



INSTALLATION & HARDWARE REFERENCE MANUAL

MODERO S SERIES TOUCH PANELS

MST-1001 10.1" MODERO S SERIES TABLETOP TOUCH PANEL

MSD-1001-L/2 10.1" MODERO S SERIES LANDSCAPE WALL MOUNT TOUCH PANEL

MST-701 7" MODERO S SERIES TABLETOP TOUCH PANEL

MSD-701-L/2 7" MODERO S SERIES LANDSCAPE WALL MOUNT TOUCH PANEL

MST-431 4.3" MODERO S SERIES TABLETOP TOUCH PANEL

MSD-431-L 4.3" MODERO S SERIES LANDSCAPE WALL MOUNT TOUCH PANEL



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 wider 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. USE ONLY with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
14. 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.
15. DO NOT expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
18. DO NOT overload wall outlets or extension cords beyond their rated capacity as this can cause electric shock or fire.



The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.



ESD Warning: The icon to the left indicates text regarding potential danger associated with the discharge of static electricity from an outside source (such as human hands) into an integrated circuit, often resulting in damage to the circuit.

- WARNING:** To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.
- WARNING:** No naked flame sources - such as candles - should be placed on the product.
- WARNING:** Equipment shall be connected to a MAINS socket outlet with a protective earthing connection.
- WARNING:** To reduce the risk of electric shock, grounding of the center pin of this plug must be maintained.

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The AMX Warranty and Return Policy and related documents can be viewed/downloaded at www.amx.com.

ESD WARNING

	<p>To avoid ESD (Electrostatic Discharge) damage to sensitive components, make sure you are properly grounded before touching any internal materials.</p> <p>When working with any equipment manufactured with electronic devices, proper ESD grounding procedures must be followed to make sure people, products, and tools are as free of static charges as possible. Grounding straps, conductive smocks, and conductive work mats are specifically designed for this purpose.</p> <p>Anyone performing field maintenance on AMX equipment should use an appropriate ESD field service kit complete with at least a dissipative work mat with a ground cord and a UL listed adjustable wrist strap with another ground cord</p>
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	<p>WARNING: Do Not Open! Risk of Electrical Shock. Voltages in this equipment are hazardous to life. No user-serviceable parts inside. Refer all servicing to qualified service personnel.</p> <p>Place the equipment near a main power supply outlet and make sure that you can easily access the power breaker switch.</p>
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WARNING: This product is intended to be operated ONLY from the voltages listed on the back panel or the recommended, or included, power supply of the product. Operation from other voltages other than those indicated may cause irreversible damage to the product and void the products warranty. The use of AC Plug Adapters is cautioned because it can allow the product to be plugged into voltages in which the product was not designed to operate. If the product is equipped with a detachable power cord, use only the type provided with your product or by your local distributor and/or retailer. If you are unsure of the correct operational voltage, please contact your local distributor and/or retailer.

FCC AND CANADA EMC COMPLIANCE INFORMATION:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Approved under the verification provision of FCC Part 15 as a Class B Digital Device.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.

CAN ICES-3 (B)/NMB-3(B)

EU COMPLIANCE INFORMATION:

Eligible to bear the CE mark; Conforms to European Union Low Voltage Directive 2006/95/EC; European Union EMC Directive 2004/108/EC; European Union Restriction of Hazardous Substances Recast (RoHS2) Directive 2011/65/EU; European Union WEEE (recast) Directive 2012/19/EU.

You may obtain a free copy of the Declaration of Conformity by visiting <http://www.amx.com/techcenter/certifications.asp>.

WEEE NOTICE:

	<p>This appliance is labeled in accordance with European Directive 2012/19/EU concerning waste of electrical and electronic equipment (WEEE). This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.</p>
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Modero S Series G4 Touch Panels

Overview

The Modero S Series is a beautiful touch panel family sophisticated enough for room control yet priced right for the most cost sensitive installations. The Modero S Series panels include VoIP, brilliant 24-bit color depth, PoE connectivity, USB and streaming video.



FIG. 1 Modero S Series Touch Panels

The Modero S-Series touch panels covered in this document are listed in the following table:

Modero S-Series Touch Panels		
MST-1001	FG2265-05	10.1" Modero S Series G4 Tabletop Touch Panel
MSD-1001-L/L2	FG2265-01/31	10.1" Modero S Series G4 Wall Mount Touch Panel - Landscape/v2 Landscape
MST-701	FG2265-06	7" Modero S Series G4 Tabletop Touch Panel
MSD-701-L/L2	FG2265-02/32	7" Modero S Series G4 Wall Mount Touch Panel- Landscape/v2 Landscape
MST-431	FG2265-07	4.3" Modero S Series G4 Tabletop Touch Panel
MSD-431-L	FG2265-03	4.3" Modero S Series G4 Wall Mount Touch Panel - Landscape
<i>Note: The "-L2" versions of the 10.1" and 7" Modero S Series G4 Wall Mount Touch Panels feature second generation mounting hardware. Functionally, they are identical to "-L" panels.</i>		

Multi-Functional Sleep Button

S Series touch panels are operated using an integral touchscreen, as well as the multi-functional Sleep button. This button provides a method to place the panel in sleep mode as well as to power-down and power-up the panel and to access the Setup pages. The Sleep button is located on the top left edge of the frame when facing the panel (see FIG. 2).



FIG. 2 Sleep Button location - Tabletop and Wall Mount

The Sleep Button's Functions are described below:

Sleep Button Functionality	
Press/Hold Action	Function Initiated on Release
Press Once	Puts the panel in sleep mode.
Press Once - while in Sleep mode	Wakes the panel from sleep mode
Press and Hold	Opens a Popup
Press/hold for 3 seconds	Open the panel's Setup pages
Press/hold for 6 seconds	Initiates panel shutdown
Press Once - while panel is shut down	Powers on the panel

Powering the Panel On/Off

To power the panel on, press the Sleep button.

Note that X Series panels automatically perform a screen calibration at power-up. Therefore, avoid allowing wireless devices near the screen, as well as touching the screen during the power-up process. These actions may cause the calibration to be off when the panel is powering up.

Configuration and Programming

S Series touch panels are equipped with a *Settings* menu that provides the ability to configure various features on the panels. To access the *Settings* menu, press and hold the Sleep button with a pointed instrument, and select **Settings**. This opens the main *Settings* menu

NOTE: Unlike previous G4 touch panels, Modero S Series touch panels do not have separate Setup and Protected Setup pages. All touch panel settings and functionality are now controlled through one Settings menu. The Connection & Networks and Configuration sections are accessible with the correct password.

Accessing the Settings Menu

- To access the *Settings* menu, press and hold the **Sleep** button on the touch panel with a pointed instrument for 3 seconds.
 - Alternately, some installation circumstances may require disabling *Settings* page access through the **Sleep** button. In this case, you may access *Settings* pages during a bootup of the panel.
 - As the panel boots up, watch for a series of indicator dots to appear on the splash screen (FIG. 3).
- To access the *Settings* menu, press the bottom right corner of the touchscreen within the first three seconds of these dots appearing on the screen.



FIG. 3 Indicator dots on the Modero X Series splash screen

Using the Settings Pages

When opened, the *Settings* menu appears in the center of the panel display. Note that many of the pages may be longer than they initially appear. Scroll down to reach all functions on a given page.

Information on the *Settings* menu, panel configuration, and programming is included in the *Modero X Series G4 Programming Guide*, available at www.amx.com.

NOTE: Programming Modero S Series touch panels require the use of the latest versions of NetLinx Studio and TPDesign4, both available to download at www.amx.com.

Bluetooth Support

S Series touch panels allow the use of Bluetooth keyboard and mouse combinations, using HID Profile v1.1.

Using a keyboard and mouse with the device requires use of the MXA-BT Bluetooth USB Adapter (**FG5968-19**).

Picture View

By connecting a USB drive via one of the device's USB ports, *Picture View* allows the S Series panel to access JPEG images on that drive and display them on the touchscreen. Individual images may be accessed at any time, or the entire collection may be displayed for predetermined times.

Picture View may be stopped at any time by removing the USB drive, and the panel will return to its default display page.

NOTE: The maximum source resolution for *Picture View* is 1920x1920 pixels. The maximum displayed resolution is the same as the screen resolution.

Starting Picture View

1. Connect a USB drive to the device. Picture View will automatically recognize all available images on the drive and start displaying them on the touchscreen.
2. When the images begin to display, touch any place on the touchscreen to open the configuration popup menu (FIG. 4).
 - If no selection is made, this menu will remain in place for 15 seconds and then disappear.
 - It may be accessed again by touching anywhere on the touchscreen.

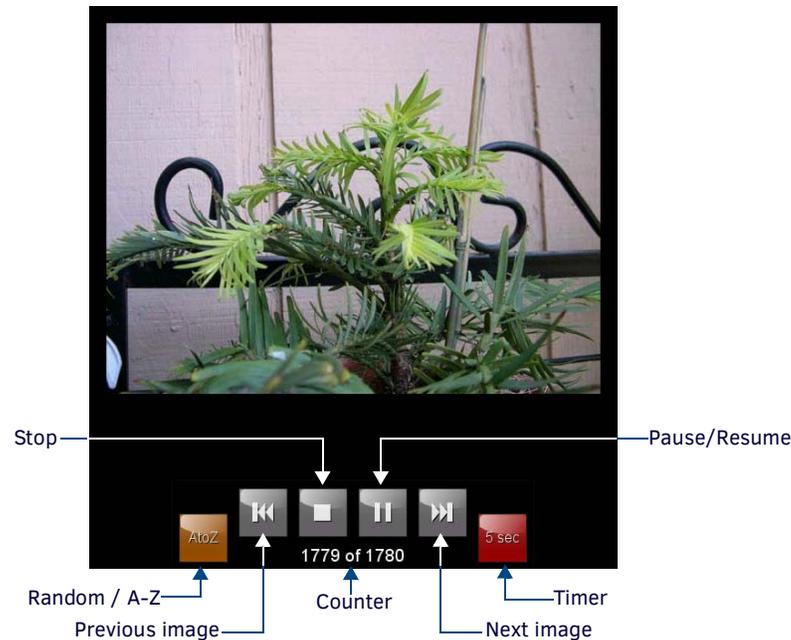


FIG. 4 Picture View Configuration Popup Menu

3. On the leftmost amber button, select between **Rand** (images display at random) and **A-Z** (images display in alphabetical order based on the name of the file).
4. The four gray buttons allow scrolling through saved images and the rate of display:
 - The **Previous Image Saved** button returns the display to the first image uploaded by Page View.
 - The **Stop** button stops Page View and returns to the default panel page.
 - The **Pause/Resume** button allows the display to stop on one particular image. Press it again to resume the display procession.
 - The **Next Image Saved** button returns the display to the last image uploaded by Page View. If the panel has not accessed all of the images available on a USB drive, Page View will display the last one uploaded to date.
5. On the rightmost red button, select the number of seconds a selected image will be displayed in Picture View. This may be selected between 5, 10, 15, 30, and 60 seconds.
6. The counter beneath the buttons displays the number of images currently uploaded by the MST-1001 versus the number detected on the USB drive.

Preview Mode and Normal Mode

Picture View has two modes: *Preview Mode* and *Normal Mode*.

Preview Mode allows the user to configure Picture View. Once a USB drive containing images is inserted into the panel, the images will begin to display. Touching any place on the display will result in the configuration popup to slide from the bottom of the display. Picture View goes into its Normal Mode when the MST-1001 goes into idle timeout while connected to a USB drive. Normal Mode displays images until the touchscreen is touched, or some other wakeup event is detected. When the device goes back into timeout, Normal Mode will return to displaying images until the USB drive is removed from the device.

Picture View Send Command (^PIC)

The ^PIC Send Command stops either mode of Picture View, or starts Preview Mode. For more information, please refer to the *Modero S Series Programming Guide*, available at www.amx.com.

NOTE: All images must be in JPEG format. PNG and other image formats cannot be viewed through Picture View.

Panel Calibration

It is recommended that the panel is calibrated before its initial use and after completing a firmware download. Panel calibration is performed via the *Calibrate* page. The *Calibrate* page is accessed in one of two ways:

- By holding the Sleep button with a pointed instrument for ~6 seconds
 - Going to Settings > Display > Calibration
1. Press and hold the Sleep button with a pointed instrument for **6 seconds** (passing-over the Setup page) to access the *Calibrate* page (FIG. 5):

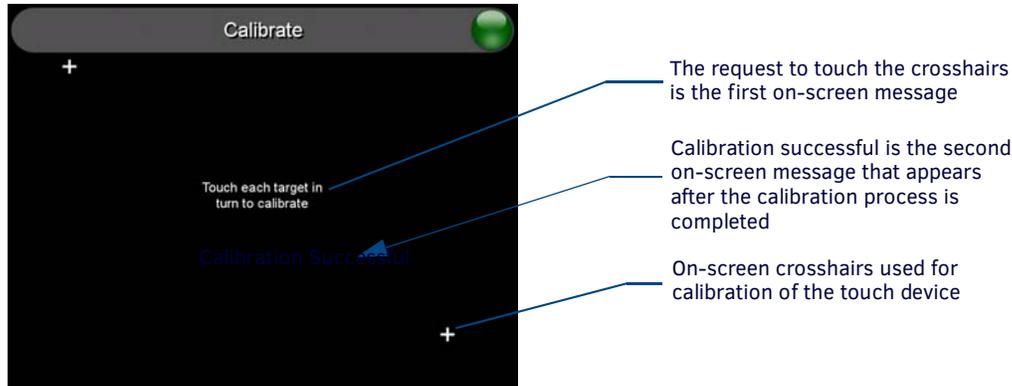


FIG. 5 Touch Panel Calibration Screens

2. Press the crosshairs to set the calibration points on the screen.
3. After the "Calibration Successful." message appears, press anywhere on the screen to continue and return to the *Setup* page.

Testing the Panel Calibration

1. Press and hold the on-screen **Calibration** button for 6 seconds to enter the *Calibrate* page.
2. Press anywhere on this page to confirm the on-screen crosshairs match your touch points.
3. If the crosshairs do not appear directly below your LCD touch points, press the **Back** button and recalibrate the panel using the above steps.
4. Exit the *Calibrate* page by pressing the **Back** button to return to the *Protected Setup* page.

NOTE: If the calibration was improperly set and you cannot return to the *Calibrate* page (through the panel's firmware); this firmware page can be accessed via G4 WebControl by navigating to the *Protected Setup* page and pressing the *Calibrate* button through the VNC window. This action causes the panel to go to the *Calibrate* page seen above, where recalibration of the actual touch panel can be performed again using the above procedures. A mouse can be plugged into the USB port (on panels that have access to it) and used to navigate back to the *Calibration* page. The process of pushing the button could also be repeated as necessary.

Touch Panel Aspect Ratio

While the touch panel screen physical dimensions fall between 16:9 and 16:10, any incoming video stream can be scaled to 16:9 if needed. This may lead to some letter boxing around the video in some cases.

Cleaning the Touch Overlay and Case

- When cleaning the device, **do not directly spray the device with cleaning fluid**. Instead, spray the cloth and then apply the cloth to the touch screen.
- Do **NOT** use abrasives of any type to clean the device, as abrasives may permanently damage or remove the device's finish.

MST/D-1001 - 10.1" S Series Touch Panels

MST-1001 (Tabletop)



FIG. 6 MST-1001 (front and side views)

MST-1001 Specifications

MST-1001 Specifications	
DIMENSIONS (HWD)	6 13/16" x 10 1/16" x 2" (174mm x 255mm x 51mm)
WEIGHT	2.6 lbs (1.179 Kg)
POWER CONSUMPTION	<ul style="list-style-type: none"> • Full-On: 14W (max) • Typical: 7.5W • Standby: 4.5W • Shutdown: 0.7W • Start-Up Inrush Current: Not applicable due to PoE standard
EXTERNAL POWER SUPPLY REQUIRED	Optimal performance requires use of one of the following AMX PoE power supplies (not included): <ul style="list-style-type: none"> • PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) • NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
CERTIFICATIONS	<ul style="list-style-type: none"> • FCC Part 15 Class B • CE EN 55022, 55024 • C-Tick CISPR 22 Class B • IEC/EN/UL 60950-1 • CISPR 22 Class B • RoHS • WEEE
TOUCH SCREEN DISPLAY	<ul style="list-style-type: none"> • Display Type: TFT Active Matrix Color LCD • Display Size (WH): Landscape: 9.1" x 5.9" (230mm x 149mm), 10.8" (274mm) diagonal • Viewable Area (WH): Landscape: 8.5" x 5.4" (217mm x 136mm), 10.0" (256mm) diagonal • Resolution: Landscape: 1280x800 • Aspect Ratio: Landscape: 16:9 • Brightness: 350 cd/m2 • Contrast Ratio: 800:1 • Color Depth: 16.7M colors • Illumination: LED • Touch Overlay: Resistive <p><i>Note - Touch Panel Aspect Ratio: While the touch panel screen physical dimensions fall between 16:9 and 16:10, any incoming video stream can be scaled to 16:9 if needed. This may lead to some letter boxing around the video in some cases.</i></p>
VIEWING ANGLE	85°/85°/85°/85° (Up/Down/Left/Right)
MEMORY	<ul style="list-style-type: none"> • SDRAM: 512 MB • Flash: 4 GB • Maximum Project Size: 2.4 GB flash available to user

MST-1001 Specifications (Cont.)	
COMMUNICATIONS	<ul style="list-style-type: none"> Ethernet: 10/100 port, RJ-45 connector. Supported IP and IP-based protocols: UCP, TCP, ICMP, ICSP, IGMP, DHCP, Telnet, FTP, DNS, RFB (for VNC), HTTP USB: (1) USB host 2.0, Type A port: Firmware upgrade, touch panel file transfer, JPEG image viewer, HID Peripherals Bluetooth®: Mouse/Keyboard: HID Profile v1.1, requires MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) and MXA-HST, Bluetooth Handset for Modero X/S Touch Panels (FG5968-17)
VIDEO	<ul style="list-style-type: none"> Supported Video Codecs: <ul style="list-style-type: none"> MPEG2-TS: MPEG-2 Main Profile@High Level up to 720p at 25 fps (decode) MPEG-2-TS: H.264 High Profile@Layer 4, AAC-LC up to 720p at 25 fps (decode) MJPEG up to 720p at 25 fps (decode) Supported Video Transport Streams: MPEG-TS for MPEG2 and H.264; HTTP for MJPEG Max Number of Active Video Streams: One decode
AUDIO	<ul style="list-style-type: none"> Microphone: -42 dB ±3 dB sensitivity FET microphone Speakers: 4 ohm, 1.5 Watt, 500 Hz cutoff frequency Supported Audio Codecs: <ul style="list-style-type: none"> MP2 Layer I and II, MP3 (8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz) AAC-LC (8 kHz, 96 kHz) G.711 with µLaw (VoIP encode/decode at 8 kHz) File Formats: WAV, MP3 (as part of touch panel file only - no USB storage) Intercom: Full Duplex VoIP, SIP v2.0 (supported with AMX-CSG)
GRAPHICS ENGINE	AMX G4: AMX's exclusive, powerful G4 graphics engine – the driving force behind the advanced graphics and image processing capability on a variety of AMX Touch Panels and other devices (see TPD4 Operations Guide for more information)
EMBEDDED APPLICATIONS	<ul style="list-style-type: none"> Remote Management: VNC Server, G4 Web Control Panel-to-Panel Conferencing: Receives audio and video and returns audio for panel-to-panel communication Audio Conferencing: Audio (Full Duplex Intercom)
FRONT PANEL COMPONENTS	Sleep Button: Sleep button to activate sleep mode and powering off. Also provides access to setup pages (can be disabled)
CONNECTIONS	<ul style="list-style-type: none"> Ethernet: 10/100 port, RJ-45 connector USB: (1) USB host 2.0, Type A port Power: PoE (Power over Ethernet), 802.3af, class 3
ENVIRONMENTAL	<ul style="list-style-type: none"> Temperature (Operating): 32° F to 104° F (0° C to 40° C) / (Storage): 4° F to 140° F (-20° C to 60° C) Humidity (Operating): 20% to 85% RH / (Storage): 5% to 85% RH Power ("Heat") Dissipation: <ul style="list-style-type: none"> On: 10.9 BTU/hr Standby: 10.6 BTU/hr
INCLUDED ACCESSORIES	<ul style="list-style-type: none"> MXA-USB-C, USB Port Cover Kit, Modero X Series Touch Panel (FG5968-18) Cat5e Ethernet Cable, Flat Black (ECA2265-10) UTP CAT.5E Snap In Coupler, Black (64-5968-01)
OPTIONAL ACCESSORIES	<ul style="list-style-type: none"> MSA-STMK-10, Secure Table Mount Kit for Modero S Series Touch Panel, 10" (FG2265-16) MXA-MP, Modero X/S Series Multi Preview (FG5968-20) MXA-MPL, Modero X/S Series Multi Preview Live (FG5968-10) PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) NXA-ENET8-2POE, Gigabit Ethernet Switch (FG2178-63) MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) MXA-HST, Bluetooth Handset for Modero X/S Series Touch Panels (FG5968-17) HPG-10-10K, 3/4" Mini-Grommet, 10-Pack (FG570-01-10K) MXA-CLK, Modero X/S Series Screen Cleaning Kit (FG5968-16) MXA-USB-C, USB Port Covers for the Modero X/S Series Touch Panels (FG5968-18)

MSD-1001-L/2 (Wall Mount-Landscape)



FIG. 7 MSD-1001-L/2

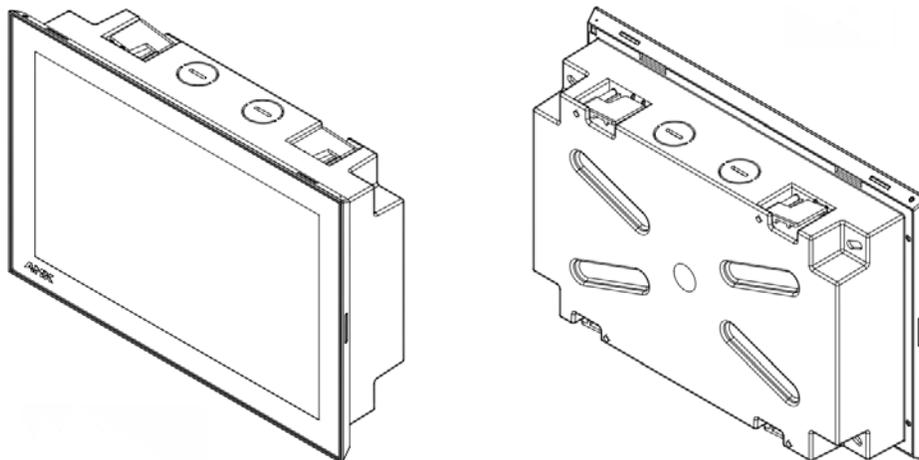


FIG. 8 MSD-1001-L/2 front and rear isometric views

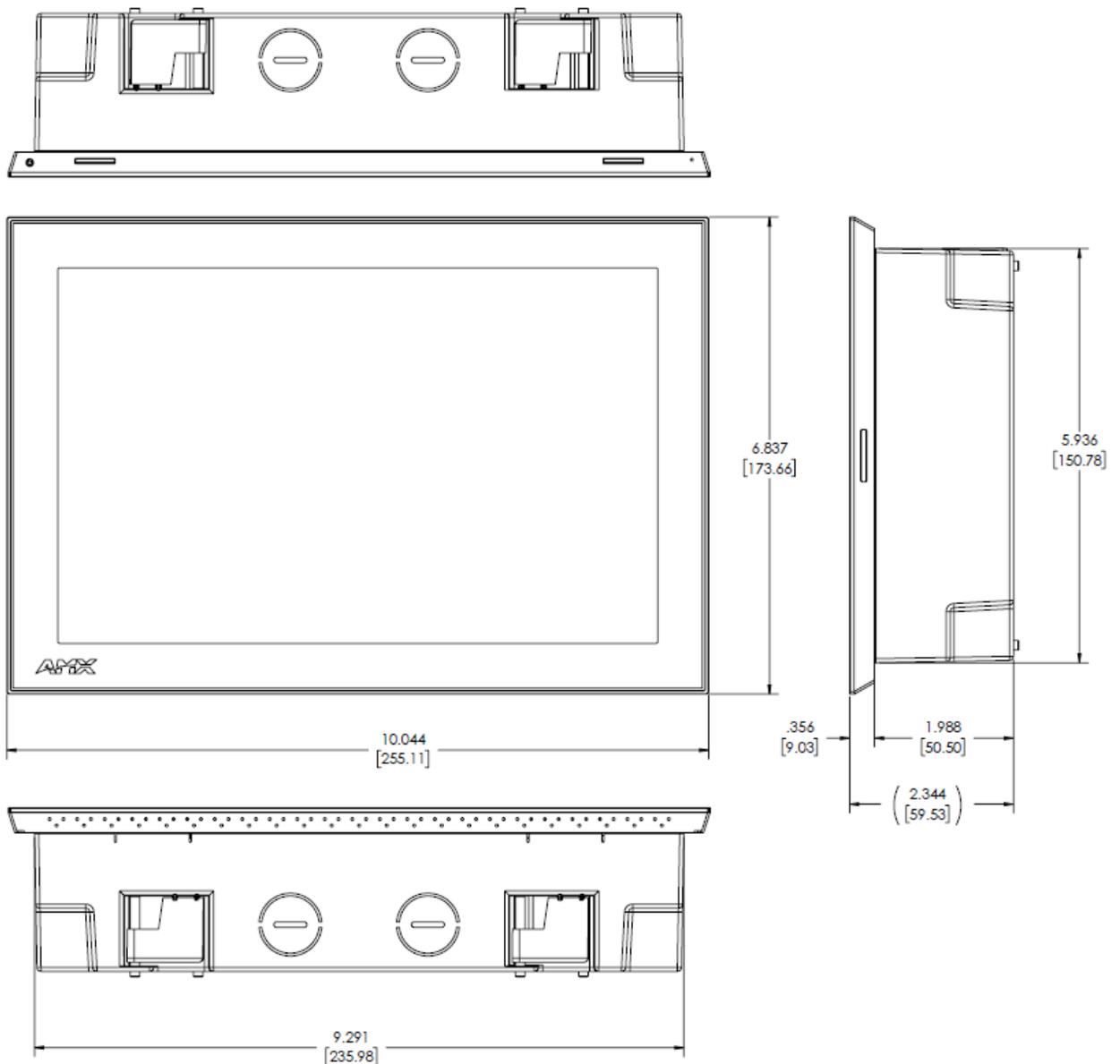
MSD-1001-L/2 Specifications

MSD-1001-L/2 Specifications	
Product/FG#	<ul style="list-style-type: none"> MSD-1001-L2, Landscape Wall Mount Touch Panel: FG2265-31 MSD-1001-L, Landscape Wall Mount Touch Panel: FG2265-01
DIMENSIONS with backbox (HWD)	6.837" x 10.044" x 1.988" (173.66mm x 255.11mm x 50.50mm) <i>Note: See FIG. 9 on page 14 for details.</i>
WEIGHT	<ul style="list-style-type: none"> 1.95 lbs (.885 Kg), with Backbox 1.5 lbs (.680 Kg), without Backbox
POWER CONSUMPTION	<ul style="list-style-type: none"> Full-On: 14W Typical: 7.5W Standby: 4.7W Shutdown: 0.8W Start-Up Inrush Current: Not applicable due to PoE standard
EXTERNAL POWER SUPPLY REQUIRED	Optimal performance requires use of one of the following AMX PoE power supplies (not included): <ul style="list-style-type: none"> PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
CERTIFICATIONS	<ul style="list-style-type: none"> FCC Part 15 Class B CE EN 55022, 55024 C-Tick CISPR 22 Class B IEC/EN/UL 60950-1 CISPR 22 Class B RoHS WEEE

MSD-1001-L/2 Specifications (Cont.)	
TOUCH SCREEN DISPLAY	<ul style="list-style-type: none"> • Display Type: TFT Active Matrix Color LCD • Display Size (WH): Landscape: 9.1" x 5.9" (230mm x 149mm), 10.8" (274mm) diagonal • Viewable Area (WH): Landscape: 8.5" x 5.4" (217mm x 136mm), 10.0" (256mm) diagonal • Resolution: Landscape: 1280x800 • Aspect Ratio: Landscape: 16:9 • Brightness: 350 cd/m² • Contrast Ratio: 800:1 • Color Depth: 16.7M colors • Illumination: LED • Touch Overlay: Resistive <p><i>Note - Touch Panel Aspect Ratio: While the touch panel screen physical dimensions fall between 16:9 and 16:10, any incoming video stream can be scaled to 16:9 if needed. This may lead to some letter boxing around the video in some cases.</i></p>
VIEWING ANGLE	85°/85°/85°/85° (Up/Down/Left/Right)
MEMORY	<ul style="list-style-type: none"> • SDRAM: 512 MB • Flash: 4 GB • Maximum Project Size: 2.4 GB flash available to user
COMMUNICATIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 port, RJ-45 connector. Supported IP and IP-based protocols: UCP, TCP, ICMP, ICSP, IGMP, DHCP, Telnet, FTP, DNS, RFB (for VNC), HTTP • (1) USB host 2.0, Type A port: firmware upgrade, touch panel file transfer, JPEG image viewer, HID peripherals • Bluetooth®: Mouse/Keyboard: HID Profile v1.1, requires MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) and MXA-HST, Bluetooth Handset for Modero X/S Touch Panels (FG5968-17)
VIDEO	<ul style="list-style-type: none"> • Supported Video Codecs: <ul style="list-style-type: none"> MPEG2-TS: MPEG-2 Main Profile@High Level up to 720p at 25 fps (decode) MPEG-2-TS: H.264 High Profile@Layer 4, AAC-LC up to 720p at 25 fps (decode) MJPEG up to 720p at 25 fps (decode) • Supported Video Transport Streams: MPEG-TS for MPEG2 and H.264; HTTP for MJPEG • Max Number of Active Video Streams: One decode
AUDIO	<ul style="list-style-type: none"> • Microphone: -42 dB ±3 dB sensitivity FET microphone • Speakers: 4 ohm, 1.5 Watt, 500 Hz cutoff frequency • Supported Audio Codecs: <ul style="list-style-type: none"> MP2 Layer I and II, MP3 (8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz) AAC-LC (8 kHz, 96 kHz) G.711 with µLaw (VoIP encode/decode at 8 kHz) • File Formats: WAV, MP3 (as part of touch panel file only - no USB storage) • Intercom: Full Duplex VoIP, SIP v2.0 (supported with AMX-CSG)
GRAPHICS ENGINE	AMX G4: AMX's exclusive, powerful G4 graphics engine – the driving force behind the advanced graphics and image processing capability on a variety of AMX Touch Panels and other devices (see TPD4 Operations Guide for more information)
EMBEDDED APPLICATIONS	<ul style="list-style-type: none"> • Remote Management: VNC Server, G4 Web Control • Video Conferencing: Panel-to-panel and video chat (the MSD-1001 receives video and returns audio) • Audio Conferencing: Audio (Full Duplex Intercom)
FRONT PANEL COMPONENTS	<p>Sleep Button: Sleep button to activate sleep mode and power off. Also provides access to setup pages (can be disabled)</p> <p>Programmable Red/Green LEDs: Programmable red/green LED in the front, left and right sides of the panel, LEDs are beautifully recessed and nearly invisible when not lit</p>
CONNECTIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 port, RJ-45 connector • USB: (1) USB host 2.0, type A port • Power: PoE (Power over Ethernet), 802.3af, class 0
ENVIRONMENTAL	<ul style="list-style-type: none"> • Temperature (Operating): 32° F to 104° F (0° C to 40° C) / (Storage): 4° F to 140° F (-20° C to 60° C) • Humidity (Operating): 20% to 85% RH / (Storage): 5% to 85% RH • Power ("Heat") Dissipation: <ul style="list-style-type: none"> On: 27.3 BTU/hr Standby: 10.9 BTU/hr
INCLUDED ACCESSORIES	<ul style="list-style-type: none"> • Installation Template 10.1" S Series (68-2265-03)

MSD-1001-L/2 Specifications (Cont.)**OPTIONAL ACCESSORIES**

- MSA-MMK-10, Multi Mount Kit, for use with MSD-1001 (FG2265-11)
- MSA-MMK2-10, Multi Mount Kit, for use with MSD-1001-L2, RMBK-1001 (FG2265-21)
- MSA-RMK-10, Rack Mount Kit for 10" Modero S Series Wall Mount Touch Panel (FG2265-14)
- MSA-AMK-10, Any Mount Kit, for use with MSD-1001 (FG2265-26)
- MSA-AMK2-10, Any Mount Kit, for use with MSD-1001-L2, RMBK-1001 (FG2265-36)
- MXA-MP, Modero X/S Series Multi Preview (FG5968-20)
- MXA-MPL, Modero X/S Series Multi Preview Live (FG5968-10)
- PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83)
- NXA-ENET8-2POE, Gigabit Ethernet Switch (FG2178-63)
- MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19)
- MXA-HST, Bluetooth Handset for Modero X/S Series Touch Panels (FG5968-17)
- MXA-CLK, Modero X/S Series Screen Cleaning Kit (FG5968-16)
- CB-MSA-10, Rough-In Box and Cover Plate (FG2265-08)

MSD-1001-L/2 Dimensions**FIG. 9** MSD-1001-L/2 Dimensions

NOTE: Detailed specifications drawings for the [MSD-1001-L](http://www.amx.com) are available to download from www.amx.com.

MST/D-701 - 7" S Series Touch Panels

MST-701 (Tabletop)



FIG. 10 MST-701

MST-701 Specifications

MST-701 Specifications	
DIMENSIONS (HWD)	4 1/2" x 7 3/8" x 3 3/16" (115mm x 188mm x 81mm)
WEIGHT	1.4 lbs (.635 Kg)
POWER CONSUMPTION	<ul style="list-style-type: none"> • Full-On: 13W • Typical: 7W • Standby: 4.5W • Shutdown: 0.7W • Start-Up Inrush Current: Not applicable due to PoE standard
EXTERNAL POWER SUPPLY REQUIRED	Optimal performance requires use of one of the following AMX PoE power supplies (not included): <ul style="list-style-type: none"> • PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) • NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
CERTIFICATIONS	<ul style="list-style-type: none"> • FCC Part 15 Class B • CE EN 55022, 55024 • C-Tick CISPR 22 Class B • IEC/EN/UL 60950-1 • CISPR 22 Class B • RoHS • WEEE
TOUCH SCREEN DISPLAY	<ul style="list-style-type: none"> • Display Type: TFT Active Matrix Color LCD with Fringe Field Switching (FFS) - Wide viewing angle technology • Display Size (WH): Landscape: 7.3" x 4.8" (186 mm x 122 mm), 8.8" (222 mm) diagonal • Viewable Area (WH): Landscape: 6.05" x 3.54" (154 mm x 90 mm), 7.0" (178 mm) diagonal • Resolution: Landscape: 1024x600 • Aspect Ratio: Landscape: 16:9 • Brightness: 400 cd/m² • Contrast Ratio: 800:1 • Color Depth: 16.7M colors • Illumination: LED • Touch Overlay: Resistive <p><i>Note - Touch Panel Aspect Ratio: While the touch panel screen physical dimensions fall between 16:9 and 16:10, any incoming video stream can be scaled to 16:9 if needed. This may lead to some letter boxing around the video in some cases.</i></p>
VIEWING ANGLE	89°/89°/89°/89° (Up/Down/Left/Right)

MST-701 Specifications (Cont.)	
MEMORY	<ul style="list-style-type: none"> • SDRAM: 512 MB • Flash: 4 GB • Maximum Project Size: 2.4 GB flash available to user
COMMUNICATIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 port, RJ-45 connector. Supported IP and IP-based protocols: UCP, TCP, ICMP, ICSP, IGMP, DHCP, Telnet, FTP, DNS, RFB (for VNC), HTTP • USB: (1) USB host 2.0, Type A port: Firmware upgrade, touch panel file transfer, JPEG image viewer, HID Peripherals • Bluetooth®: Mouse/Keyboard: HID Profile v1.1, requires MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) and MXA-HST, Bluetooth Handset for Modero X/S Touch Panels (FG5968-17)
VIDEO	<ul style="list-style-type: none"> • Supported Video Codecs: <ul style="list-style-type: none"> MPEG2-TS: MPEG-2 Main Profile@High Level up to 720p at 25 fps (decode only) MPEG-2-TS: H.264 High Profile@Layer 4, AAC-LC up to 720p at 25 fps (decode) MJPEG up to 720p at 25 fps (decode only) • Supported Video Transport Streams: MPEG-TS for MPEG2 and H.264; HTTP for MJPEG • Max Number of Active Video Streams: One decode
AUDIO	<ul style="list-style-type: none"> • Microphone: -42 dB ±3 dB sensitivity FET microphone • Speakers: 4 ohm, 1.5 Watt, 500 Hz cutoff frequency • Supported Audio Codecs: <ul style="list-style-type: none"> MP2 Layer I and II, MP3 (8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz) AAC-LC (8 kHz, 96 kHz) G.711 with µLaw (VoIP encode/decode at 8 kHz) • File Formats: WAV, MP3 (as part of touch panel file only - no USB storage) • Intercom: Full Duplex VoIP, SIP v2.0 (supported with AMX-CSG)
GRAPHICS ENGINE	AMX G4: AMX's exclusive, powerful G4 graphics engine – the driving force behind the advanced graphics and image processing capability on a variety of AMX Touch Panels and other devices (see TPD4 Operations Guide for more information)
EMBEDDED APPLICATIONS	<ul style="list-style-type: none"> • Remote Management: VNC Server, G4 Web Control • Panel-to-Panel Conferencing: Receives audio and video and returns audio for panel-to-panel communication • Audio Conferencing: Audio (Full Duplex Intercom)
FRONT PANEL COMPONENTS	Sleep Button: Sleep button to activate sleep mode and power off. Also provides access to setup pages (can be disabled)
CONNECTIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 port, RJ-45 connector • USB: (1) USB host 2.0, Type A port • Power: PoE (Power over Ethernet), 802.3af, class 3
ENVIRONMENTAL	<ul style="list-style-type: none"> • Temperature (Operating): 32° F to 104° F (0° C to 40° C) / (Storage): 4° F to 140° F (-20° C to 60° C) • Humidity (Operating): 20% to 85% RH / (Storage): 5% to 85% RH • Power ("Heat") Dissipation: <ul style="list-style-type: none"> On: 27.3 BTU/hr Standby: 10.9 BTU/hr
INCLUDED ACCESSORIES	<ul style="list-style-type: none"> • MXA-USB-C, USB Port Cover Kit, Modero X Series Touch Panel (FG5968-18) • Cat5e Ethernet Cable, Flat Black (ECA2265-10) • UTP CAT.5E Snap In Coupler, Black (64-5968-01)
OPTIONAL ACCESSORIES	<ul style="list-style-type: none"> • MSA-STMK-07, Secure Table Mount Kit for 7" Modero S Tabletop Touch Panel (FG2265-17) • MXA-MP, Modero X/S Series Multi Preview (FG5968-20) • MXA-MPL, Modero X/S Series Multi Preview Live (FG5968-10) • PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) • NXA-ENET8-2POE, Gigabit Ethernet Switch (FG2178-63) • MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) • MXA-HST, Bluetooth Handset for Modero X/S Series Touch Panels (FG5968-17) • HPG-10-10K, 3/4" Mini-Grommet, 10-Pack (FG570-01-10K) • MXA-CLK, Modero X/S Series Screen Cleaning Kit (FG5968-16) • MXA-USB-C, USB Port Covers for the Modero X/S Series Touch Panels (FG5968-18)

MSD-701-L/2 (Landscape Wall Mount)

The MSD-701-L/2 7" (Landscape) Wall Mount Touch Panel (**FG2265-02**) features brilliant 24-bit color depth, PoE connectivity, and streaming video. The MSD-701-L also supports Bluetooth keyboard and mouse via the optional MXA-BT Bluetooth Adapter.



FIG. 11 MSD-701-L/2

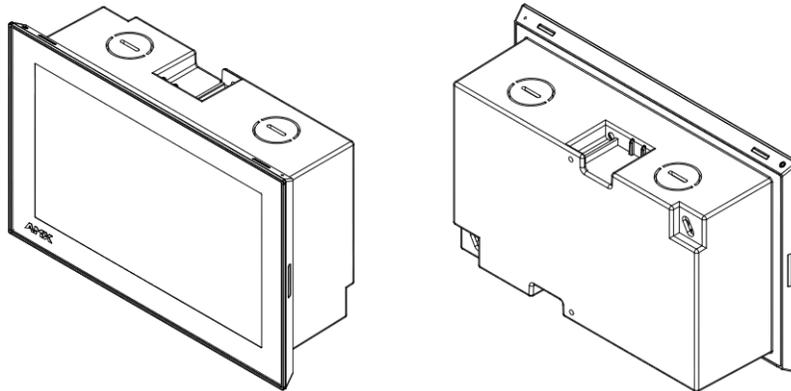


FIG. 12 MSD-701-L/2 front and rear isometric views

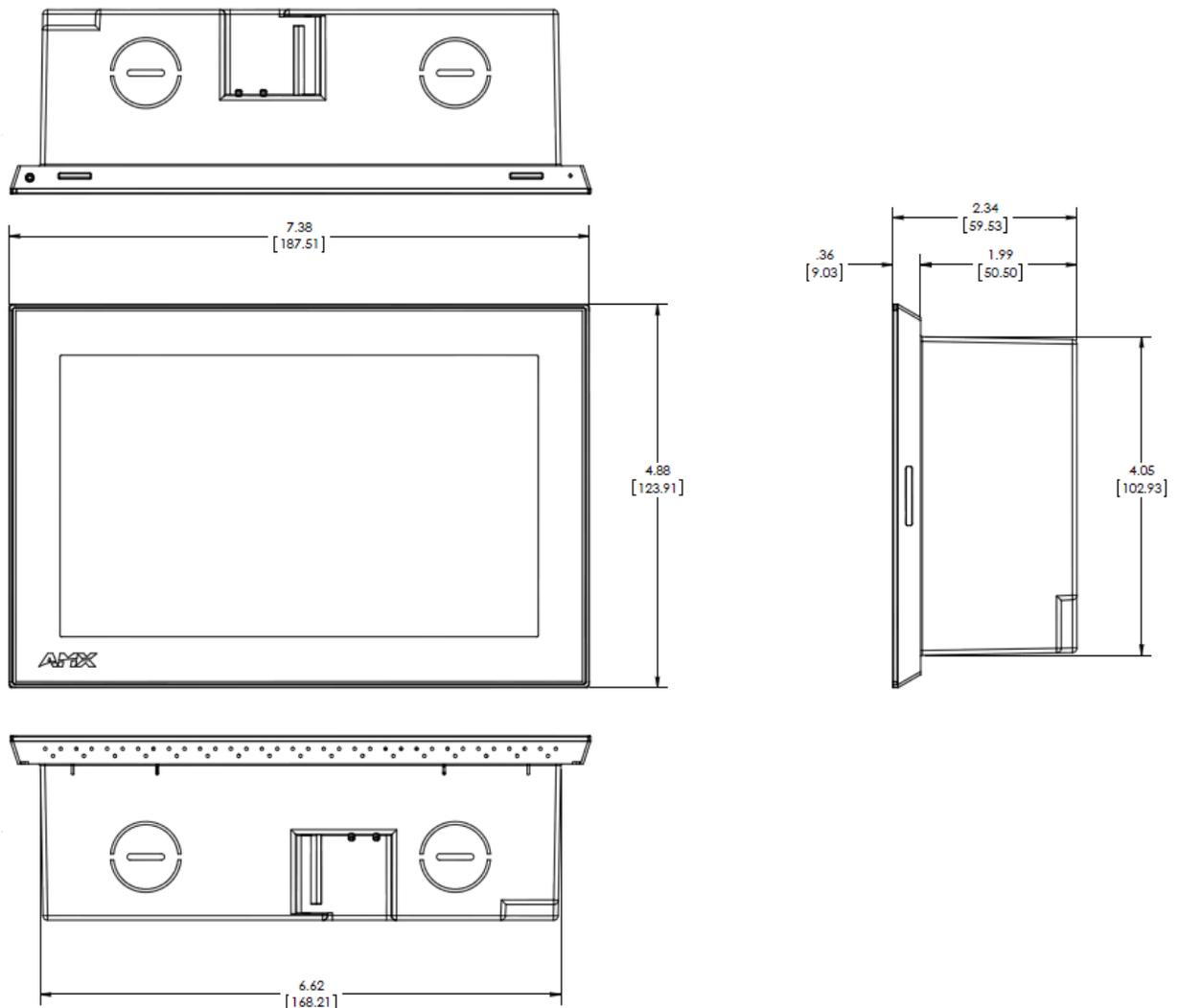
MSD-701-L/2 Specifications

MSD-701-L/2 Specifications	
DIMENSIONS with backbox (HWD)	4.88" x 7.38" x 1.99" (123.91mm x 187.51mm x 50.50mm) See FIG. 13 on page 19 for details.
WEIGHT	<ul style="list-style-type: none"> • 1.05 lbs (.680 Kg), with Backbox • 0.8 lbs (.363 Kg), without Backbox
POWER CONSUMPTION	<ul style="list-style-type: none"> • Full-On: 11W • Typical: 7.5W • Standby: 4.5W • Shutdown: 0.7W • Start-Up Inrush Current: Not applicable due to PoE standard
EXTERNAL POWER SUPPLY REQUIRED	Optimal performance requires use of one of the following AMX PoE power supplies (not included): <ul style="list-style-type: none"> • PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) • NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
CERTIFICATIONS	<ul style="list-style-type: none"> • FCC Part 15 Class B • CE EN 55022, 55024 • C-Tick CISPR 22 Class B • IEC/EN/UL 60950-1 • CISPR 22 Class B • RoHS • WEEE

MSD-701-L/2 Specifications (Cont.)	
TOUCH SCREEN DISPLAY	<ul style="list-style-type: none"> • Display Type: TFT Active Matrix Color LCD with Fringe Field Switching (FFS) - Wide viewing angle technology • Display Size (WH): Landscape: 7.3" x 4.8" (186mm x 122mm), 8.8" (222mm) diagonal • Viewable Area (WH): Landscape: 6.05" x 3.54" (154mm x 90mm), 7.0" (178mm) diagonal • Resolution: Landscape: 1024x600 • Aspect Ratio: Landscape: 16:9 • Brightness: 400 cd/m² • Contrast Ratio: 800:1 • Color Depth: 16.7M colors • Illumination: LED • Touch Overlay: Resistive <p><i>Note - Touch Panel Aspect Ratio: While the touch panel screen physical dimensions fall between 16:9 and 16:10, any incoming video stream can be scaled to 16:9 if needed. This may lead to some letter boxing around the video in some cases.</i></p>
VIEWING ANGLE	89°/89°/89°/89° (Up/Down/Left/Right)
MEMORY	<ul style="list-style-type: none"> • SDRAM: 512 MB • Flash: 4 GB • Maximum Project Size: 2.4 GB flash available to user
COMMUNICATIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 port, RJ-45 connector. Supported IP and IP-based protocols: UCP, TCP, ICMP, ICSP, IGMP, DHCP, Telnet, FTP, DNS, RFB (for VNC), HTTP • USB: (1) USB host 2.0, Type A port: firmware upgrade, touch panel file transfer, JPEG image viewer, HID peripherals • Bluetooth®: Mouse/Keyboard: HID Profile v1.1, requires MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) and MXA-HST, Bluetooth Handset for Modero X/S Touch Panels (FG5968-17)
VIDEO	<ul style="list-style-type: none"> • Supported Video Codecs: <ul style="list-style-type: none"> MPEG2-TS: MPEG-2 Main Profile@High Level up to 720p at 25 fps (decode only) MPEG-2-TS: H.264 High Profile@Layer 4, AAC-LC up to 720p at 25 fps (decode) MJPEG up to 720p at 25 fps (decode only) • Supported Video Transport Streams: MPEG-TS for MPEG2 and H.264; HTTP for MJPEG • Max Number of Active Video Streams: One decode
AUDIO	<ul style="list-style-type: none"> • Microphone: -42 dB ±3 dB sensitivity FET microphone • Speakers: 4 ohm, 1.5 Watt, 500 Hz cutoff frequency • Supported Audio Codecs: <ul style="list-style-type: none"> MP2 Layer I and II, MP3 (8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz) AAC-LC (8 kHz, 96 kHz) G.711 with µLaw (VoIP encode/decode at 8 kHz) • File Formats: WAV, MP3 (as part of touch panel file only - no USB storage) • Intercom: Full Duplex VoIP, SIP v2.0 (supported with AMX-CSG)
GRAPHICS ENGINE	AMX G4: AMX's exclusive, powerful G4 graphics engine – the driving force behind the advanced graphics and image processing capability on a variety of AMX Touch Panels and other devices (see TPD4 Operations Guide for more information)
EMBEDDED APPLICATIONS	<ul style="list-style-type: none"> • Remote Management: VNC Server, G4 Web Control • Panel-to-Panel Conferencing: Receives audio and video and returns audio for panel-to-panel communication • Audio Conferencing: Audio (Full Duplex Intercom)
FRONT PANEL COMPONENTS	<ul style="list-style-type: none"> • Sleep Button: Sleep button to activate sleep mode and powering off. Also provides access to setup pages (can be disabled) • Programmable Red/Green LEDs: Programmable red/green LED in the front, left and right sides of the panel, LEDs are beautifully recessed and nearly invisible when not lit
CONNECTIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 port, RJ-45 connector • USB: (1) USB host 2.0, type A port • Power: PoE (Power over Ethernet), 802.3af, class 0
ENVIRONMENTAL	<ul style="list-style-type: none"> • Temperature (Operating): 32° F to 104° F (0° C to 40° C) / (Storage): 4° F to 140° F (-20° C to 60° C) • Humidity (Operating): 20% to 85% RH / (Storage): 5% to 85% RH • Power ("Heat") Dissipation: <ul style="list-style-type: none"> On: 22.2 BTU/hr Standby: 14.3 BTU/hr
INCLUDED ACCESSORIES	<ul style="list-style-type: none"> • Installation Template 7" S Series (68-2265-02)

MSD-701-L/2 Specifications (Cont.)**OPTIONAL ACCESSORIES**

- MXA-MP, Modero X/S Series Multi Preview (FG5968-20)
- MXA-MPL, Modero X/S Series Multi Preview Live (FG5968-10)
- PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83)
- NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
- MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19)
- MXA-HST, Bluetooth Handset for Modero X/S Series Touch Panels (FG5968-17)
- CB-MXSA-07, Rough-In Box and Cover Plate for Modero X/S Series Touch Panel, 7" (FG2265-09)
- MSA-MMK-07, Multi Mount Kit for 7" Modero S Series Wall Mount Touch Panel (FG2265-12)
- MSA-RMK-07, Rack Mount Kit for Modero S Series Touch Panel, 7" (FG2265-15)
- MSA-AMK-07, Any Mount Kit for 7" Modero S Series Wall Mount Touch Panel (FG2265-25)
- MXA-CLK, Modero X/S Series Screen Cleaning Kit (FG5968-16)
- MXA-USB-C, USB Port Covers for the Modero X/S Series Touch Panels (FG5968-18)

MSD-701-L/2 Dimensions**FIG. 13** MSD-701-L/2 Dimensions

NOTE: Detailed specifications drawings for the [MSD-701-L](http://www.amx.com) are available to download from www.amx.com.

MST/D-431 - 4.3" S Series Touch Panels

MST-431 (Tabletop)



FIG. 14 MST-431

MST-431 Specifications

MST-431 Specifications	
DIMENSIONS (HWD)	3 1/4" x 5 1/16" x 3 1/8" (82mm x 128mm x 79mm)
WEIGHT	0.9 lbs (.4 Kg)
POWER CONSUMPTION	<ul style="list-style-type: none"> • Full-On: 4W • Typical: 3W • Standby: 2W • Shutdown: 0.7W • Start-Up Inrush Current: Not applicable due to PoE standard
EXTERNAL POWER SUPPLY REQUIRED	Optimal performance requires use of one of the following AMX PoE power supplies (not included): <ul style="list-style-type: none"> • PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) • NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
CERTIFICATIONS	<ul style="list-style-type: none"> • FCC Part 15 Class B • CE EN 55022, 55024 • C-Tick CISPR 22 Class B • IEC/EN/UL 60950-1 • CISPR 22 Class B • RoHS • WEEE
TOUCH SCREEN DISPLAY	<ul style="list-style-type: none"> • Display Type: TFT Active Matrix Color LCD • Display Size (WH): Landscape: 5" x 3.4" (128mm x 87mm), 6" (152mm) diagonal • Viewable Area (WH): Landscape: 3.7" x 2.1" (95mm x 54mm), 4.3" (109mm) diagonal • Resolution: Landscape: 480x272 • Aspect Ratio: Landscape: 16:9 • Brightness: 350 cd/m² • Contrast Ratio: 600:1 • Color Depth: 16.7M colors • Illumination: LED • Touch Overlay: Resistive <p><i>Note - Touch Panel Aspect Ratio: While the touch panel screen physical dimensions fall between 16:9 and 16:10, any incoming video stream can be scaled to 16:9 if needed. This may lead to some letter boxing around the video in some cases.</i></p>
VIEWING ANGLE	40°/80°/65°/65° (Up/Down/Left/Right)
MEMORY	<ul style="list-style-type: none"> • SDRAM: 512 MB • Flash: 4 GB • Maximum Project Size: 2.4 GB flash available to user

MST-431 Specifications (Cont.)	
COMMUNICATIONS	<ul style="list-style-type: none"> Ethernet: 10/100 Auto MDI-X port, RJ-45 connector. Supported IP and IP-based protocols: UCP, TCP, ICMP, ICSP, IGMP, DHCP, Telnet, FTP, DNS, RFB (for VNC), HTTP USB: (1) USB host 2.0, Type A port: Firmware upgrade, touch panel file transfer, JPEG image viewer, HID Peripherals Bluetooth®: Mouse/Keyboard: HID Profile v1.1, requires MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) and MXA-HST, Bluetooth Handset for Modero X/S Touch Panels (FG5968-17)
VIDEO	Supported Video Codecs: MJPEG up to 720p at 25 fps (decode only)
AUDIO	<ul style="list-style-type: none"> Microphone: -42 dB ±3 dB sensitivity FET microphone Speakers: 4 ohm, 1.5 Watt, 500 Hz cutoff frequency Supported Audio Codecs: <ul style="list-style-type: none"> MP2 Layer I and II, MP3 (8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz) AAC-LC (8 kHz, 96 kHz) G.711 with µLaw (VoIP encode/decode at 8 kHz) File Formats: WAV, MP3 (as part of touch panel file only - no USB storage) Intercom: Full Duplex VoIP, SIP v2.0 (supported with AMX-CSG)
GRAPHICS ENGINE	AMX G4: AMX's exclusive, powerful G4 graphics engine – the driving force behind the advanced graphics and image processing capability on a variety of AMX Touch Panels and other devices (see TPD4 Operations Guide for more information)
EMBEDDED APPLICATIONS	<ul style="list-style-type: none"> Remote Management: VNC Server, G4 Web Control, AMX Resource Management Suite Video Conferencing: Panel-to-panel and video chat (the MST-431 receives video and returns audio) Audio Conferencing: Audio (Full Duplex Intercom)
FRONT PANEL COMPONENTS	Sleep Button: Sleep button to activate sleep mode and powering off. Also provides access to setup pages (can be disabled)
CONNECTIONS	<ul style="list-style-type: none"> Ethernet: 10/100 Auto MDI-X port, RJ-45 connector USB: (1) USB host 2.0, Type A port Power: PoE (Power over Ethernet), 802.3af, class 2
ENVIRONMENTAL	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> On: 13.6 BTU/hr Standby: 10.9 BTU/hr
INCLUDED ACCESSORIES	<ul style="list-style-type: none"> MXA-USB-C, USB Port Cover Kit, Modero X Series Touch Panel (FG5968-18) Cat5e Ethernet Cable, Flat Black (ECA2265-10) UTP CAT.5E Snap In Coupler, Black (64-5968-01)
OPTIONAL ACCESSORIES	<ul style="list-style-type: none"> MSA-STMK-43, Secure Table Mount Kit for 4.3" Modero S Tabletop Touch Panel (FG2265-18) PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) NXA-ENET8-2POE, Gigabit Ethernet Switch (FG2178-63) MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) MXA-HST, Bluetooth Handset for Modero X/S Series Touch Panels (FG5968-17) HPG-10-10K, 3/4" Mini-Grommet, 10-Pack (FG570-01-10K) MXA-CLK, Modero X/S Series Screen Cleaning Kit (FG5968-16) MXA-USB-C, USB Port Covers for the Modero X/S Series Touch Panels (FG5968-18)

MSD-431-L (Wall Mount - Landscape)

The MST-431-L 4.3" Wall Mount (Landscape) Touch Panel (**FG2265-07**) features advanced technology empowering users to conduct seamless meetings including VoIP, brilliant 24-bit color depth, PoE connectivity, USB and streaming video. The MSD-431-L also supports Bluetooth keyboard and mouse use via the optional MXA-BT Bluetooth Adapter.



FIG. 15 MSD-431-L

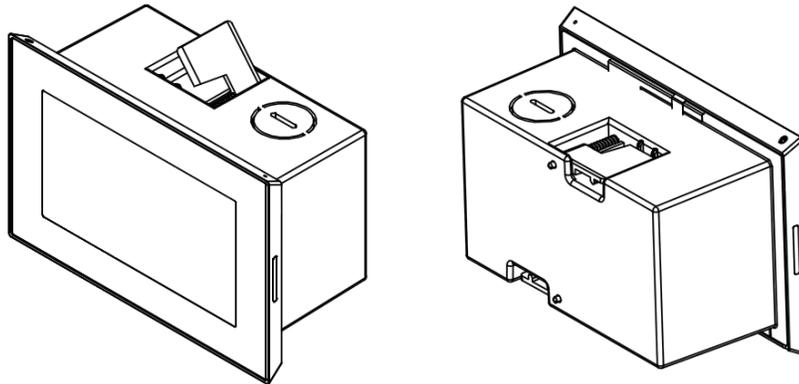


FIG. 16 MSD-431-L front and rear isometric views

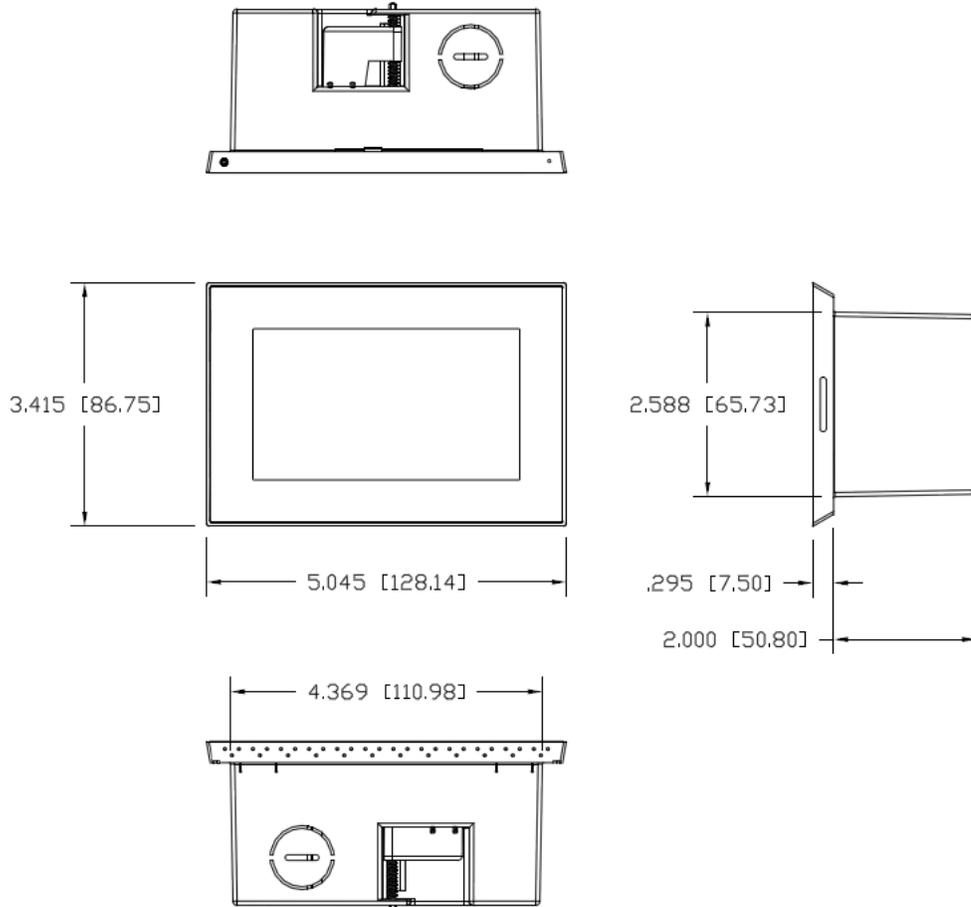
MSD-431-L Specifications

MSD-431-L Specifications	
DIMENSIONS with backbox (HWD)	3.415" x 5.045" x 2.000" (86.75mm x 128.14mm x 50.80mm) See FIG. 17 on page 24 for details.
WEIGHT	<ul style="list-style-type: none"> • 0.65 lbs (.295 Kg), with Backbox • 0.5 lbs (.225 Kg), without Backbox
POWER CONSUMPTION	<ul style="list-style-type: none"> • Full-On: 5W (max) • Typical: 3W • Standby: 2W • Shutdown: 0.7W • Start-Up Inrush Current: Not applicable due to PoE standard
EXTERNAL POWER SUPPLY REQUIRED	Optimal performance requires use of one of the following AMX PoE power supplies (not included): <ul style="list-style-type: none"> • PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83) • NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
CERTIFICATIONS	<ul style="list-style-type: none"> • FCC Part 15 Class B • CE EN 55022, 55024 • C-Tick CISPR 22 Class B • IEC/EN/UL 60950-1 • CISPR 22 Class B • RoHS • WEEE

MSD-431-L Specifications (Cont.)	
TOUCH SCREEN DISPLAY	<ul style="list-style-type: none"> • Display Type: TFT Active Matrix Color LCD • Display Size (WH): Landscape: 5" x 3.4" (128mm x 87mm), 6" (152mm) diagonal • Viewable Area (WH): Landscape: 3.7" x 2.1" (95mm x 54mm), 4.3" (109mm) diagonal • Resolution: Landscape: 480x272 • Aspect Ratio: Landscape: 16:9 • Brightness: 350 cd/m² • Contrast Ratio: 600:1 • Color Depth: 16.7M colors • Illumination: LED • Touch Overlay: Resistive <p><i>Note - Touch Panel Aspect Ratio: While the touch panel screen physical dimensions fall between 16:9 and 16:10, any incoming video stream can be scaled to 16:9 if needed. This may lead to some letter boxing around the video in some cases.</i></p>
VIEWING ANGLE	40°/80°/65°/65° (Up/Down/Left/Right)
MEMORY	<ul style="list-style-type: none"> • SDRAM: 512 MB • Flash: 4 GB • Maximum Project Size: 2.4 GB flash available to user
COMMUNICATIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 Auto MDI-X port, RJ-45 connector. Supported IP and IP-based protocols: UCP, TCP, ICMP, ICSP, IGMP, DHCP, Telnet, FTP, DNS, RFB (for VNC), HTTP • USB: (1) USB host 2.0, Type A port: firmware upgrade, touch panel file transfer, JPEG image viewer, HID peripherals • Bluetooth®: Mouse/Keyboard: HID Profile v1.1, requires MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19) and MXA-HST, Bluetooth Handset for Modero X/S Touch Panels (FG5968-17)
VIDEO	Supported Video Codecs: MJPEG up to 720p at 25 fps (decode only)
AUDIO	<ul style="list-style-type: none"> • Microphone: -42 dB ±3 dB sensitivity FET microphone • Speakers: 4 ohm, 1.5 Watt, 500 Hz cutoff frequency • Supported Audio Codecs: <ul style="list-style-type: none"> MP2 Layer I and II, MP3 (8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz) AAC-LC (8 kHz, 96 kHz) G.711 with µLaw (VoIP encode/decode at 8 kHz) • File Formats: WAV, MP3 (as part of touch panel file only - no USB storage) • Intercom: Full Duplex VoIP, SIP v2.0 (supported with AMX-CSG)
GRAPHICS ENGINE	AMX G4: AMX's exclusive, powerful G4 graphics engine – the driving force behind the advanced graphics and image processing capability on a variety of AMX Touch Panels and other devices (see TPD4 Operations Guide for more information)
EMBEDDED APPLICATIONS	<ul style="list-style-type: none"> • Remote Management: VNC Server, G4 Web Control, AMX Resource Management Suite • Video Conferencing: Panel-to-panel and video chat (the MSD-431 receives video and returns audio) • Audio Conferencing: Audio (Full Duplex Intercom)
FRONT PANEL COMPONENTS	<ul style="list-style-type: none"> • Sleep Button: Sleep button to activate sleep mode and power off. Also provides access to setup pages (can be disabled) • Programmable Red/Green LEDs: Programmable red/green LED in the front, left and right sides of the panel, LEDs are beautifully recessed and nearly invisible when not lit
CONNECTIONS	<ul style="list-style-type: none"> • Ethernet: 10/100 Auto MDI-X port, RJ-45 connector • USB: (1) USB host 2.0, type A port • Power: PoE (Power over Ethernet), 802.3af, class 3
ENVIRONMENTAL	<ul style="list-style-type: none"> • Temperature (Operating): 32° F to 104° F (0° C to 40° C) / (Storage): 4° F to 140° F (-20° C to 60° C) • Humidity (Operating): 20% to 85% RH / (Storage): 5% to 85% RH • Power ("Heat") Dissipation: <ul style="list-style-type: none"> On: 13.6 BTU/hr Standby: 10.9 BTU/hr
INCLUDED ACCESSORIES	<ul style="list-style-type: none"> • Installation Template 4.3" S Series (68-5968-02)

MSD-431-L Specifications (Cont.)**OPTIONAL ACCESSORIES**

- MSA-MMK-43, Multi Mount Kit, 4.3" Modero S Wall Mount (FG2265-13)
- MXA-MP, Modero X/S Series Multi Preview (FG5968-20)
- MXA-MPL, Modero X/S Series Multi Preview Live (FG5968-10)
- PS-POE-AF-TC, PoE Injector, 802.3AF Compliant (FG423-83)
- NXA-ENET8-2POE, Gigabit PoE Ethernet Switch (FG2178-63)
- MXA-BT, Bluetooth USB Adapter for Modero X/S Series Touch Panels (FG5968-19)
- MXA-HST, Bluetooth Handset for Modero X/S Series Touch Panels (FG5968-17)
- CB-MSA-43, Rough-In Box and Cover Plate for the 4.3" Wall Mount Modero S Series Touch Panel (FG2265-10)
- MXA-CLK, Modero X/S Series Screen Cleaning Kit (FG5968-16)
- MXA-USB-C, USB Port Covers for the Modero X/S Series Touch Panels (FG5968-18)

MSD-431-L Dimensions**FIG. 17** MSD-431-L Dimensions

NOTE: Detailed specifications drawings for the [MSD-431-L](http://www.amx.com) are available to download from www.amx.com.

Installing Tabletop (MST) Panels

MST-1001/701/431

- Detailed specifications drawings for the [MST-1001](#) are available to download from [www.amx.com](#).
- Detailed specifications drawings for the [MST-701](#) are available to download from [www.amx.com](#).
- Detailed specifications drawings for the [MST-431](#) are available to download from [www.amx.com](#).

Connector Locations

USB peripherals (mouse, keyboard, etc.) may be connected to the USB port on the rear of the device. Updates to the device's firmware can also be made via the USB port.

Note that FIG. 18 shows a MST-1001, but the connector locations are similar for all MST panels:

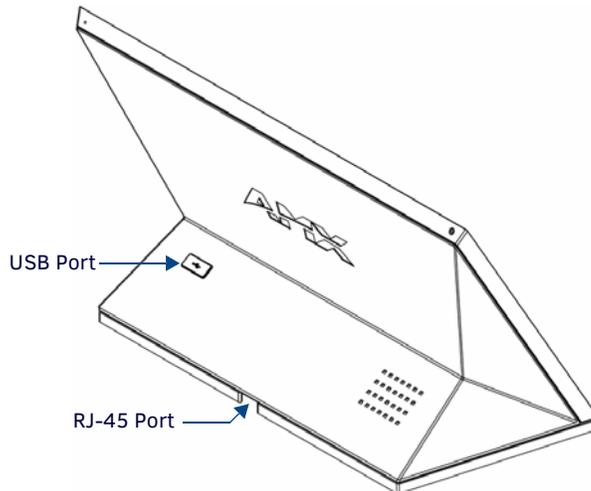


FIG. 18 MST-1001 Connector Location

Power via Power Over Ethernet

Power for the MST-1001 is supplied via Power Over Ethernet (PoE), utilizing an AMX-certified, capacitive touch-compliant PoE injector such as the PS-POE-AT-TC High Power PoE Injector (**FG423-83**) or other approved AMX PoE power source.

The incoming Ethernet cable should be connected to the RJ45 port on the panel.

Installing Wall-Mount (MSD) Panels

Overview

S Series wall mount touch panels can be installed via several mounting options:

- Use the included clear plastic Backbox to attach the panel to most standard wall materials.
- Other optional AMX mounting solutions include the MSA-MMK-xx Multi Mount Kit, the MSA-AMK-xx Any Mount Kit, and the CB-MXSA-xx Rough-In Box. Refer to the Quick Start Guide included with each mounting kit for instructions.

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. 19 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.

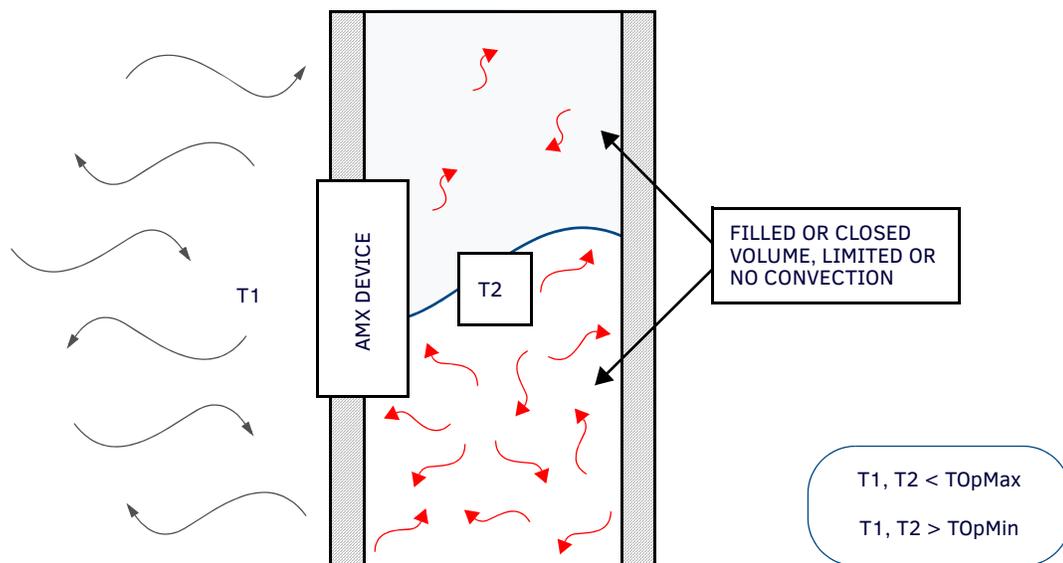


FIG. 19 Heat convection in filled or closed volume, limited or no convection

In FIG. 20, 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.

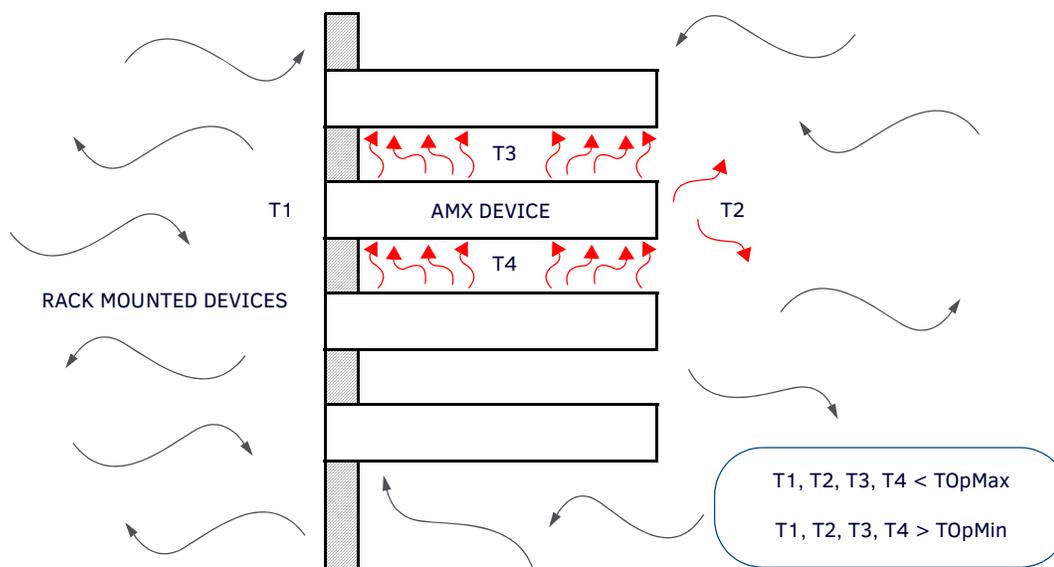


FIG. 20 Heat convection in rack-mounted devices

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.

Mounting Options

Use the included clear plastic Backbox to attach the panel to most standard wall materials.

NOTE: Other optional AMX mounting solutions include the MSA-MMK-07/10 Multi Mount Kits, and the MSA-AMK-07/10 Any Mount Kits, and CB-MXSA-07/10 Rough-In Boxes. Refer to the Quick Start Guide included with each mounting kit for instructions.

Plastic Backbox

S Series wall mount panels comes with a clear plastic Backbox. This Backbox can be used to mount the touch panel into most standard wall materials. The Backbox can also be used to mount the panel into other mounting options.

- FIG. 21 shows the Backbox for the MSD-1001-L/2:

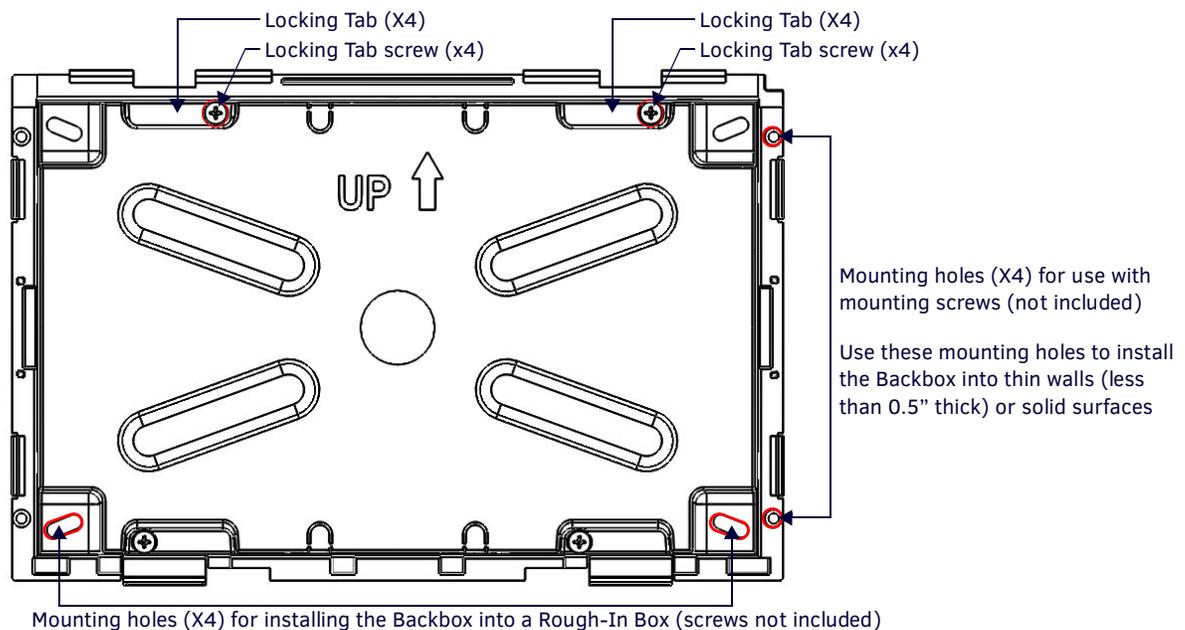


FIG. 21 10.1" MODERO S Backbox (Front View)

- FIG. 22 shows the Backbox for the MSD-701-L/2:

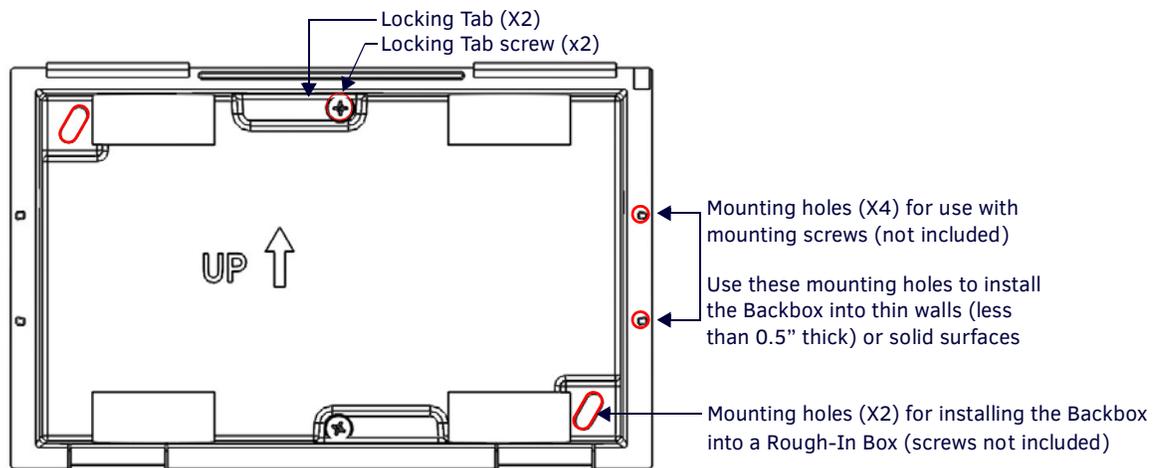


FIG. 22 7" MODERO S Backbox (Front View)

- FIG. 23 shows the Backbox for the MSD-431-L:

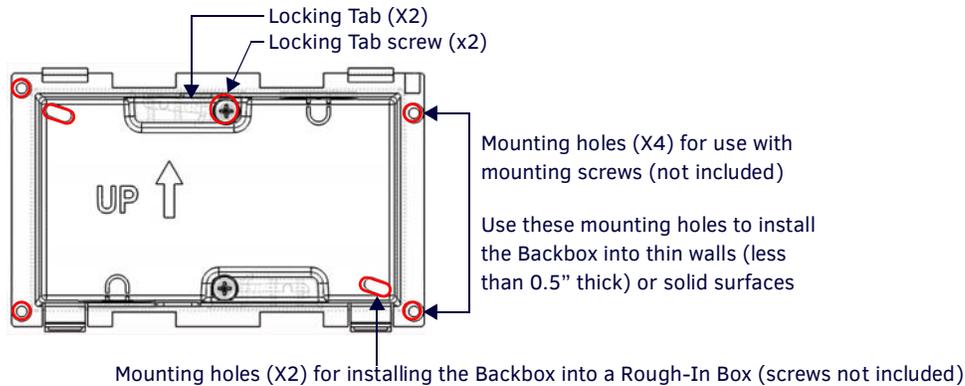


FIG. 23 4" MODERO S Backbox (Front View)

NOTE: For typical mounting surfaces, such as drywall, use the locking tabs as the primary method for securing the Backbox to the surface. For thin walls or solid surfaces, use mounting screws (not included).

STEP 1: Install the Plastic Backbox

Installation Templates (Included)

Each S-Series panel comes with an Installation Template that makes it easy to position the panel for mounting and establish the size of the cutout hole required for each panel type. Use the included Installation Template to determine the placement of the Backbox in the mounting surface. The outside edges of the template are the same dimensions as the touch panel, which allows you to troubleshoot possible conflicts with wall edges, doors, and other potential obstacles. The S Series installation templates are shown in FIG. 24:

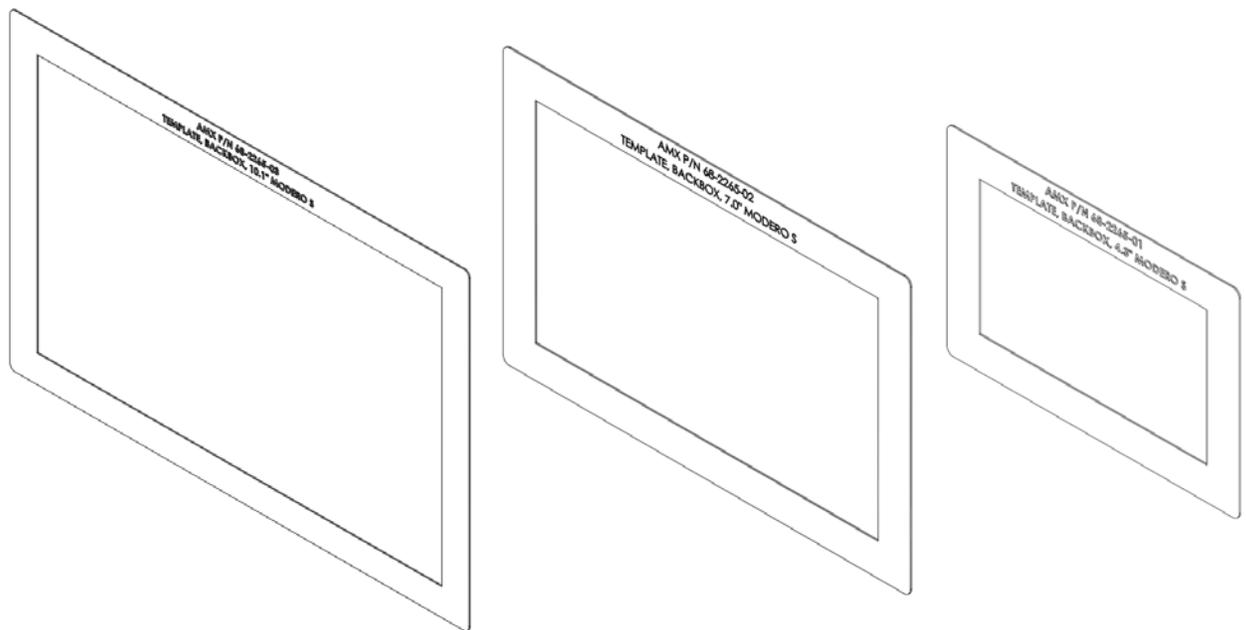


FIG. 24 S Series Installation Templates

NOTE: Prepare the area by removing any screws or nails from the drywall before beginning the cutout process.

- **MSD-1001-L** - Template, Backbox, 10.1" Touch Panel, Modero S Series (**68-2265-03** - see FIG. 25 on page 29)
- **MSD-701-L** - Template, Backbox, 7.0" Touch Panel, Modero S Series (**68-2265-02** - see FIG. 26 on page 29)
- **MSD-431-L** - Template, Backbox, 4.3" Touch Panel, Modero S Series (**68-2265-01** - see FIG. 27 on page 30)

The templates are marked to ensure that the touch panel and Backbox are properly aligned.

Cutouts

1. After ensuring proper placement, cut an opening in the mounting surface for the Backbox, using the included Installation Template as a guide. For reference purposes, the cutout dimensions for each S Series panel is indicated below:

NOTE: Consider making the actual cutout opening slightly smaller than the provided dimensions. This provides a margin of error if the opening needs to be expanded. Too little wall material removed is always better than too much.

MSD-1001-L/2 - Cutout Dimensions

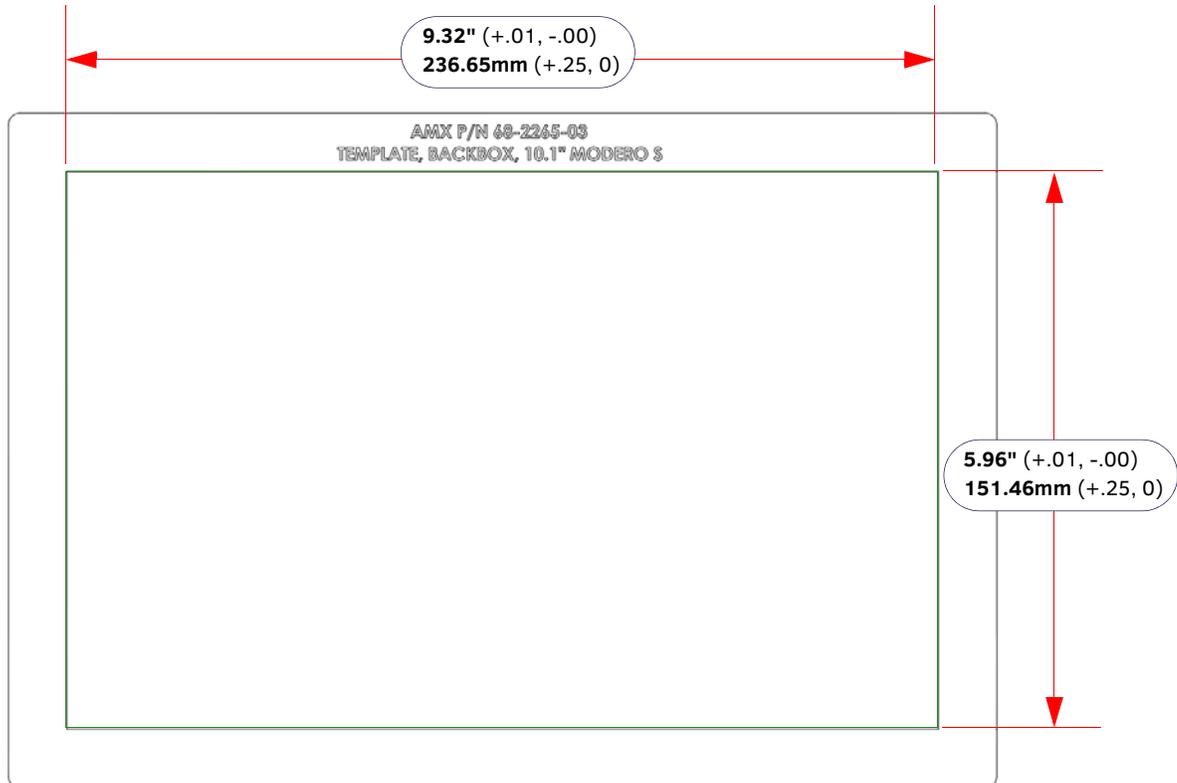


FIG. 25 MSD-1001-L/2 Cutout Dimensions

MSD-701-L/2 - Cutout Dimensions

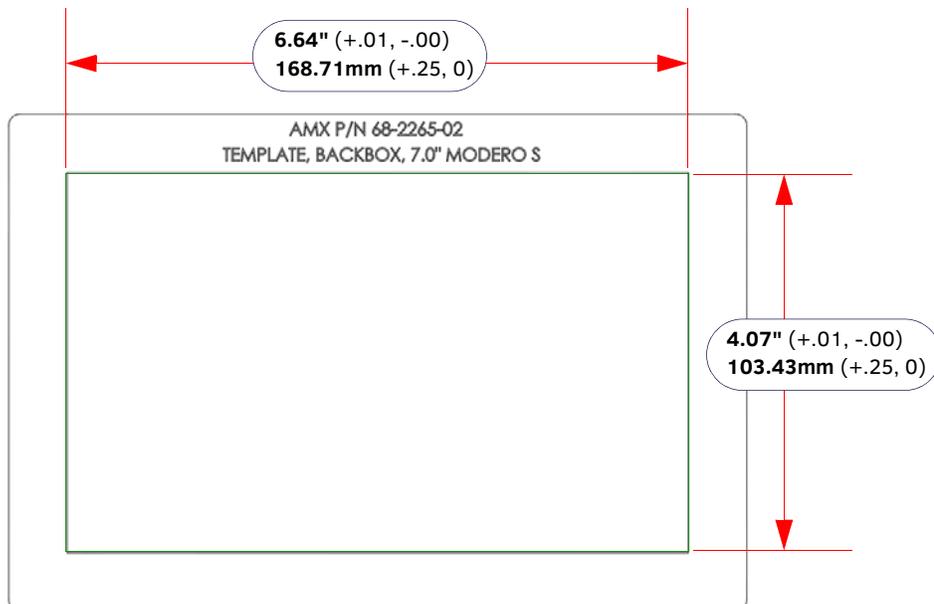
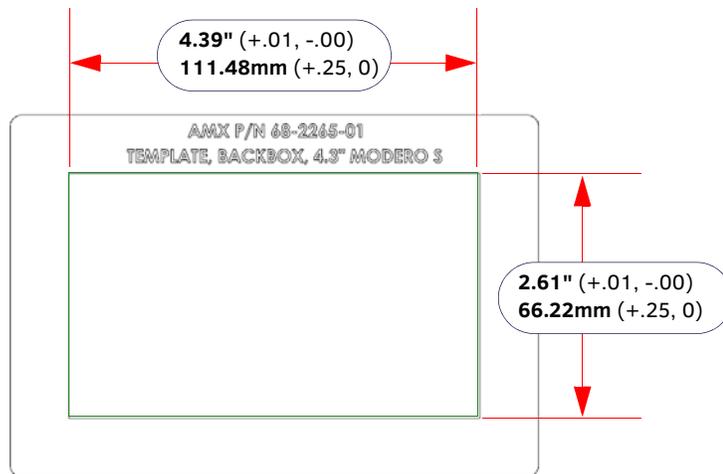
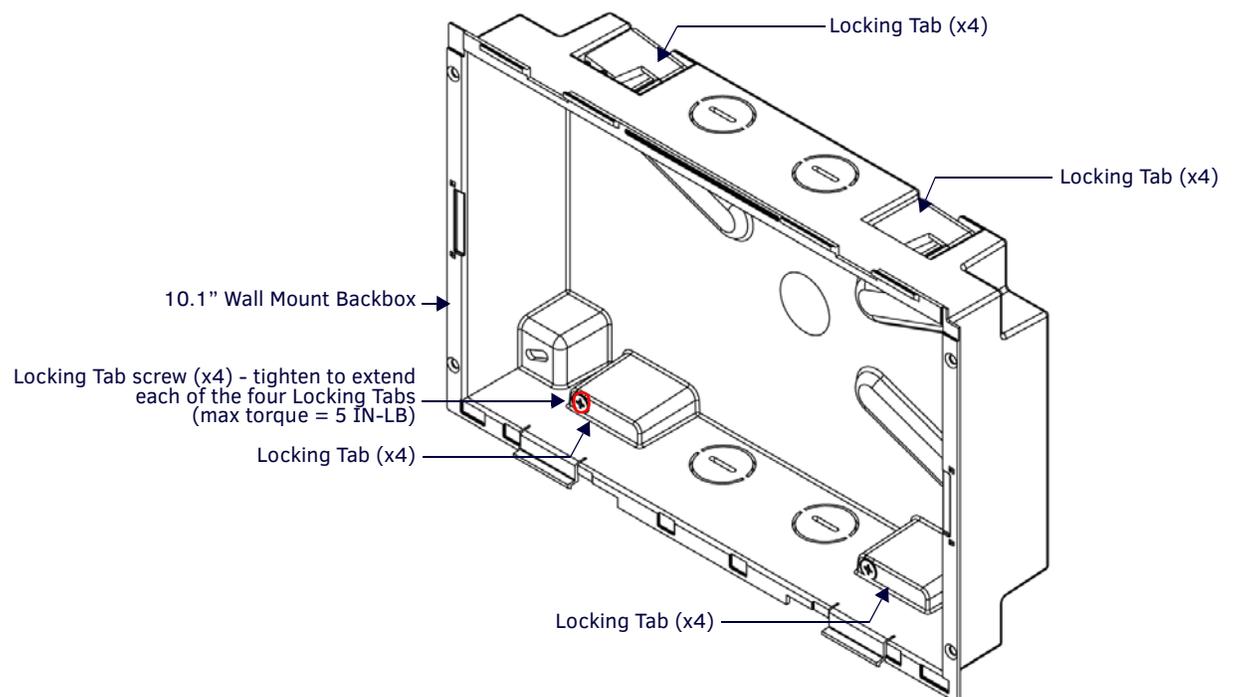


FIG. 26 MSD-701-L/2 Cutout Dimensions

MSD-431-L - Cutout Dimensions**FIG. 27** MSD-431-L Cutout Dimensions

NOTE: When installing the Backbox, make sure that the assembly is in the correct position and in the correct place. Once the locking tabs are extended and locked into place, removing the Backbox may be difficult without having access to the back of the wall or causing damage to the wall.

2. Thread the incoming cables (Ethernet and Micro-USB) from their terminal locations through the surface opening, leaving enough slack in the wiring to accommodate any re-positioning of the panel.
3. Remove the Backbox knockouts and thread incoming cables through the knockout holes.
4. Gently push the Backbox into the mounting surface.
 - This Backbox uses two Locking Tabs to secure the Backbox to the wall. For typical mounting surfaces, such as drywall, the locking tabs are the primary method for securing the Backbox to the wall.
 - To ensure a stable installation, the thickness of the wall material must be a minimum of .50 inches (1.27cm) and a maximum of .875 inches (2.22cm). The mounting surface should also be smooth and flat. For thin walls or solid surfaces, use mounting screws (not included) - see FIG. 21.
5. Extend the Locking Tabs by tightening the Locking Tab screws until snug. FIG. 28, FIG. 29 and FIG. 30 show the Locking Tabs on the S Series Backboxes:

**FIG. 28** MSD-1001-L/2 Backbox - Locking tab and locking tab screws (X4)

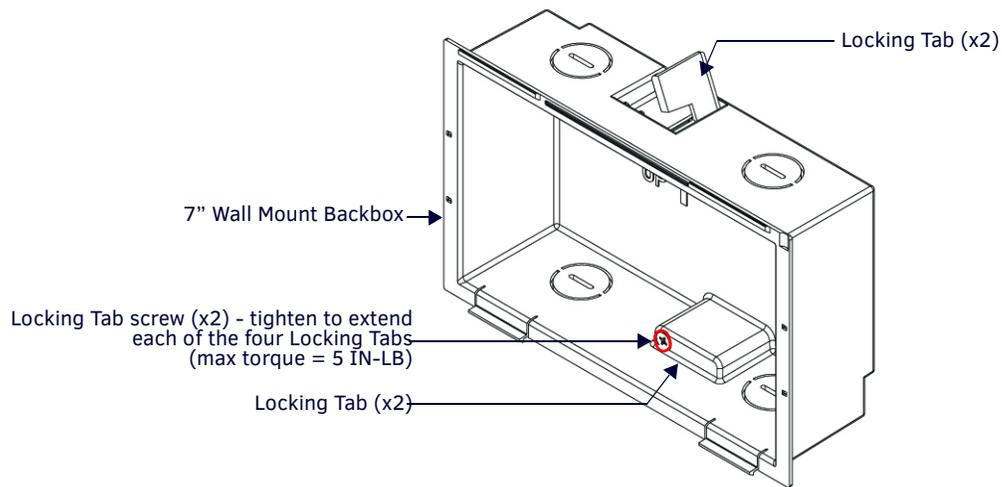


FIG. 29 MSD-701-L/2 Backbox - Locking tab and locking tab screws (X2)

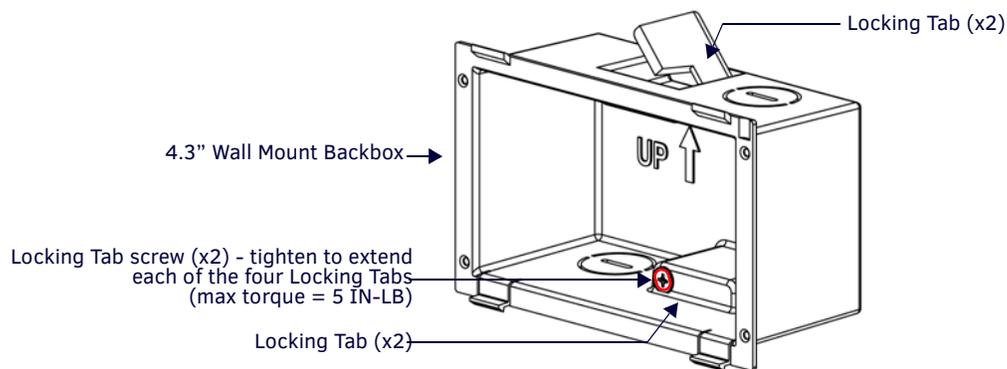


FIG. 30 MSD-431-L Backbox - Locking tab and locking tab screws (X2)

CAUTION: The maximum recommended torque to screw in the locking tabs on the plastic Backbox is 5 IN-LB [56 N-CM]. Excessive torque on the tab screws can strip out the locking tabs or damage the Backbox.

- Extend the Locking Tabs only AFTER the Backbox is inserted into the wall.
- When installing the Backbox, make sure that it is positioned correctly.
- The Backbox is clear to allow visual confirmation that the tabs have been extended and are gripping the wall, as well as assisting with removal if necessary.

STEP 2: Insert Connectors on the Touch Panel

1. Before installing the touch panel into the Backbox, connect the Ethernet and USB cables to the rear of the panel.
2. Remove power at the terminal end before continuing with the installation.

NOTE: Do not disconnect the connectors from the touch panel. The panel must be installed with the connectors attached before being inserted into the mounting surface.

STEP 3: Secure the Touch Panel To the Backbox

The Backbox uses notches and tabs on the front edges (top and bottom) to secure the panel into place. Follow the steps below to install the panel into the Backbox, starting the upper edge of the touch panel:

UPPER TABS FIRST

1. Center the top edge of the touch panel against the upper outside edge of the Backbox and latch the top of the panel onto the Backbox top-hooks (FIG. 31):

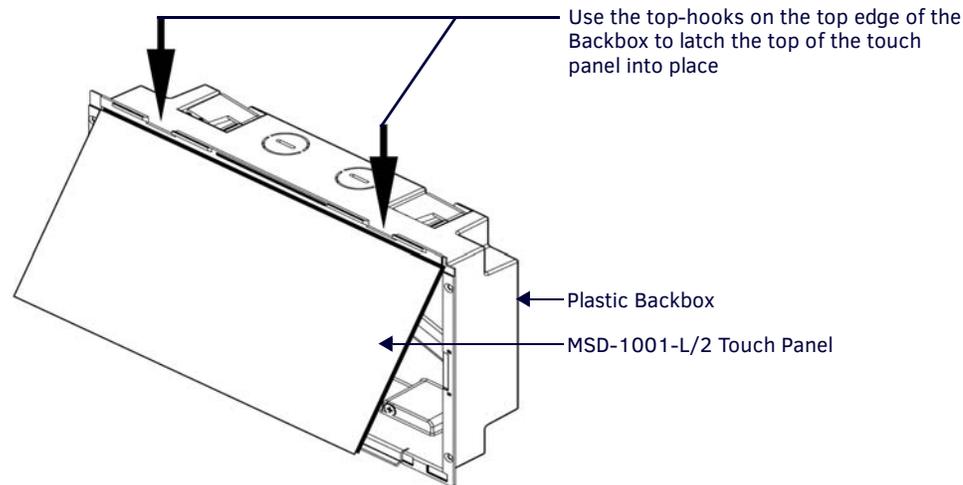


FIG. 31 Engaging the top edge of the panel with the top hooks on the Backbox

2. Gently press the top edge of the touch panel into place to engage the panel's notches and the top-hooks on the Backbox.

LOWER TABS - Gently Snap Into Place

1. Swing the bottom edge of the touch panel into position until it rests against the lower outside edge of the Backbox.

NOTE: If a gap is observed between the panel and the Backbox, or binding is felt while locking down the panel, stop and verify there are no cables in the way. Do not force the panel into position, or the touch screen or the panel electronics may be damaged.

2. Gently press the bottom edge of the panel gently but firmly and ONLY IN THE PLACES INDICATED BELOW until the tabs click into place to secure the panel (FIG. 32):

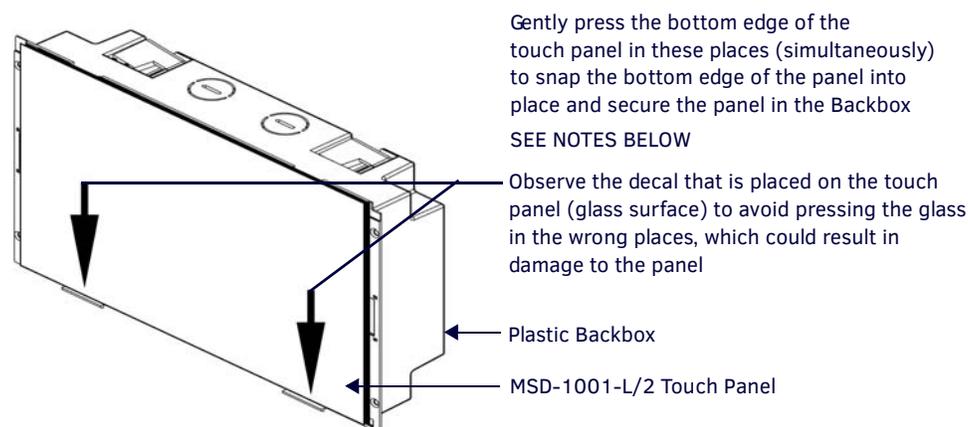


FIG. 32 SNAPPING THE BOTTOM EDGE OF THE PANEL INTO THE BACKBOX

3. Reconnect the terminal Ethernet and USB to their respective locations on either the Ethernet port or NetLinX Master.

Removing the MSD-1001-L/2 from the Backbox

The clips on the bottom edge of the Backbox lock down the MSD-1001-L/2 and must be unlatched in order to remove the touch panel from the Backbox. To do this, you'll need a thin probe such as a straightened paper clip:

1. With a straightened paper-clip, carefully press straight into the access holes indicated in FIG. 33, to disconnect the two bottom latches.

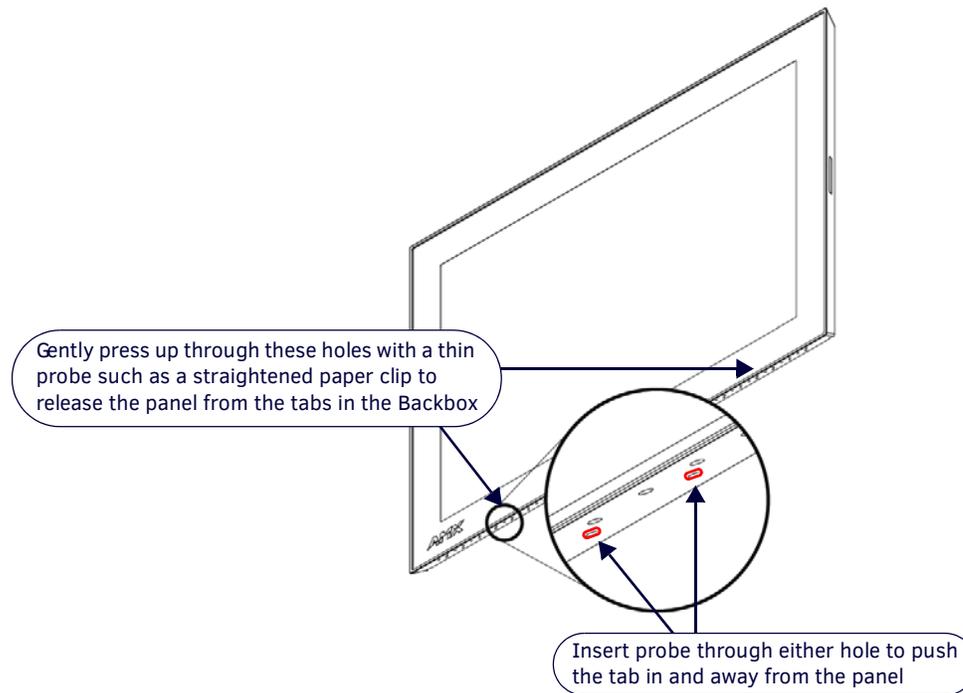


FIG. 33 MSD-1001-L/2 BACKBOX ASSEMBLY

2. Grasp the bottom of the panel and gently pull outward until the bottom edge of the panel is free of the Backbox. Use your other hand to stabilize the front of the touch panel. Always pull on the panel's plastic bezel - NEVER pull on the glass edge (FIG. 34):

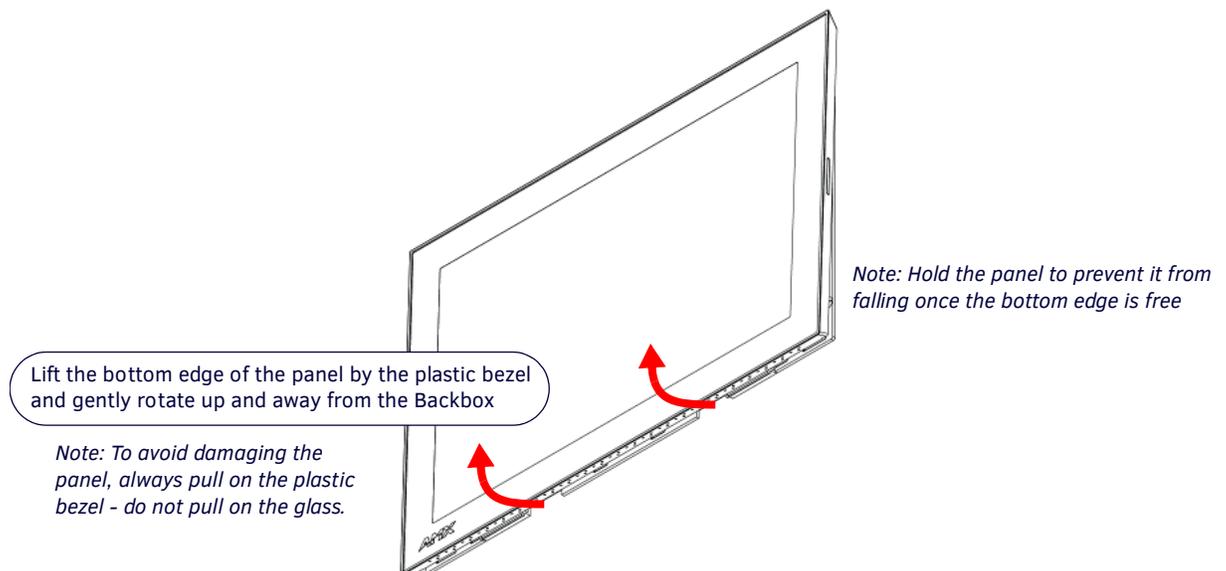


FIG. 34 MSD-1001-L/2 BACKBOX ASSEMBLY (RELEASING THE BOTTOM EDGE OF THE PANEL)

3. With the bottom edge of the panel free, carefully lift up and out to release the tabs on the top edge of the panel.

Upgrading Firmware

Overview

Programming the S Series touch panels require the use of NetLinX Studio and TPDesign4, both available from www.amx.com.

Downloading Firmware Updates From www.amx.com

Before attempting to upgrade the firmware, you must have the appropriate Kit file for your touch panel:

NOTE: All S Series touch panels share the same firmware.

1. Open the product page for the panel, at www.amx.com (Trade Site).
2. Scroll down to locate *Firmware Files* on the right side of the page, and click the firmware file link provided. An example is shown in FIG. 35:

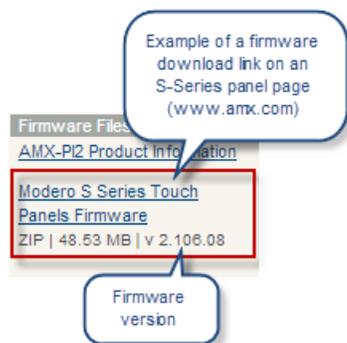


FIG. 35 www.amx.com - S Series Touch Panel Product Page - Firmware File link

Note that for S Series touch panels, the firmware .KIT file is bundled in a ZIP file that typically also includes a *Readme.TXT* file (which provides details on this version of firmware), and a *Programming Instructions.TXT* file (which provides basic instructions for upgrading firmware on the panel):

Name	Size	Packed	Type
File folder			File folder
SW2265_ModeroS_v2_106_08.kit	52,735,024	49,693,539	KIT File
FG2265-Readme.txt	4,168	1,916	Text Document
SW2265-KIT Programming Instructions.txt	3,825	1,534	Text Document

FIG. 36 Example of firmware ZIP file contents

3. Extract the contents of the ZIP file to a known location.

Upgrading Firmware via USB Flash Drive

Firmware and TPDesign4 files may be transferred to the panel made via USB flash drive.

Load the Firmware on a USB Flash Drive

1. Insert the USB flash drive in an available USB port on your PC.
 - The flash drive must be in either FAT32 or FAT16 format.
 - 32GB is the maximum acceptable size for flash drives used with touch panels
 - For wall-mounted panels (MSD-xxx), accessing the USB ports may require removing the panel from the wall mount (if a USB extension was not already installed).
2. Create a directory on the USB flash drive with one of the following names, depending on the panel you are upgrading:
 - "MST-1001" or "MSD-1001"
 - "MST-701" or "MSD-701"
 - "MST-431" or "MSD-431"
 - Note that the name must match exactly (do not include the quotes)
 - These directory names are *not* case-sensitive:
3. Copy the firmware (.kit) file to be transferred (for example, "SW5968_ModeroS_v2_106_08.kit") into this directory on the flash drive.

NOTE: Make sure this is the only .kit file in this directory - if not, the latest version will be used.
4. Eject or unmount the flash drive from the PC.

Transfer the Firmware File From the Flash Drive to the Touch Panel

1. Connect the USB Flash Drive to one of the USB Type A ports on the panel.

NOTE: *The Micro USB port cannot be used for firmware upgrades.*

2. Go to the **Install Firmware** setup page (*Configuration->Admin->Install Firmware*):
 - a. Press and hold the *Sleep* button with a pointed instrument for 3 seconds to open the *Settings* page.

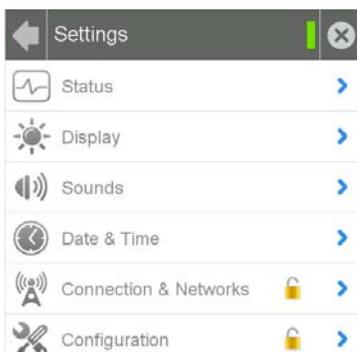


FIG. 37 Settings page

- b. From the *Settings* page, select the *Configuration* page. This may require entering a password.
 - c. From the *Configuration* page, select *Admin*.
 - d. From the *Admin Configuration* page, select *Install Firmware*.
3. In the *Firmware Installation* page, select **New** to install new firmware from external disk.
 4. The popup page displays the name of the firmware file (for example, "SW5968_ModeroS_v2_106_08.kit").
 5. Select **Yes**, and follow the directions displayed on the popup.
 6. Once the panel reboots, it will perform the firmware upgrade.

After the upgrade, the device contains the newly loaded version of firmware.

Upgrading from Previous Firmware

S Series panels provide the option to revert the device to the previous firmware run before an upgrade. To upgrade the device from previously loaded firmware:

1. From the *Settings* page, select the *Configuration* page.
2. From the *Configuration* page, select *Admin*.
3. From the *Admin Configuration* page, select *Install Firmware*.
4. In the *Firmware Installation* page, select *Previous*.
5. The *Confirmation Dialog* box (FIG. 38) will ask "Are you sure you want to install the following firmware?" The option to choose **Yes** will be enabled after five seconds. Press **Yes** to load the firmware listed, and **No** to return to the *Firmware Installation* popup window.



FIG. 38 Previous Firmware installation confirmation dialog

6. If you choose **Yes**, the device will retrieve the files and then reboot.

Returning to Factory Default Firmware

S Series panels allow the option to return the device to its original factory default firmware, which may be necessary in certain situations. To return the device to its factory default firmware:

1. From the *Settings* page, select the *Configuration* page.
2. From the *Configuration* page, select *Admin*.
3. From the *Admin Configuration* page, select *Install Firmware*.
4. In the *Firmware Installation* page, select *Factory*.

- The *Confirmation Dialog* box (FIG. 39) will ask “Are you sure you want to install the following firmware?” The option to choose **Yes** will be enabled after five seconds. Press **Yes** to load the firmware listed, and **No** to return to the *Firmware Installation* popup window.



FIG. 39 Previous Firmware installation confirmation dialog

If you choose **Yes**, the device will retrieve the files and then reboot.

Upgrading Firmware via NetLinx Studio

Firmware updates to S Series panels can be done via the NetLinx Studio software application. This requires that the touch panel is connected to a NetLinx Master, and that the Master is on the same network as (or accessible by) the PC running NetLinx Studio. This is because the firmware file is loaded to the panel through its connection to the Master.

S Series panels use Kit files for firmware upgrades. A Kit file (*.kit) is a package of several files, all of which are required to upgrade the firmware, and are available online via www.amx.com (refer to the device page for firmware updates).

Transferring the KIT File via NetLinx Studio

- In NetLinx Studio, right-click in the *Online Tree* tab of the Workspace window and select **Refresh System Online Tree** to refresh the device listing. The touch panel should be indicated in the device list.
- Right-click on the target panel and select **Firmware Transfer** to open the *Send to NetLinx Device* dialog. Alternatively, select **Tools > Firmware Transfers > Send To NetLinx Device** to open this dialog (FIG. 40):

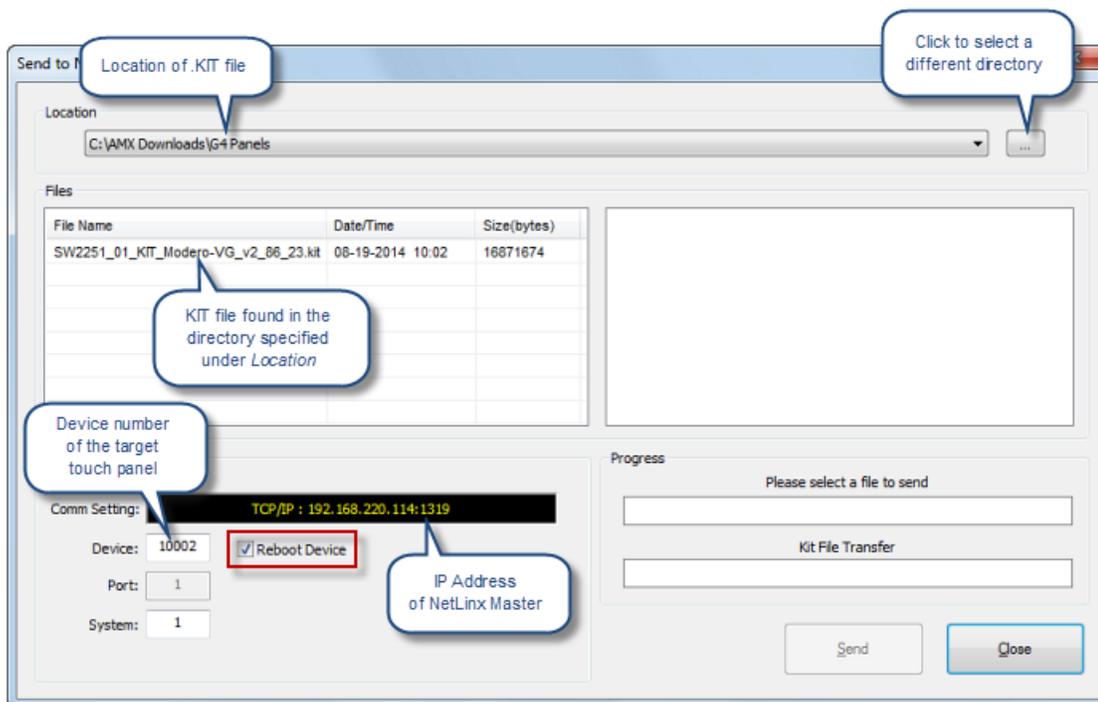


FIG. 40 NetLinx Studio - Send to NetLinx Device dialog

- Under **Location**, select the directory to which the firmware ZIP file was extracted. Use the *Browse (...)* button to locate and select a different directory if necessary.
- All KIT files detected in the selected directory are listed in the **Files** window. Select a KIT file to transfer.
 - Note that when a file is selected, file details may be displayed in the text field to the right of the *Files* window. Review this text before proceeding to see any important notes or instructions that are specific to this file.
 - Also note that the *Send* button is only enabled once a file has been selected in the *Files* window.

- c. Under *Target*, enter the Device number for the target touch panel in the **Device** field.
 - Use the Online Tree to determine the device's assigned ID (as well as the current firmware version).
 - Note that if this dialog was accessed by right-clicking on the touch panel in the Online Tree, the Device Number should already be set correctly.
- d. Verify that the **Reboot Device** option is selected. It is necessary to reboot the panel after a firmware upgrade.
3. Click **Send** to begin the file transfer.
4. The progress of the transfer operation is indicated in the *Progress* bars in this dialog, as well as on the panel itself.
5. When the transfer is finished, and the reboot is complete, press the **Close** button.

NOTE: *If for any reason your Kit file transfer should fail, continue to retry the transfer until you are successful. DO NOT reboot the Master, or change connections until the transfer is complete. Failure to complete this operation successfully may result in a factory repair of the Master.*

Troubleshooting

Overview

This section describes the solutions to possible hardware/firmware issues that could arise during the common operation of a Modero S touch panel.

Panel Doesn't Respond to Touches

Symptom: The device either does not respond to touches on the touch screen or does not register the touch as being in the correct area of the screen.

If the screen is off:

- *The device may be in Display Sleep Mode.* Press and hold the **Sleep** button with a pointed instrument to wake up the panel.
- *The device may not be connected to power.* Verify that the power source is connected to the device and receiving power.

Panel Isn't Appearing in the Online Tree Tab

1. Verify that the System number is the same on both the NetLinx Project Navigator window and the System Settings page on the device.
2. Verify the proper NetLinx Master IP and connection methods entered into the Master Connection section of the *System Settings* page.

Can't Connect to a NetLinx Master

Symptom: I can't seem to connect to a NetLinx Master using NetLinx Studio.

Select *Settings > Master Comm Settings > Communication Settings > Settings (for TCP/IP)*, and uncheck the "Automatically Ping the Master Controller to ensure availability".

The pinging is to determine if the Master is available and to reply with a connection failure instantly if it is not. Without using the ping feature, a connection may still be attempted, but a failure will take longer to be recognized.

NOTE: *If you are trying to connect to a Master controller that is behind a firewall, you may have to uncheck this option. Most firewalls will not allow ping requests to pass through for security reasons.*

When connecting to a NetLinx Master controller via TCP/IP, the program will first try to ping the controller before attempting a connection. Pinging a device is relatively fast and will determine if the device is off-line, or if the TCP/IP address that was entered was incorrect.

If you decide not to ping for availability and the controller is off-line, or you have an incorrect TCP/IP address, the program will try for 30-45 seconds to establish a connection.

Only One Modero S Series Panel Indicated in My System

Symptom: I have more than one Modero S Series panel connected to my System Master and only one is indicated.

Multiple NetLinx Compatible devices can be associated for use with a single Master. If the user does not assign a device number, one will be assigned automatically to the panel. When using multiple panels, different Device Number values have to be assigned to each panel.

1. Press and hold the **Sleep** button with a pointed instrument to open the *Settings* page.
2. Press the **Protected** button, enter **1988** into the on-screen Keypad's password field, and press **Done** when finished.
3. Enter a Device Number value for the panel into the Device Number Keypad. The range is from 1 - 32000.



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