

Matrox® **Display Wall Driver Release Notes**

For Matrox® Mura™ MPX and IPX Series driver version 2.08.00

For Matrox® Mura™ IPX and Matrox® C-Series driver version 2.08.00

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Overview

This document describes the current release of the Matrox Mura drivers for MPX based display wall controller (v. 2.08.00) and the Matrox Mura drivers for C-Series based display wall controllers (v2.08.00) for Microsoft® Windows® operating systems. Matrox provides these notes to describe bug fixes and improvements to the software, API, and driver.

What's new in this release

This release of the Mura driver adds support for the following features and options:

- Added support for the following configurations in a system:
 - Up to 2 × C900 cards without Mura IPX Series cards.
 - Up to 2 × C900 cards plus multiple Mura IPX Series cards.
 - 1 × C900 + 1 × C680 card with or without multiple Mura IPX Series cards. Output framelock is unsupported between C900 and C680 cards.
- Support for C900 cards across all display wall software layers allowing MuraControl, NetAPI, and VWLib to be used for systems containing up to 2 × C900 cards with or without Mura IPX cards. C900 cards were already supported in the previously released MuraControl for Windows (version 4.00.30.607) when used in conjunction with these drivers.
- Significant IP decode performance improvements. Optimization includes an increase in the quantity of streams that can be decoded per IPX board.
- **MuraControl** – Added support for console displays for C-Series-based video wall processors. Console displays can now be used without interfering with Network API or MuraControl and won't be considered video wall displays. The previously released MuraControl for Windows (version 4.00.30.607), used in conjunction with these drivers, is all that is needed to support this feature. The following graphic adapters with the associated drivers are supported to drive console displays (when used in C-Series-based controllers):
 - Matrox M9138 – Display driver version 5.02.10
 - Matrox G550 - Display driver version 5.02.10
 - NVIDIA NVS510 – Display driver versions 368.86 and 641.98

The display drivers for these cards must be installed separately.

- Support for MURA-IPX-I4DHF fanless cards (P/N: MURAIPXI-D4JHF).

- DirectShow/AVStream support on C-Series-based controllers. This includes support for both physical and IP sources coming from the IPX board.
- Support for basic and digest camera authentication.
- Support for GOP structures that include B frames.
- Added ability to retrieve IPX board temperature in Network API, VWLib, and DWC API. IPX temperature functionality has also been added to the NetAPI sample application, IPX Utility. Mura IPX boards should *not* exceed 90 degrees Celsius.
- General improvements on input detection, stability, and network functionalities.
- Network API – Addition of VLC parameters: network caching (NetworkCaching) and ability to force the use of multicast over RTSP (ForceMulticast) when creating a VLC instance/source type (SetSource Command).
- Generic bug fixes.

Notes and limitations

Known performance limitations

The following are known issues that may be fixed in a future release:

- Performance issues may be encountered on Mura IPX Series cards in a Windows 10 system. Please make sure to test Windows 10 Display Wall system before deploying to ensure that performance levels are satisfactory.
- Depending on where the streaming windows are located on the desktop, full frame rates may not be reached for certain stream windows.
- Applying a geometric rotation angle to a streaming window may cause a drop in rendering performance.
- The render rate may be affected if the outputs don't all use the same refresh rate.
- A Mura IPX Series card performance is limited to the following number of streams (or combination thereof):
 - Two (2) 4k60 streams
 - Three (3) 4k30 streams
 - Eight (8) 1080p60 streams
 - Sixteen (16) 1080p30 streams

Adding more streams may affect performance. Using DirectShow may exhibit different performance numbers.

- Using streaming windows that contain too many layers may affect rendering performance.
- Some systems may exhibit bus transfer performance issues that won't allow you to attain the suggested performances listed above.
- The Portwell M9020B system is limited to 4 total cards when running a C680 and Mura IPX Series configuration. Please contact your Matrox representative for more details.

Known limitations with Mura IPX Series cards

The following are known issues while using Mura IPX Series cards.

- If static IP addressing is used, your network must have a time server for the Mura IPX Series card to function properly.

- Interlaced video is currently unsupported on Mura IPX Series.
- Hardware dip switches are currently unsupported on the Mura IPX Series cards.

Known issues and limitations with the Network API interface

The following are known issues and limitations when using the Network API interface:

- Not all Network API commands are supported in all supported display wall hardware configurations. For example, some commands supported on MPX-based controllers aren't supported for C-Series-based controllers and vice versa. For a complete list of supported commands, see the Capabilities functionality in the Network API.
- On Mura MPX-based systems, the *SetOutputLayout* command may cause an internal error if the display wall is composed of monitors of different brands and models.
- When the *Netinfo* command is called, only the host network adapter is listed. [26732]
- Changing the output resolution resets the rotation to landscape. [28506]
- The aspect ratio of a VLC stream isn't respected when the source is loaded to a layout for the first time. [28234]
- The Network API can only report modes common to all monitors.
- Borders aren't resized along with the window if the window position was changed using the transition function. [28984]
- Borders, text overlays, and image overlays aren't properly handled when using geometric rotation angles on streaming windows. [29197, 29198]
- The *ResumeAutoTransitionStart* command starts transitions right away even without the */restart* option. [29565]
- Text and image overlays aren't properly handled within Transitions. The size and transparency aren't adjusted properly.
- The same caption can be set on 2 different windows of the same layout.
- The *SetSourceImageOverlay* and *AddSourceTextOverlay* commands don't work with source applications running on the Host system.
- Microsoft .NET 4.5 needs to be installed for the Network API to function correctly.
- Using HTTPS communication with the Network API bypasses any passwords set using telnet communication.
- Shutting down the system while streams are up on the wall is unsupported.

Known limitations with PowerDesk software

The following are known limitations when using PowerDesk software:

- When starting PowerDesk immediately after a system restart, PowerDesk may not start. We recommend waiting a while, and then trying to restart PowerDesk.
- The horizontal resolution of your stretched mode layout can't be higher than 32768 pixels on a Mura MPX Series based system and 16384 pixels on a C-Series based system.
- The resolution per output, for C-Series cards, must be divisible by 8.

Known limitations with Millennium P690 support

The following are known limitations while using supported P690 products:

- Only Matrox Millennium P690 PCIe and P690 Plus LP PCIe are supported as consoles in your Matrox Mura MPX-based controller.

Known limitations with HDCP support



Note: By default, HDCP mode is disabled after the driver is installed.

The following are known limitations while using HDCP:

- HDCP is only supported on Mura MPX Series cards. For HDCP support on Mura IPX Series, please contact your Matrox representative.
- Enabling HDCP capture may cause a drop in rendering performance.
- HDCP is supported on a maximum of 10 cards.
- All monitors used in the current output desktop configuration must be HDCP compliant, turned on, and connected using HDCP compliant cables. If HDCP capture can't be properly enabled, you may experience problems such as corruption on your outputs, monitors blinking periodically, streaming windows turning blue, and system freezes.
- Using HDCP repeaters on the Mura output connectors isn't supported.
- The Preview surface functionality of the Display Wall library isn't supported on HDCP encrypted streams.
- Each HDCP encrypted stream can only be shown on a maximum of 11 downstream devices. Some source devices support less downstream devices.

- Moving a streaming window from one monitor to another while an HDCP encrypted stream is displayed will cause a monitor revalidation process (required for HDCP) and cause temporary image defects on the stream.
- When an HDCP input streaming window is rotated, the number of HDCP downstream devices required to be authenticated may increase due to the position of the underlying bounding rectangular window. [29070]
- HDCP sources won't stream protected content on a monitor currently on a revocation list.

Driver installation

Before you begin

- Make sure the correct operating system is installed. Mura MPX Series based systems support Windows 7 Professional Edition 64-bit, Windows Embedded Enterprise 7 64-bit, Windows Embedded Standard 7 64-bit, and Windows Server 2008 R2 64-bit. C-Series based systems support Windows 7 Professional Edition 64-bit, Windows Embedded Enterprise 7 64-bit, Windows Embedded Standard 7 64-bit, Windows Server 2008 R2 64-bit, Windows Server 2012 R2 64-bit, Windows 8.1 Professional Edition 64-bit, and Windows 10 64-bit.
- Make sure all the latest hot fixes for Windows are installed on your system. For improved stability under Windows 7 and Windows Server 2008 R2 (XDDM mode), you must install the Microsoft KB980731 hot fix. For Windows 7, this hot fix is part of SP1.
- Make sure you have administrator rights on your system. You need administrator rights to install certain software and change certain settings.
- Make sure that the necessary exceptions are added to your firewall to allow network communications. The Network API uses port 23 for telnet and port 46272 for HTTPS and Preview Surfaces.

Setting up your Mura-MPX-based controller (with or without Mura IPX Series cards)

- 1 Remove any existing third party graphics hardware installed in your system. If graphics hardware is built into the motherboard of your computer, make sure it's disabled.
- 2 Install and connect your Mura MPX, IPX, and P690 (optional for console purposes) cards. If you're using a P690 product as a console, make sure you uninstall any Matrox display drivers previously installed.
- 3 Install the Matrox Mura drivers for MPX systems by running *Setup.exe*. This may take several minutes. If virus scan software is active during the installation process, the installation will take longer to complete (up to two or three times longer than if it's disabled). Don't shut down or turn off your system until the installation is complete.
- 4 Restart the system once the installation completed successfully.
- 5 Run PowerDesk to configure your desktop layout (multi-display setup).

Setting up your C-Series-based controller (with or without Mura IPX cards)

- 1** Install and connect your C-Series C680/C900 and Mura IPX Series cards.
- 2** Install the Matrox Mura Drivers for C-Series systems by running *Matrox.Setup.exe*. This will take several minutes. If a virus scan software is active during the installation process, the installation will take significantly longer to complete (up to two or three times longer than if it's disabled). Don't shut down or turn off your system until the installation is complete.
- 3** Install and connect your console card (optional). If you're using an NVIDIA NV510, please install drivers versions 368.86 or 641.98. If you're using a Matrox M9138 or G550 card, please install drivers version 5.02.10.
- 4** Restart the system once the installation completed successfully.
- 5** Run PowerDesk to configure your desktop layout (multi-display setup). Make sure to use the same monitor brand/model on all C-Series outputs and the same brand/model active dongles.
- 6** We strongly recommend enabling EDID emulation on your C-Series outputs to disable HPD events and prevent an undesired output configuration change. To enable EDID emulation, follow these steps:
 - a** Open PowerDesk and go into **Multi-Display Setup**.
 - b** Click **EDID management** and accept the notice that appears.
 - c** Select **Apply EDID emulation for selected outputs**, then click **Select all** from the list.
 - d** Accept the changes and restart the system.

Contact us

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

You can get technical assistance by contacting Matrox technical support at dwcsupport@matrox.com.

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