

- **Leave the proper amount of room around your device** – To prevent airflow restriction, we recommend allowing *at least* 0.75 inches (1.91 cm) of clearance around your device, and between the top of your device and anything above it. More space may be required depending on your environment.

When your device is resting on a plain surface, make sure your device is resting on the original rubber feet.

- **Operate your device in a well ventilated location** – Don't operate your device near a heat source or restrict airflow to your device (for example, by operating your device inside a desk cabinet).
- **Monitor your ambient temperatures** – Make sure the ambient temperature doesn't exceed the maximum recommended temperatures.

For more information on supported operating temperatures, see [“Environmental”](#), page 33.

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.

View your warranty information

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

View the third party software notices

Matrox makes third party software notices and/or additional terms and conditions available on the Matrox site (<https://thirdpartylicenses.matrox.com>).

Register your Matrox product

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

Hot surface Allow hot surfaces to cool before touching your Matrox unit.

Surface chaude Laissez refroidir les surfaces chaudes avant de toucher votre appareil Matrox.

Battery replacement The battery is non replaceable. To dispose of your product, see www.matrox.com/environment/weee.

Remplacement des piles La pile n'est pas remplaçable. Pour se défaire du produit, voir www.matrox.com/environment/weee.



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 monitor to the card is required to meet FCC requirements.

CANADA

(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 présent 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.

JAPAN

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

KOREA

A 급 기기 (업무용 방송통신기자재)

이 기기는 업무용 (A 급) 전자파적합기기로서 판 매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

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



Remark for the Matrox hardware products supported by this guide These devices comply with EC Directive 2014/30/EU 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 2014/30/EU 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 2014/30/EU 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 Produkte 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 2014/30/EU 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 2014/30/EU 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.

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



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

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

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

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

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

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

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

FRANCE

Avertissement sur l'épilepsie

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

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

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

Précautions à prendre dans tous les cas pour l'utilisation d'un jeu vidéo Ne vous tenez pas trop près de l'écran.

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

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Matrox Graphics Inc.

1055 Saint Regis Boulevard
Dorval, Quebec, Canada H9P 2T4
(514) 822-6000

graphics@matrox.com
www.matrox.com/graphics

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