Matrox® ConvertIP Manager

Embedded HTML Help

Version 1.01

11582-401-0101 March 27, 2023



Overview

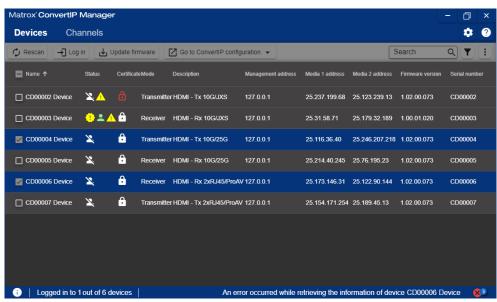
Matrox® ConvertIP ManagerTM is a configuration utility that allows you to view and configure the ConvertIP devices on your network. When you open ConvertIP Manager, the utility will automatically scan for and display ConvertIP devices on the same subnet using Multicast DNS.

There are two main pages in ConvertIP Manager: **Devices** and **Channels**. All the configuration tasks can be performed from the <u>Devices</u> and <u>Channels</u> pages. Some operations may require <u>user account permissions</u>. <u>More information</u> about your ConvertIP can be found at the bottom of both pages.

Note: This document is a PDF version of the embedded HTML help included with the Matrox ConvertIP Manager application.

Devices

The **Devices** page is where you see all the transmitter and receiver devices on your network. From here you can change a transmitter to a receiver or vice versa, update device firmware, navigate to a specific device's configuration page, create user accounts, and more.



You can view the **Devices** page without logging in to a device. However, to make any changes to a device, you will be prompted for your credentials.

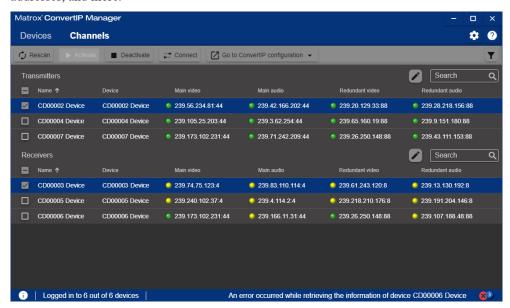
When you log in to a device, you will be automatically logged in to all devices that use the same log in credentials. Since a ConvertIP can hold only one active session. no automatic connection will be made if there is an active session for the device open somewhere else (for example, in ConvertIP's Web user interface). However, from the settings menu, you can choose to force log in even if there is another active session running.

Note the following:

- Simply having the ConvertIP Manager open will not force another active user off. That will only occur when you log in to a device. For example, you can view the devices and connections without logging in to any of them, and doing so will not force any other user off their device(s).
- When you are logged in, pressing **Rescan** will not log you out. However, if you restart the ConvertIP Manager, you will need to log in again.
- When you log in to multiple devices with different credentials, you can then switch between devices without having to log in again. For example, if you have 10 devices, five with one set of credentials and five with another, you only need to log in to them once. After that, you can manage any of the devices without having to log in to them each time (unless you close the ConvertIP Manager).

Channels

The **Channels** page is where you make the connections between your transmitters and receivers. You can also activate/deactivate devices, change the streaming addresses, and more.



You will not be able to see any devices on the **Channels** page unless you are logged in to those devices. The number of devices the ConvertIP Manager is logged in to is displayed at the bottom-left of the screen.

Note: When you are logged in, pressing **Rescan** will not log you out. However, if you restart the ConvertIP Manager, you will need to log in again.

User account permissions

You must <u>create an administrator account</u> for a device. If no administrator account was created, the device will have a factory default user.

The following table indicates which operations can be completed by a factory default user and an administrator (an administrator account is required).

| Operation | Default | Administrator |
|-----------------|---------|---------------|
| Update firmware | X | X |

| Create administrator credentials | X | |
|--|---|---|
| Change ConvertIP multicast addresses (not the Management IP, Media1 IP or Media2 IP) | | Х |
| Enable or disable a channel | | X |
| Connect a transmitter to receivers | | X |
| Change a receiver to a transmitter or vice versa | | X |
| Access the Web interface | | X |
| Install certificates | | X |

More information

You can find additional information about the status of the ConvertIP Manager at the bottom-left and bottom-right of the user interface.

Versioning and licenses

Click the info button (1) at the bottom-left of the window to see the current version of the application.

You can also view the Matrox end-user license agreement and the list of third-party licenses used by the application.



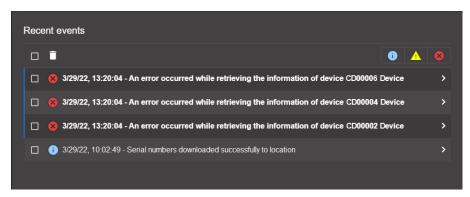
Event messages

At the bottom-right, you will see the most recent event message returned by the ConvertIP Manager. The number of new messages is indicated on the event-type icon. For example, you may see something like this:



Click on the message to bring up the events list window. New messages received since the last time the window was opened are in bold with a blue line on the left. Click the arrow to the right of a line to see more information about the event.

Note: Event messages are automatically considered read once the event window is closed.



There are three event types, as described in the following table.

| Event type | Icon | Importance |
|------------|------|------------|
| Error | 8 | High |
| Warning | A | Medium |
| General | 6 | Low |

To filter the messages, click on an event-type icon at the top-right of the list. You can also delete one or all of the messages.

Note: When you restart the ConvertIP Manager, all event messages are deleted.

Devices

The **Devices** page is where you see all the transmitter and receiver devices on your network.

You can **Rescan** at any time to refresh the list of devices shown and ensure that your configuration settings have been applied, or to update the status of the devices.

From this page, you can:

- Update device firmware
- Navigate to a specific device's configuration page
- Change the streaming option for devices
- Create device administrator accounts
- Update device licenses
- Managing certificates
- Reset a device's configuration
- Reboot a device
- Find ConductIP on the network

Filtering device display

You can filter the device columns to limit the amount of data displayed by clicking the filter button (\P) above the Devices table and selecting/deselecting one or more columns.



Searching devices

You can also limit the amount of data displayed using the search function above the Devices table. As you type in the search field, only the devices that contain the typed characters will appear in the table.

Device status and certificate icons

Hover over an icon in the **Status** or **Certificate** column of the Devices table to see its description.

Selecting devices

Select individual devices by clicking on a device's checkbox or select/deselect all devices by clicking the checkbox in the table header. Selected devices appear with a blue background.

Updating firmware

You can check which firmware will be installed on a device by hovering over the firmware update available icon () in the **Status** column for the device. To update firmware, select one or more devices, then click **Update firmware**.

While a device's firmware is being updated, the status will change and a looping progress bar will be displayed in place of the Firmware Version. The device will then go offline temporarily while it reboots to complete the update.

Note: If the ConvertIP Manager is closed before the firmware update is completed, you will need to restart the update once the ConvertIP Manager is reopened.



Navigating to device configuration pages

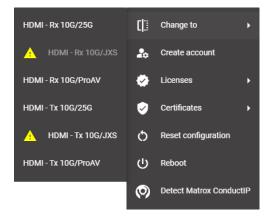
You can jump to any device's native configuration page from the **Devices** list. With a device selected, click on the Go to ConvertIP configuration drop-down list, then select the Control LAN, Media/Control 1, or Media/Control 2 IP address to open the Matrox ConductIP user interface and configure your device.

Note: The system must be connected to the selected network to navigate to the browser page. For example, if Media/Control 1 is selected, the computer must be connected to that network to access the device page.



Changing device streaming

To change the streaming configuration for one or more selected devices, click the Devices menu (:), then hover over Change to and select a configuration option from the list (e.g. switch between Tx and Rx, specify a codec, etc).

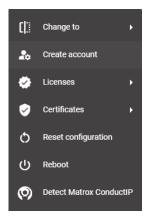


When you select an option, you will be prompted to enter your administrator credentials for any device you are not already logged in to. The updated devices are rebooted after the change.

Note: A warning will appear next to /JXS modes if any of the selected devices do not have a JXS license installed. You will still be able to use the firmware, but with limited features.

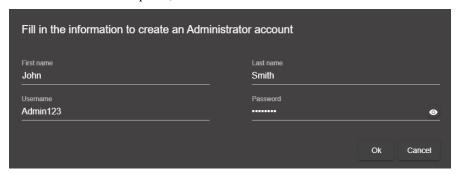
Creating administrator accounts

To create an administrator account for your selected devices, click the **Devices** menu (;), then select Create account.



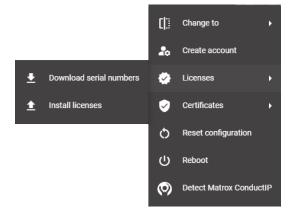
If you are not already logged in to the device, you will be prompted to log in when you try to create a new user. Only a factory default user can create an administrator account.

Fill in the information required, then click Ok.



Updating licenses

To download device serial numbers or upgrade devices, click the **Devices** menu (:), then hover over **Licenses** and select one of the options.

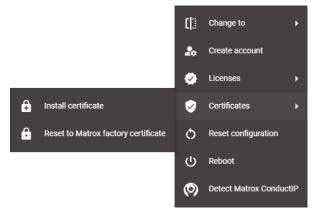


- **Download serial numbers:** This allows you to download a file that lists all the serial numbers of the selected devices. This file is used to facilitate the communication with Matrox to create licenses for the selected devices.
- Install licenses: This allows you to select a ZIP file from your computer that contains the license files to upgrade one or more devices. To be upgraded, the devices that are listed in the ZIP file must be detected by the application.

Note: The .zip file used to upgrade devices will contain files for specific devices, and only those licenses will be installed.

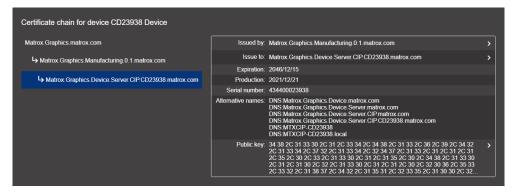
Managing certificates

To install a custom certificate or reset a device to the Matrox factory certificate, click the **Devices** menu (:), then hover over **Certificates** and select one of the options.



- **Install certificate:** This allows you to generate and install a custom server certificate on the selected device.
- Reset to Matrox factory certificate: This allows you to remove a custom server certificate from the selected device and revert to the Matrox server certificate.

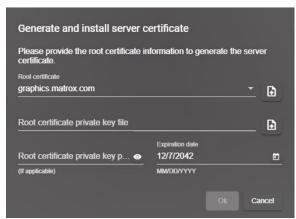
Click on an icon in the Certificate column of the Devices table to view the certificate details.



Installing a server certificate

All devices come with a default Matrox server certificate. If you don't want to use the default certificate, you can specify a different one.

1 With a device selected, click on **Install certificate**. If you are not already logged in to the device, you will be prompted to log in.

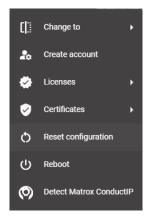


- 2 From the drop-down list, select the **Root certificate** from which the server certificate will be generated. The drop-down is populated from the <u>trusted</u> <u>certificates</u> list. Alternatively, you can import a root certificate by clicking the upload button to the right of the line.
- 3 Click the upload button to the right of the **Root certificate private key** file to import the private key that will sign the server certificate.
- 4 If the root certificate private key is password-protected, enter its password.
- **5** Leave the default 10-year **Expiration date** or choose a new one.
- 6 Click Ok.
- 7 Click **Yes** when prompted to reboot the device.

Resetting device configuration

To reset the user configuration settings for your selected devices to factory default values, click the **Devices** menu (:) and select **Reset configuration**.

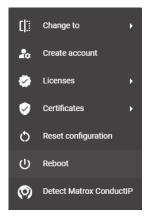
This will delete the administrator account, if one exists. When you perform a reset, all selected devices will be rebooted.



Rebooting a device

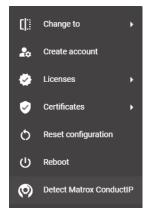
To reboot your selected devices, click the **Devices** menu (:) and select **Reboot**.

You will be prompted to confirm the reboot. Once confirmed, the selected devices will be rebooted.



Detecting ConductIP

Matrox ConductIP is a full-feature web-server-based discovery and signal-routing tool that can be optionally used with ConvertIP. If you have a ConductIP Media Routing Appliance that is connected to the same network subnet, you can discover its IP address by clicking the **Devices** menu (:) and selecting **Detect Matrox** ConductIP.



The ConductIP detected through Multicast DNS is displayed. Click on the IP address or name to open the ConductIP user interface.

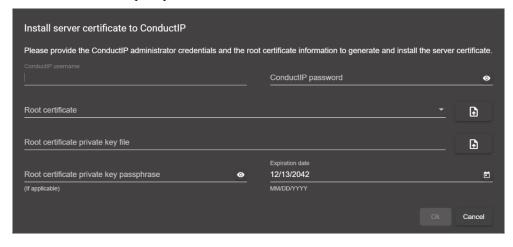


Installing a ConductIP server certificate

If you don't want to use the default ConductIP certificate, you can choose to install a custom server certificate on your ConductIP. The root certificate used will be added to the trusted certificates list of the ConductIP.

- 1 Click Install server certificate.
- 2 Enter the ConductIP username and ConductIP password.
- 3 From the drop-down list, select the **Root certificate** from which the server certificate will be generated. The drop-down is populated from the <u>trusted</u>

- certificates list. Alternatively, you can import a root certificate by clicking the upload button to the right of the line.
- 4 Click the upload button to the right of the Root certificate private key file to import the private key that will sign the server certificate.
- 5 If the root certificate private key is password-protected, enter its password.
- Leave the default 10-year Expiration date or choose a new one. 6
- 7 Click Ok.
- 8 Click **Yes** when prompted to reboot the device.



Channels

On the **Channels** page, each device is considered a channel and is displayed as one line in a table. The detected **Transmitter** and **Receiver** channels are grouped into separate tables. Each transmitter and receiver contains up to three streams for the main network, and the same three streams repeated on the redundant network.

You can **Rescan** at any time to refresh the data of each channel and ensure that your configuration settings have been applied, or to update the status of the channels.

From this page, you can:

- Activate or deactivate streams or channels
- Make the connections between the transmitters and receivers
- Change the streaming addresses

Stream status icons

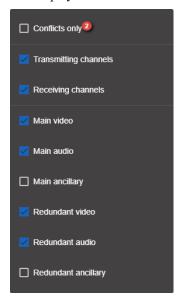
Each stream in the **Channels** tables has an LED status indicator. The following table describes the meaning of each indicator.

| LED | Description for Receiver |
|----------------|--|
| Green | Everything is functioning normally. |
| Yellow | Receiver streams only. Unknown sender: there is no ConvertIP transmitter found with this combination of IPv4 and port. |
| Red | Transmitter streams only. Two Tx multicast streams with the same IP address are being used at once. |
| Gray | Redundant streams only. The main stream is off. |
| Flashing red X | Receiver streams only. There was a connection error on the last connection operation. |

Filtering channel display

You can filter the channels in the tables to limit the amount of data displayed by clicking the filter button () above the **Transmitters** and **Receivers** tables and selecting/deselecting one or more channels or streams.

A red circle with a number over the filter button indicates the number of conflicts found in both tables. When the Conflicts only filter is selected, only the channels and columns that have conflicts are displayed.



Searching channels

You can also limit the amount of data displayed using the search function above either the **Transmitters** or **Receivers** table. As you type in the search field, only the channels that contain the typed characters will appear in the table.

Selecting channels or streams

You can select a single channel or stream, or many.

For channels:

- Select a single channel or multiple channels by clicking on each channel's checkbox.
- Select all **Transmitters** or all **Receivers** by clicking the checkbox in the table header.

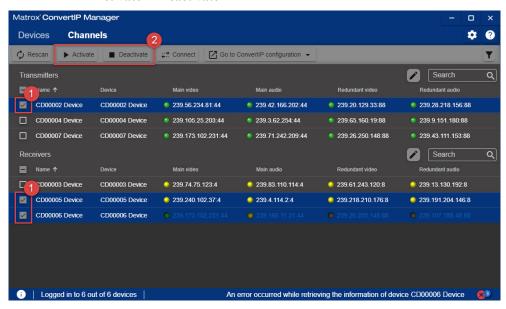
For streams:

- Select a single stream by clicking on the stream.
- Select multiple streams by holding down the Ctrl key and clicking on the streams.
- Select a range of streams by clicking on a stream then holding down the Shift key and clicking on another stream. All streams that are contained in the rectangle delimited by the two clicked-on streams will be selected.
- Select a specific stream on all channels by clicking the stream's column header.
- Select multiple streams on all channels by holding down the Ctrl key and clicking on the stream column headers.
- Select a range of streams on all channels by clicking a stream column header then holding down the Shift key and clicking another stream column header. The clicked-on columns and any columns between them will be selected.

Activating and deactivating streams and channels

You can activate or deactivate one or more streams and/or channels.

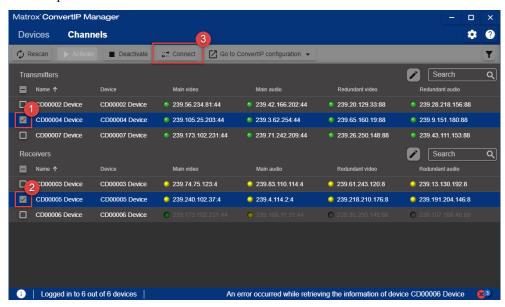
- 1 <u>Select the streams and/or channels</u> you want to activate or deactivate.
- 2 Click the Activate or Deactivate button on the toolbar.



Connecting transmitters and receivers

You can connect a transmitter to multiple receivers.

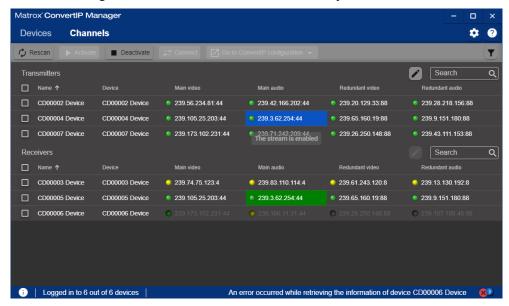
- Select a Transmitter.
- Select one or more Receiver(s). 2
- 3 Click Connect.
- Repeat as needed.



The connection is made and content is streamed from one device to the other.

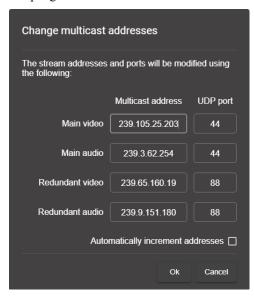
When you mouse over a transmitter, all receiver devices it is feeding will appear in green. For example, the Tx shown below in blue is transmitting to the Rx in green.

Note: The tables do not indicate the transmission status, or whether the data is actually being received. For example, if a transmitter loses its input source, ConvertIP Manager cannot detect it, and therefore will not report an error.



Changing streaming IP addresses

You can change the multicast addresses and port of selected streams by clicking the edit button () at the top-right of the table.



Enter the address changes and select **Auto increment addresses** if needed, then click Ok.

If you choose to let the application automatically increment the IP addresses, the address values will be based on the values of this dialog. For example, if the Main video field is 192.168.123.10, the remaining addresses of all the other selected Main videos will increment based on that (e.g. 192.168.123.11, 192.168.123.12, 192.168.123.13, etc). Otherwise, the values of this dialog will be applied to all the corresponding streams.

Note: Although this operation does not prevent IP address conflicts, ConvertIP Manager will notify you if a conflict occurs. You can then change the conflicting IP address as needed.

Application Settings

To access the application settings, click the settings button (*) at the top-right of the window.

From this page, you can:

- Opt to automatically disconnect a user from a device when another user logs in to it
- Use a ConvertIP device as a gateway to discover ConvertIP devices that are on a different subnet
- Scan a range of IP addresses to discover ConvertIP devices that are on a different subnet
- Select which network card to use for device detection
- Generate and/or import trusted certificates

Account management

If this option is selected and a user is logged in to the device you are attempting to log in to, it will force your log in and disconnect the other user automatically. When the option is deselected, you will be prompted to confirm the forced log-in/user disconnection.

Device account management

☐ Always log in to the device even if a user is already logged in

Device discovery

You can find devices that are not detected on your subnet by using a ConvertIP device as a gateway or by scanning a range of IP addresses.

Note: Devices that are not on your subnet are checked for updates once every minute. While these devices are updating, they will appear offline.

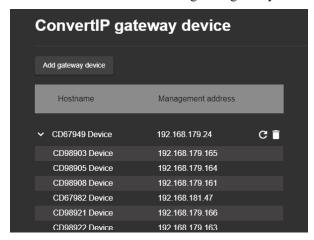
Gateway device

If you know the IP address of a device on another subnet, you can use that device to discover all devices on that subnet. You will need the username and password of the device, as well as its exact IP address.

Click Add gateway device and enter the device information, then click Ok. The gateway device and all discovered devices will appear on the **Devices** page.



Click the arrow to the left of the gateway device to see the other devices on the same subnet. Click **Refresh** to update the list of devices. Click **Delete** to remove the gateway device and all devices discovered through that gateway.



Scan range of IP addresses

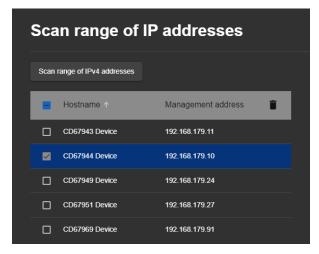
You can scan a range of IP addresses to discover all devices within that range.

Click Scan range of IPv4 addresses and enter a starting and ending address, then click **Ok**. All devices discovered within the scanned range will appear on the Devices page.

Note: Devices that were already discovered through a gateway device will not appear in the scan results. If you Abort a scan in progress, only devices detected before the scan was aborted will appear.



Once devices are detected, they will be saved until you delete them. To delete, select individual devices by clicking on each device's checkbox or select all listed devices by clicking the checkbox in the table header, then click **Delete**.



Network

When a computer has more than one network card, you can select a specific card to detect ConvertIP devices. Once you've selected an option in the list, click **Apply** to start using the chosen network card, or click **Reset** to cancel the selection.

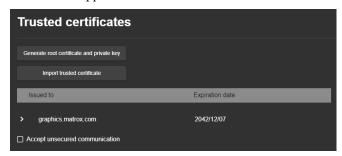


Trusted certificates

The Matrox ConvertIP has a self-signed root certificate (root CA) that is used by the ConvertIP Manager to verify the secure connection between the ConvertIP and the ConvertIP Manager.

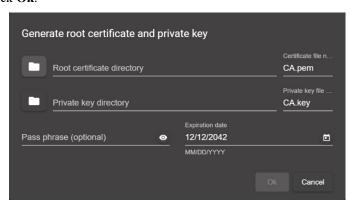
If you install a different server certificate on a ConvertIP (see Managing certificates), you must import the root certificate (root CA) of that certificate chain as a trusted certificate in the ConvertIP Manager to be able to communicate with the ConvertIP device.

All imported certificates appear in the trusted certificates list.



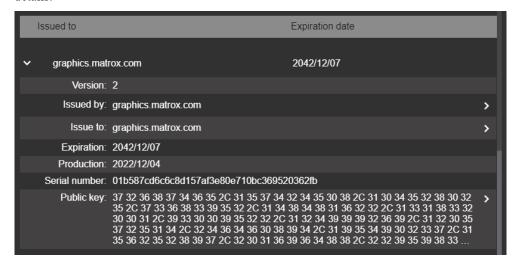
If you do not have one, you can generate a custom root certificate.

- Click Generate root certificate and private key.
- 2 Click the folder icon next to **Root certificate directory** to choose where to save the certificate and key.
- 3 Change the default certificate file name and private key file name.
- If you want to password-protect the certificate, enter a Pass phrase. 4
- Leave the default 10-year **Expiration date** or choose a new one.
- 6 Click Ok.



Once you have a custom root certificate, you can import it into the ConvertIP Manager by clicking **Import trusted certificate**.

When the root certificate is imported, you can click on the arrow to the left to see its details.



If your computer cannot validate a secure communication with a device, you can accept to still communicate with it. If you trust the device, click the checkbox to **Accept unsecured communication**. The communication will be encrypted, but the device cannot be validated as a known device.

Note: When this option is checked, the ConvertIP Manager will accept communication with all devices that are connected to it now or in future, until the option is unchecked

Contact us

The Matrox web site has product literature, press releases, technical material, a sales office list, trade show information, and other relevant material. Visit us at www.matrox.com/video.

If you have any questions or comments about our products or solutions, contact us at www.matrox.com/en/video/contact.

Matrox values your business and offers professional support for your Matrox product. For more information, contact your Matrox representative or our technical support at <u>support@matrox.com</u>.

Disclaimer

Information in this document may contain technical inaccuracies or typographical errors. Information may be changed or updated without notice. Matrox reserves the right to make improvements and/or changes in the products, programs and/or specifications described in this information at any time without notice. All trademarks and trade names, service marks and logos referenced herein belong to their respective owners.

Copyright © 2023 Matrox is a trademark of Matrox Graphics Inc. All rights reserved.

Matrox Graphics Inc.

1055 Saint Regis Boulevard Dorval, Quebec, Canada H9P 2T4 <u>video@matrox.com</u> <u>www.matrox.com/video</u>

