Operation/Reference Guide

MXA-MP/MPL

Modero X Series® Multi Preview and Multi Preview Live

User Interface Accessories

Last Updated: 12/12/2012

AMX Limited Warranty and Disclaimer

This Limited Warranty and Disclaimer extends only to products purchased directly from AMX or an AMX Authorized Partner which include AMX Dealers, Distributors, VIP's or other AMX authorized entity.

AMX warrants its products to be free of defects in material and workmanship under normal use for three (3) years from the date of purchase, with the following exceptions:

- Electroluminescent and LCD Control Panels are warranted for three (3) years, except for the display and touch overlay components are warranted for a period of one (1) year.
- Disk drive mechanisms, pan/tilt heads, power supplies, and MX Series products are warranted for a period of one (1) year.
- AMX lighting products are guaranteed to switch on and off any load that is properly connected to our lighting products, as long as the AMX lighting products are under warranty. AMX also guarantees the control of dimmable loads that are properly connected to our lighting products. The dimming performance or quality there of is not guaranteed, impart due to the random combinations of dimmers, lamps and ballasts or transformers.
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All products returned to AMX require a Return Material Authorization (RMA) number. The RMA number is obtained from the AMX RMA Department. The RMA number must be clearly marked on the outside of each box. The RMA is valid for a 30-day period. After the 30-day period the RMA will be cancelled. Any shipments received not consistent with the RMA, or after the RMA is cancelled, will be refused. AMX is not responsible for products returned without a valid RMA number.

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not 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 does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Important Note:

Appliance coupler is used as the disconnect device for disconnection from mains.

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MXA-MP

Overview

The Modero X Series® Multi Preview (**FG5968-20**) is a touch panel accessory that displays up to 10 preview images on Modero X Series Touch Panels when used in conjunction with an Enova DVX All-In-One Presentation Switcher (FIG. 1). The MXA-MP accepts digital video input signals over HDMI and converts them to JPEG preview images for display on Modero X Series touch panels. The MXA-MP makes it easy for users to make quick identification of what is currently being displayed by up to 10 source devices.

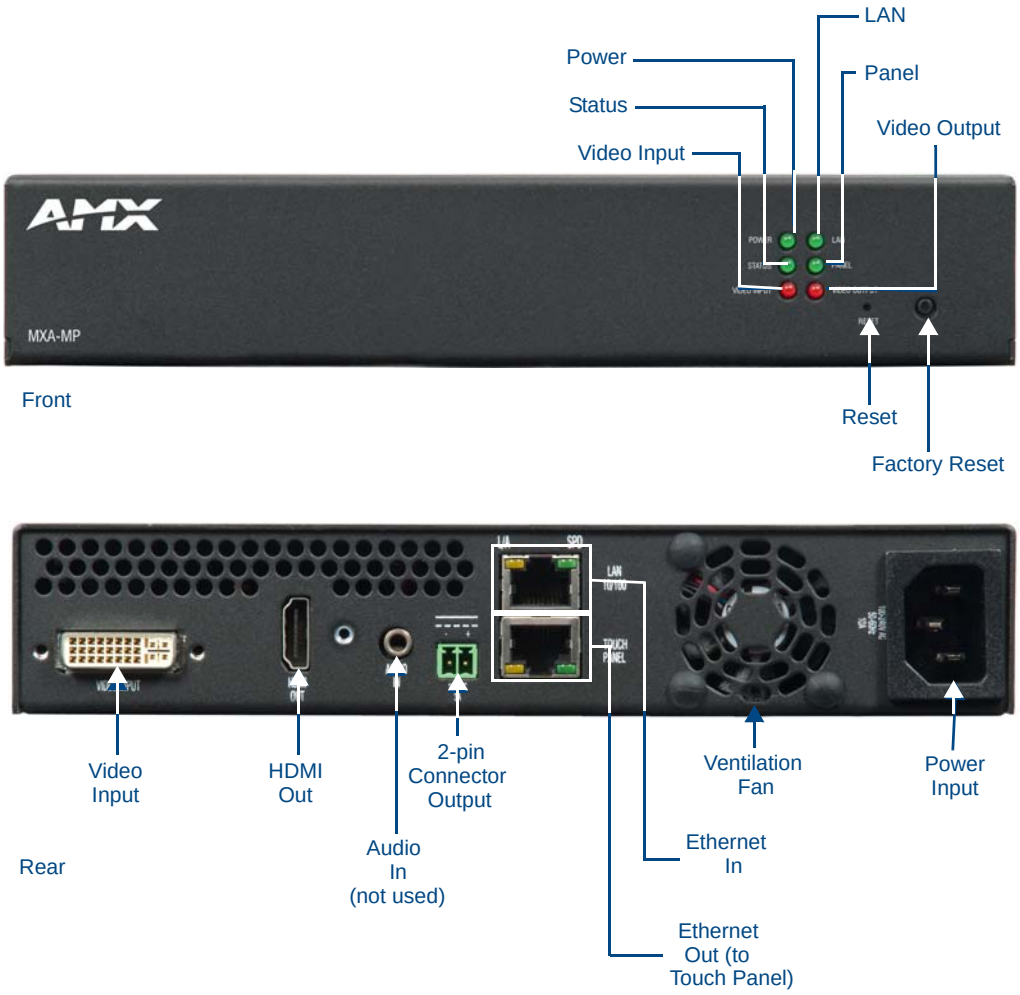

FIG. 1 MXA-MP

Common Applications

Use the MXA-MP to preview a snapshot of the content from a source device before switching to that source.

Features

- Updates all 10 preview images sequentially or one image continuously.
- Converts HDMI sources into video snapshots.
- Easily add to existing implementations that use an Enova DGX or Enova DVX with a Modero X Series Touch Panel.

Product Specifications

MXA-MP (FG5968-20) Specifications	
Power Requirements:	*MXA-MP only:* 120VAC at 170ma (20W) *MXA-MP with touch panel:* 120VAC at 410ma (50W)
Start-Up Inrush Current:	17.2A at 116.8VAC
Video:	
Video Preview Image Format:	JPEG (accessed over HTTP)
Max Number of Video Preview Images:	10
Min Refresh Time of Preview Images:	2 sec per preview image.
Video Input:	HDMI, DVI, RGBHV, S-Video, composite or component video
Video Input Resolutions:	HDMI: • 640 x 480p @ 60Hz
Video Input Resolutions Supported By Firmware Release Greater Than 1.1.82:	Video Input Resolutions supported: • HDMI/DVI: 640 x 480p @ 60 Hz, 800 x 600p @ 60 Hz, 1024 x 768p @ 60 Hz,1280 x 720p @ 60 Hz • PAL: 576i, 576p@50 Hz • NTSC: 480i, 480p@60 Hz
Communications:	10/100 port, RJ-45 connector with Ethernet/IP pass-through.
Front Components:	
Power LED:	Lights green when device is receiving power.
Status LED:	Toggles on/off green every 5 seconds if communicating to the panel.(i.e.: the panel is configured to use the MXA-MP).
Video Input LED:	Lights red when receiving video signals.
LAN LED:	Lights green when the LAN connection is enabled.
Panel LED:	Lights green when device is connected to the panel.
Video Output LED:	Lights red when sending a video stream to a touch panel.
Reset button:	Reboots the device when pressed.
Factory Reset button:	Resets the unit to factory defaults when pressed for at least 5 seconds.
Rear Components:	
Video Input:	DVI-I multi-format video input (HDMI only).
HDMI Out:	HDMI preview video output.
Audio In:	1/8th-inch mini-jack input (not used).
2-Pin Connector Output:	2-pin 3.5 mm Phoenix-style connector output, 12 Volts, 3 Amps.
Ethernet In:	10/100 port, RJ-45 connector for Ethernet connection to network.
Ethernet Out:	10/100 port, RJ-45 connector for Ethernet connection to touch panel.
Power Input:	• IEC power cord connector • 100-240V AC • 47-63Hz
Operating Environment:	• Temperature (Operating): 32° F to 104° F (0° C to 40° C) • Temperature (Storage): 4° F to 140° F (-20° C to 60° C) • Humidity (Operating): 20% to 85% RH • Humidity (Storage): 5% to 85% RH • Power (“Heat”) Dissipation: 232 BTU/hr
Dimensions:	1 9/16” x 8 1/4” x 7 3/16” (4 cm x 21 cm x 18.2 cm)
Weight:	2.80 lbs (1.27 kg)

MXA-MP (FG5968-20) Specifications (Cont.)	
Certifications:	• FCC Part 15 Class A • CE EN 55022 Class A and EN 55024 • CB Scheme IEC 60950-1 • IC • IEC/EN-60950 • UL • RoHS
Included Accessories:	• MXA-MP Installation Guide (**93-5968-20**) • MIC AC Universal Power Cord (**CA1090-131**)
Other AMX Equipment:	• MPA-VRK, Rack Shelf 1RU 7.3" Depth (**FG5968-30**) • AC-SMB, Surface Mount Bracket Accessory (**FG525**) • CC-3.5ST5-RCA2F, 5-pin 3.5mm Phoenix-style to 2 RCA Female Cable (**FG10-003-20**)

Rebooting the MXA-MP

To reboot the MXA-MP, press and hold the **Reset** button on the front of the device (FIG. 1) for one second.

Resetting the MXA-MP to Factory Defaults

To reset the MXA-MP to its factory defaults, press and hold the **Factory Reset** button (FIG. 1) on the front of the device for five seconds.

MXA-MPL

Overview

The Modero X Series Multi Preview Live (**FG5968-10**) is a touch panel accessory that displays a HD digital video stream on Modero X Series Touch Panels when used in conjunction with an Enova DVX All-In-One Presentation Switcher or Enova DGX Digital Media Switcher (FIG. 2). The MXA-MPL accepts digital video inputs over HDMI and converts them to a video stream. The MXP-MPL also supports all of the features of the MXA-MP, displaying up to 10 JPEG preview images on a Modero X Series touch panel. The MXA-MPL makes it easy for users to make quick identification of what is currently being displayed by up to 10 source devices.

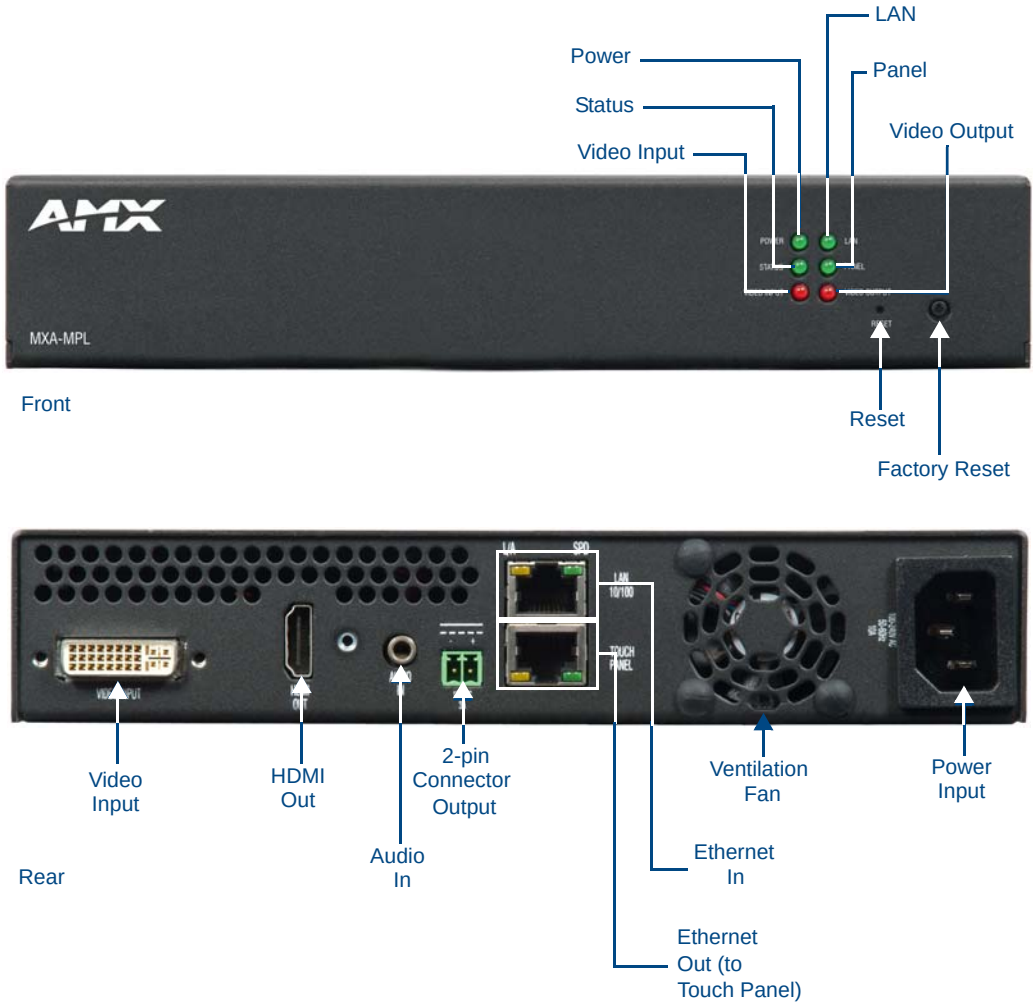

FIG. 2 MXA-MPL

Common Applications

Use the MXA-MPL to preview a live video stream or snapshot of the content from a source device before switching to that source.

Features

- Supports one HD digital video stream or up to 10 preview images.
- Updates all 10 preview images sequentially or one image continuously.
- Streams digital video sources to a Modero X Series Touch Panel.
- Multi-format video input accepts HDMI and DVI.
- Seamlessly interconnects between a Modero X Series Touch Panel and an Enova DGX or Enova DVX.

The MXA-MPL supports the delivery of HDMI 1.4a (w/HDCP) content to a Modero X Series touch panel. The MXA-MPL has a HDMI input and delivers that video content to the Modero X Series panel over a dedicated link using a proprietary interface.

Product Specifications

MXA-MPL (FG5968-10) Specifications	
Power Requirements:	*MXA-MPL only:* 120VAC at 170ma (20W) *MXA-MPL with touch panel:* 120VAC at 410ma (50W)
Start-Up Inrush Current:	17.2A at 116.8VAC
Video:	
Max Number of Active Video Streams:	1
Video Preview Image Format:	JPEG (accessed over HTTP)
Max Number of Video Preview Images:	10
Min Refresh Time of Preview Images:	2 sec per preview image
Video Input:	HDMI, DVI, RGBHV, S-Video, composite or component video
Video Input Resolutions:	Video Input Resolutions supported: • *HDMI/DVI:* 640 x 480p @ 60 Hz, 800 x 600p @ 60 Hz, 1024 x 768p @ 60 Hz,1280 x 720p @ 60 Hz • *PAL:* 576i, 576p@50 Hz • *NTSC:* 480i, 480p@60 Hz Video Input Resolutions not supported: • 1280 x 768p @ 60 Hz, 1920 x 1080p @ 60 Hz
Video Input Resolutions Supported By Firmware Release Greater Than 2.1.28:	• *HDMI/DVI:* 1024 x 768p @ 60 Hz, 720 x 480i @ 60 Hz, 720 x 480p @ 60 Hz • *PAL:* 576i, 576p @ 50 Hz • *NTSC:* 480i, 480p @ 60 Hz
Video Output:	Up to 720p @ 30 fps over IP (Matches input resolution)
Communications:	10/100 port, RJ-45 connector with Ethernet/IP pass-through
Audio Input:	Unbalanced 1/8th-inch mini-jack connector (for use with non-HDMI audio only)
Front Components:	
Power LED:	Lights green when device is receiving power.
Status LED:	Toggles on/off green every 5 seconds if communicating to the panel.(i.e.: the panel is configured to use the MXA-MPL).
Video Input LED:	Lights red when receiving video signals.
LAN LED:	Lights green when the LAN connection is enabled.
Panel LED:	Lights green when device is connected to a panel.
Video Output LED:	Lights red when sending a video stream to a touch panel.
Reset button:	Reboots the device when pressed.

MXA-MPL (FG5968-10) Specifications (Cont.)	
Front Components (Cont.)	
Factory Reset button:	Resets the unit to factory defaults when pressed for at least 5 seconds.
Rear Components:	
Video Input:	DVI-I multi-format video input
HDMI Out:	HDMI preview video output
Audio In:	1/8th-inch mini-jack input (for use with non-HDMI audio only)
2-Pin Connector Output:	2-pin 3.5 mm Phoenix-style connector output, 12 Volts, 3 Amps
Ethernet In:	10/100 port, RJ-45 connector for Ethernet connection to network.
Ethernet Out:	10/100 port, RJ-45 connector for Ethernet connection to touch panel.
Power Input:	• IEC power cord connector • 100-240V AC • 47-63Hz
Operating Environment:	• Temperature (Operating): 32° F to 104° F (0° C to 40° C) • Temperature (Storage): 4° F to 140° F (-20° C to 60° C) • Humidity (Operating): 20% to 85% RH • Humidity (Storage): 5% to 85% RH • Power (“Heat”) Dissipation: 232 BTU/hr
Dimensions:	1 9/16” x 8 1/4” x 7 3/16” (4 cm x 21 cm x 18.2 cm)
Weight:	2.80 lbs (1.27 kg)
Certifications:	• FCC Part 15 Class A • CE EN 55022 Class A and EN 55024 • CB Scheme IEC 60950-1 • IC • IEC/EN-60950 • UL • RoHS
Included Accessories:	• MXA-MPL Installation Guide (**93-5968-10**) • MIC AC Universal Power Cord (**CA1090-131**)
Other AMX Equipment:	• MPA-VRK, Rack Shelf 1RU 7.3" Depth (**FG5968-30**) • AC-SMB, Surface Mount Bracket Accessory (**FG525**) • CC-DVI-5BNCM, DVI to 5 BNC Male Cable 6' (**FG10-2170-08**) • CC-DVI-RCA3M, DVI to 3 RCA Male Cable 6' (**FG10-2170-09)** • CC-DVIM-VGAF, DVI to HD-15 Female Adapter (**FG10-2170-13**) • CC-DVI-SVID, DVI to S-Video Cable (**FG10-2170-10**) • CC-3.5ST5-RCA2F, 5-pin 3.5mm Phoenix-style to 2 RCA Female Cable (**FG10-003-20**)

Rebooting the MXA-MPL

To reboot the MXA-MPL, press and hold the **Reset** button on the front of the device (FIG. 2) for one second.

Resetting the MXA-MPL to Factory Defaults

To reset the MXA-MPL to its factory defaults, press and hold the **Factory Reset** button (FIG. 2) on the front of the device for five seconds.

Installation

Overview

Both the MXA-MP and MXA-MPL may be installed in a freestanding location, such as on a desktop or table, but both devices may also be installed in a standard AV rack. This should be done to ensure accessibility to the Modero X Series touch panel receiving the device's video or image output.

NOTE

NOTE: For full functionality, the MXA-MP and MXA-MPL should be used with the Enova series media switchers and Modero X Series touch panels. Neither device may be used with previously released AMX touch panels or media switchers.

Installing the MXA-MP and MXA-MPL

In a network, the MXA-MPL or MXA-MPL must be connected between the Enova DVX or DGX and the Modero X Series touch panel (FIG. 3). Multiple devices may be used for touch panels on a network, but each individual device cannot be used by multiple Modero X Series touch panels.

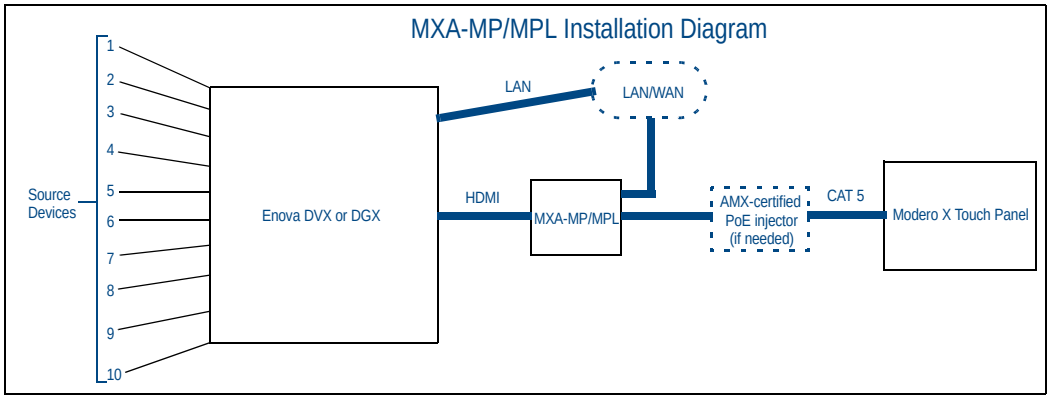

FIG. 3 MXA-MP/MPL Installation Diagram

NOTE

When connecting an Enova DVX to an MXA-MP or MXA-MPL, an HDMI cable adaptor may be necessary to make the connection from the DVX's HDMI cable to the MXA-MP/L's Video Input port.

When using the MXA-MP or MXA-MPL with a Modero X Series touch panel, the device may be used to supply power to the touch panel in certain circumstances. (For more information, please refer to the *Maximum Power Cable Gauges and Distances* section on page 9.) Instead of using a separate external power source, touch panels using an external power source may also connect to the device via the 2-pin connector output on the device's back (FIG. 4).

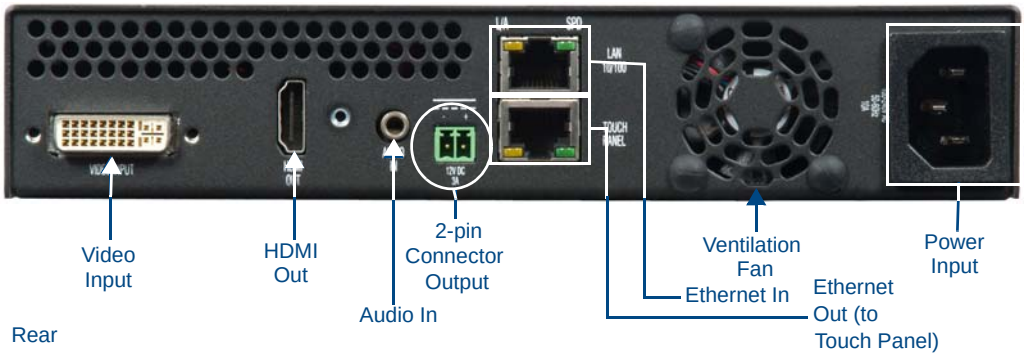

FIG. 4 Rear of the MXA-MP/MPL, showing input and output power

In the case of Power Over Ethernet (PoE) Modero X Series touch panels, these panels require the use of an AMX-certified PoE injector. The PoE injector must be connected between the device and the touch panel for proper operation (FIG. 3).

NOTE

*For PoE-powered Modero X Series touch panels, the AMX-certified PoE injector must be connected between the device and the touch panel. Use of a PoE switch in place of an AMX-certified PoE injector is **NOT** recommended.*

To connect the Modero X Series touch panel to the device:

1. Insert the incoming cable from the network LAN to the upper *Ethernet In* RJ45 connector (FIG. 4).
2. If the touch panel is a Power Over Ethernet (PoE) device, connect an outgoing Ethernet cable from the device's *Ethernet Out* RJ45 connector to an AMX-certified PoE injector. Connect the output of the injector to the touch panel's RJ45 connector, but do not apply power until the installation is compete.
3. If the touch panel is an MXD/T-1900L-PAN or MXD/T-2000XL-PAN (panoramic) device, outgoing power to the touch panel may be supplied via the device's 2-pin connector output (FIG. 4) or through another source. Do not apply power until the installation is complete.

WARNING

If using the device's 2-pin connector for power for a touch panel, please refer to the Maximum Power Cable Gauges and Distances section on page 9 *for maximum cable lengths between the device and the touch panel, based on cable gauge. Using a separate power source for panoramic panel installations that require long cable runs is highly recommended.*

4. When the installation is complete, apply power to the device and to the touch panel. Verify via the LEDs on the front of the device (FIG. 1) that it is receiving power and is connected to the network.
5. If the touch panel has not been configured to receive video signals from the device, do so now.

NOTE

For more information on configuring the Modero X Series touch panel to receive video signals, please refer to the Configuration section on page 13*. For further information, please refer to the* Modero X Series Programming Guide*, available at **www.amx.com**.*

Connecting the MXA-MP/MPL to a Network

Since the MXA-MP and MXA-MPL work to transmit HD images from an Enova DVX or DGX switcher to a Modero X Series touch panel, the device needs to be connected between the switcher and the touch panel. To connect the touch panel to the device:

1. Insert the incoming cable from the network LAN to the upper *Ethernet In* RJ45 connector (FIG. 4).
2. If the touch panel is a Power Over Ethernet (PoE) device (not panoramic), such as the MXD/T-1000, MXD/T-700, or MXD-430, connect an outgoing Ethernet cable from the device's *Ethernet Out* RJ45 connector to an AMX-certified PoE injector.
   - Connect the output of the PoE injector to the touch panel's RJ45 connector, but do not apply power until the installation is compete.
3. If the touch panel accepts external power, power to the touch panel may be supplied via the device's 2-pin connector output (FIG. 1) or through another source.
   - Do not apply power until the installation is complete.

WARNING

f using the device's 2-pin connector for power for a touch panel, please refer to the Maximum Power Cable Gauges and Distances section on page 9 *for maximum cable lengths between the device and the touch panel, based on cable gauge. Using a separate power source for panoramic panel installations that require long cable runs is highly recommended.*

4. When the installation is complete, apply power to the device and to the touch panel. Verify via the LEDs on the front of the device that it is receiving power and is connected to the network.
5. If the touch panel has not been configured to receive video signals from the device, do so now.

NOTE

*For PoE-powered Modero X Series touch panels, the AMX-certified PoE injector must be connected between the device and the touch panel. Use of a PoE switch in place of an AMX-certified PoE injector is **NOT** recommended.*

Maximum Power Cable Gauges and Distances

While most Modero X Series touch panels use Power Over Ethernet (PoE) for their power needs, the panoramic Modero X Series touch panels (MXD/T-2000XL-PAN and MXD/T-1900L-PAN) use external power from an AMX-certified power source. Both the MXA-MP and MXA-MPL may be used as a power source for the panoramic touch panels, but only to certain lengths determined by the cable gauge and the maximum distance between the device and the touch panel.

NOTE

All power cable gauges are in AWG (American Wire Gauge).

Maximum Power Cable Gauges and Distances

Cable Gauge (AWG)	Maximum Distance (feet/meters)
<16	Not recommended
16	24 feet (7.32 meters)
17	20 feet (6.10 meters)
18	15 feet (4.57 meters)
19	12 feet (3.66 meters)
20	10 feet (3.05 meters)
21	8 feet (2.44 meters)
22	6 feet (1.83 meters)
23	5 feet (1.52 meters)
24	4 feet (1.22 meters)
>24	Not recommended

When installing panoramic Modero X Series touch panels that exceed these cable lengths between the MXA-MP/MPL and the touch panel, a separate AMX-certified power source should be used instead.

A Note About Wall and Rack Installation

Some products are installed in areas of differing temperature and cooling methodologies. These include products installed in walls, racks, cabinets, etc. Those areas may have different temperatures and/or cooling approaches that must be taken into consideration to maintain the product within the specified operating temperature.

FIG. 5 shows an AMX device installed in a wall with a filled volume (such as with insulation or concrete), as well as with a closed volume (such as between studs in an otherwise finished wall). The diagram shows how heat generated by the device or other devices may have no way to escape, and may build up to levels that may affect device operation.

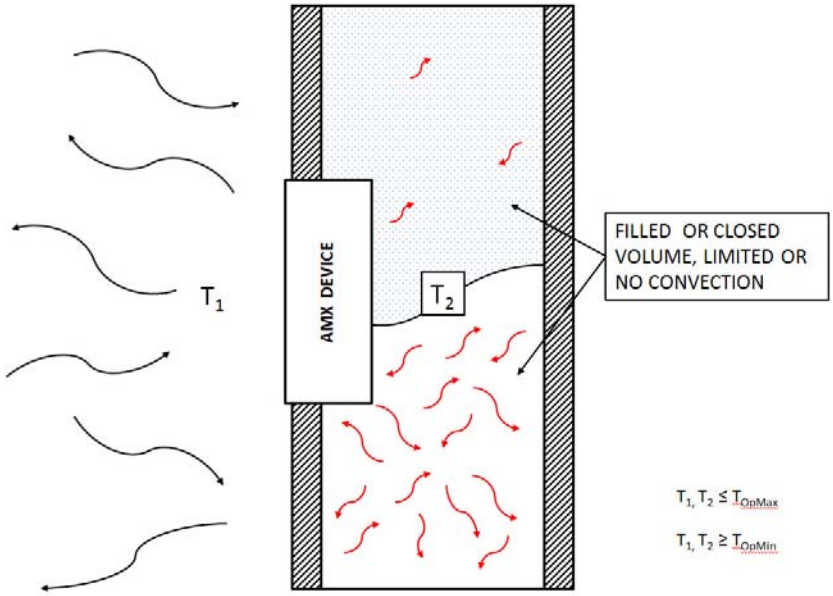

FIG. 5 Heat convection in filled or closed volume, limited or no convection

In FIG. 6, the diagram displays an AMX device in a typical rack mounting, with full air circulation around the front and back of the device. In this case, the main concern is with heat building up between components, possibly to levels that may affect device operation.

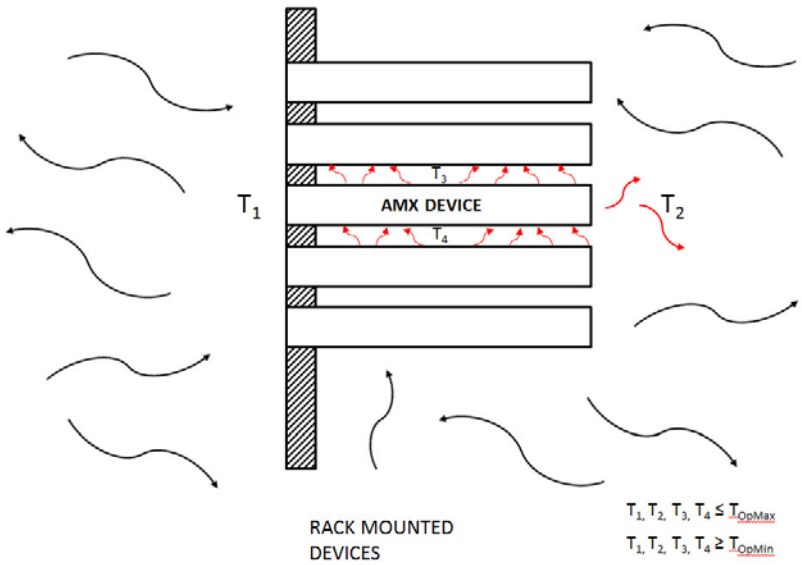

FIG. 6 Heat convection in rack-mounted devices

Installation Recommendations

During any installation, a lack of ventilation may produce conditions that may adversely affect the device's operation. In these circumstances, special care must be made to make sure that temperatures within enclosed areas do not exceed the device's maximum rated temperature.

NOTE

While the outside temperature of the device may be at or below its maximum operating temperature, special care must be taken before and during installation to ensure that the maximum operating temperature is not exceeded within wall or rack installation spaces.

Rack Mounting the MXA-MP and MXA-MPL

The MXA-MP or MXA-MPL may be put in a freestanding location on a desktop or table, but the device may also be installed in a standard AV rack. Installation in a rack requires the use of an MPA-VRK Rack Mounting Tray (**FG5968-30**) (FIG. 7), available from **www.amx.com**.

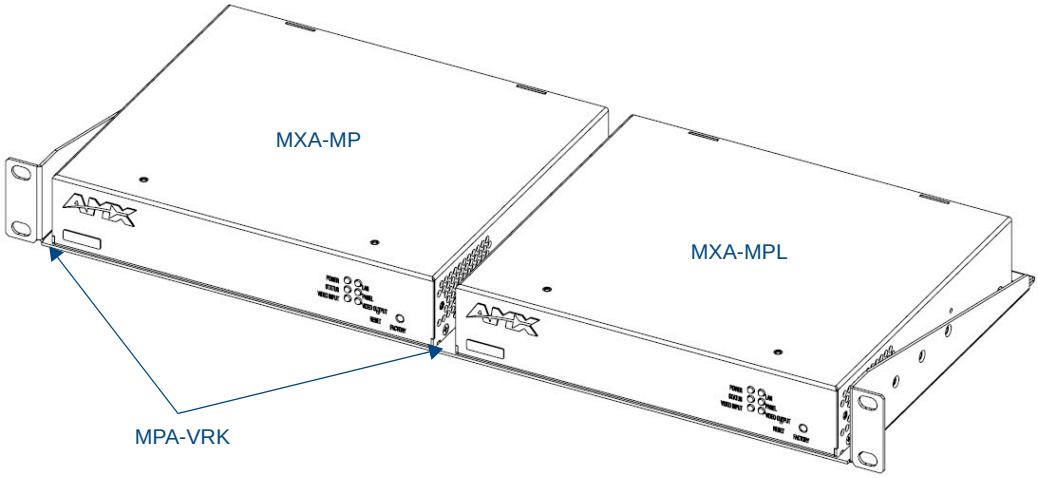

FIG. 7 MPA-VRK Rack Mounting Tray

MXA-VRK (FG5968-30) Specifications	
Dimensions (HWD):	1 3/4" x 17 9/16 x 7 5/8" (4.44 cm x 44.61 cm x 19.37 cm)
Weight:	2.70 lbs (1.22 kg)
Included Accessories:	• Installation Screws, #10-32 x .625, Ph. Truss, Black (4) (**80-0186**) • Washer, #10, Black Nylon (4) (**80-0342**) • Installation Screws, #4-40 x .187, PFH, Undercut, Black (8) (**80-1231-01**)

To install an MXA-MP or MXA-MPL in a MPA-VRK Rack Mounting Tray:

1. Select a position on the Rack Mounting Tray for the installation. The Rack Mounting Tray contains screw holes to allow single or double device installations (FIG. 7).
2. Using the installation screws included with the MPA-VRK, install the screws to the bottom of the device through the Rack Mounting Tray (FIG. 8). Use four screws for each device, with one at each corner.

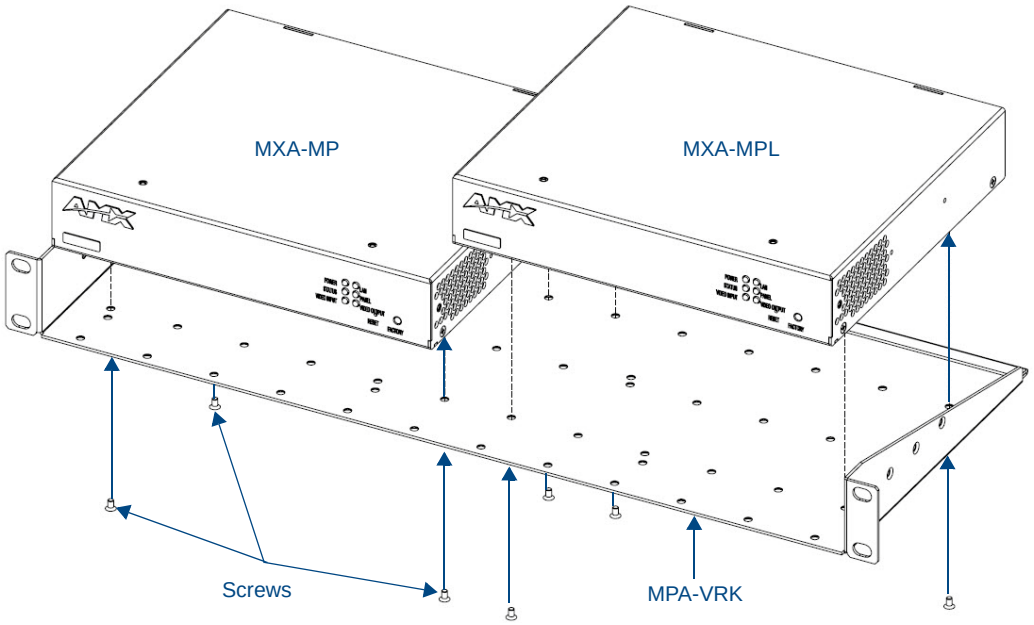

FIG. 8 Installing two MXA-MP devices in a Rack Mounting Tray

3. Connect the Rack Mounting Tray to the rack with the provided installation screws.
4. Connect the device to the network and apply power.

Configuration

Configuring the Modero X Series Touch Panel

To use the MXA-MP or MXA-MPL, the Modero X Series touch panel to which it is connected needs to be configured to receive its signals. This is done through the touch panel's *Settings* pages.

NOTE

For more information on accessing a Modero X Series touch panel's Settings Pages, please refer to the Modero X Series Programming Guide*, available at* ***www.amx.com****.*

To configure the touch panel:

1. From the *Settings* page, select *Connections & Networks*.
2. From the *Connections & Networks* page, select *Breakout Box* to open the *Breakout Box* page (FIG. 9).

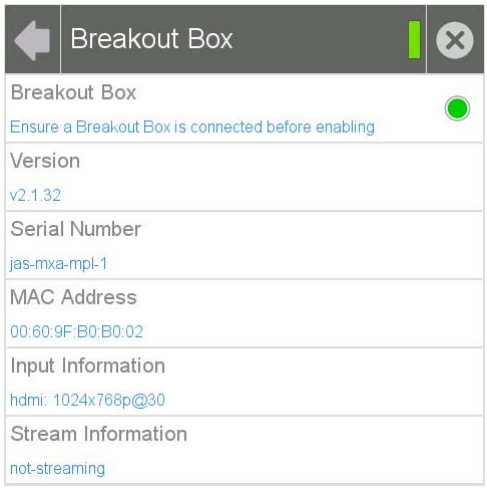

FIG. 9 Breakout Box Settings page

3. Press the **Breakout Box** button to enable the panel to receive information from the device.
4. If the device is connected, the remaining information on the *Breakout Box* page will self-populate as the touch panel receives that information from the device.

NOTE

If the device is not connected to the touch panel at this time, any attempts at enabling the panel will fail, and the Breakout Box *page will be blank other than the* ***Breakout Box*** *button.*

5. The touch panel will now display images or video from the device.

Uploading MXA-MP and MXA-MPL Firmware

Firmware updates and upgrades for the MXA-MP and MXA-MPL must be done through NetLinx Studio.

WARNING

Verify you are using the latest NetLinx Master and Modero firmware, as well as the latest version of NetLinx Studio and TPDesign 4. Configuring the MXA-MP or MXA-MPL in NetLinx Studio requires at least version 3.3, available at ***www.amx.com****.*

To upload new firmware to the MXA-MP and MXA-MPL:

1. Connect the MXA-MP or MXA-MPL to the intended Modero X Series touch panel and network. For more information on the connection, please refer to the *Installation* section on page 7.

2. Once the Modero X Series panel is booted and connected to the device, select the appropriate method for Master connection.
3. Ensure that the device is visible to the Modero X Series panel. The *Status* LED on the device (FIG. 1) should toggle on and off every 5 seconds.
4. Ensure the **Reboot Device** button is checked in NetLinx Studio.
5. Locate and download the latest firmware update at **www.amx.com**.
6. Begin the upgrade by downloading the file.
7. After the transfer, the panel and the device will reboot and perform the firmware upgrade. After the upgrade, the device contains the latest firmware release.

NOTE

The device will not be ready for use and will not show up on the online tree in NetLinx Studio until AFTER its Status *LED begins to blink again.*

Programming the MXA-MP and MXA-MPL Output

NOTE

Programming the MXA-MP and MXA-MPL require the use of the latest versions of NetLinx Studio and TPDesign 4, both available at ***www.amx.com****.*

After uploading the firmware, the device's corresponding NetLinx program file will need to be edited in NetLinx Studio and transferred to the device's Master controller.

NOTE

Obtaining the device's output will require modification of the device's corresponding NetLinx module files in NetLinx Studio.

The MXA-MP and MXA-MPL use Send Commands in order to optimize communication between the device and its connected touch panel. These Send Commands are accessed by the device through the Modero X Series touch panel. The Send Commands, as well as information on *Settings* pages, panel configuration, and touch panel programming, may be found in the *Modero X Series Programming Guide*, available at **www.amx.com**.

Resetting the MXA-MP/MPL's Configuration to Factory Defaults

In certain circumstances, you may need to return the device's configuration settings to its factory defaults. To do so:

1. Press and hold the **Factory Reset** button (FIG. 1, FIG. 2) for about 5 seconds.
2. The *Power* LED will blink three times. At this time, release the **Factory Reset** button.
3. The device's configuration settings are now set to their factory defaults.

NOTE

Returning the device's configuration settings to their factory defaults will not affect the device's firmware version.

Resetting the MXA-MP/MPL's Firmware to Factory Defaults

To reset the device's firmware from its current version to the factory default version:

1. Press and hold the **Factory Reset** button (FIG. 1, FIG. 2) for about 10 seconds.
2. At about the 5-second mark, the *Power* LED will blink 3 times. Keep holding the **Factory Reset** button.
3. At the 10-second mark, the *Power* LED will blink 7 times at a faster rate. At this time, release the *Factory Reset* button.
4. The device's firmware is now reset to its factory default.

Returning the device's firmware version to its factory default will not affect the device's configuration settings.

MXA-MPL Latency

In networks utilizing an MXA-MPL for video streaming to a Modero X Series touch panel, users may note a latency period between the video source and its presentation on the touch panel. This latency period is approximately one second, although other factors, such as the size of the video image displayed on the touch panel and the cable distance between the video source and the MXA-MPL, may affect this. This may adversely affect touch panel applications that require a shorter period.

MXA-MP/MPL Best Practices

In order to optimize the functionality and presentation of TPDesign 4 pages containing input from the MXA-MP and MXA-MPL, please consider options to improve the user experience:

- Although the MXA-MP and MXA-MPL allow input from up to ten video sources, concentrating on a few essential video sources within a touch panel page will allow faster updating of images (MXA-MP) or images and video (MXA-MPL). More video input sources on a page means that the touch panel processor has more to process as video input is passed to it from the device.
- Because of the one-second latency between the video source and the touch panel (for more information, please refer to the *MXA-MPL Latency* section on page 15), network and video display design incorporating an MXA-MPL should take this into account. The latency period can be affected by the cable distance between the video source and the MXA-MPL or the MXA-MPL and its touch panel, or by the size of the video display on the touch panel.

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