ADMINISTRATORS GUIDE

NMX-MM-1000
ENZO™ MEETING PRESENTATION SYSTEM

AV FOR AN IT WORLD

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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 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 Escape 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: 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.

ESD WARNING

To avoid ESD (Electrostatic Discharge) damage to sensitive components, make sure you are properly grounded before touching any internal materials.
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.
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

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.
Place the equipment near a main power supply outlet and make sure that you can easily access the power breaker switch.

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.

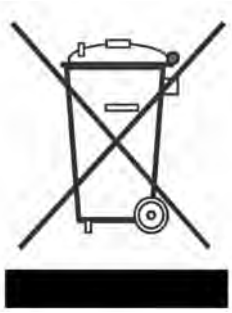
Approved under the verification provision of FCC Part 15 as a Class B Digital Device.
Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.
CAN ICES-3 (B)/NMB-3(B)

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; European Union Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) Directive 2006/121/EC.

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

WEEE NOTICE



This appliance is labeled in accordance with European Directive 2002/96/EC 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.

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Overview

The NMX-MM-1000 Enzo Meeting Presentation System (**FG3211-01**) enables easy access to content and documents stored on USB, on the web, or in the cloud. Content is accessible from web pages or USB drives. The Enzo Media Presentation System is a power-efficient device with no moving parts that is powered using Power over Ethernet (PoE). This chapter provides a brief overview of the functional capabilities, details about connections and wiring, and product specifications of the Enzo Meeting Presentation System.

The following table highlights Enzo's primary functions.

Functional Capabilities	
Management Interface:	• On-screen configuration
NetLinx On-Screen Keypad:	• Number of buttons, 12 • Number of text rows, 3 **NOTE:** *Control can be disabled.*
Supported Documents:	• Word documents (.doc, .docx,) • Excel Spreadsheets (.xls, .xlsx,) • PowerPoint presentations (.ppt, .pptx) • Adobe Acrobat Files (.pdf)
Supported Document Sources:	• Dropbox • USB Drive (only one can be connected to Enzo at a time) • Web Browser **NOTE:** *Document sources can be disabled.*
Supported Document Sharing:	• Email (all sources) **NOTE:** *Email document sharing can be disabled.* • Screen sharing • Dropbox (Dropbox documents only) **NOTE:** *Due to Dropbox API changes, Dropbox support in Enzo will end after June 2017.*
Supported Images:	• Portable Network Graphic (.png) • Joint Photographic Experts Group (.jpg) • BitMaP Images (.bmp) • Graphics Interchange Format (.gif)
Supported Videos:	• .mp4 with H.264 video and AAC audio **NOTE:** *Playback of 1080i video will show interlacing artifacts when the Enzo display resolution is set to 720p. AMX recommends that the Enzo display resolution be set to 1080p in environments where 1080i video will be played.*
Email:	• SMTP with SSL or TLS encryption **NOTE:** *Email can be disabled.*
Supported Web Browser:	• Chromium-based web browser that supports HTML5. Plug-ins, including Flash, are not supported. **NOTE:** *Web browsing can be disabled*
Wallpaper:	• Supported Formats: .png • Resolutions: any, 1920 x 1080 preferred • Customizable: Can select a single wallpaper applied to all screens EXCEPT for start session screen
Included Applications:	• Browser, MirrorOp, TV • Up to 4 Application Favorites on Home Screen
Screen Mirroring	• Technology: MirrorOp • Number of senders on screen simultaneously: 4 • Supported sender clients: Windows 7 and 8, Mac OS X, Apple iOS, Android

Front Panel Components

The following section lists the components on the front panel of the NMX-MM-1000.

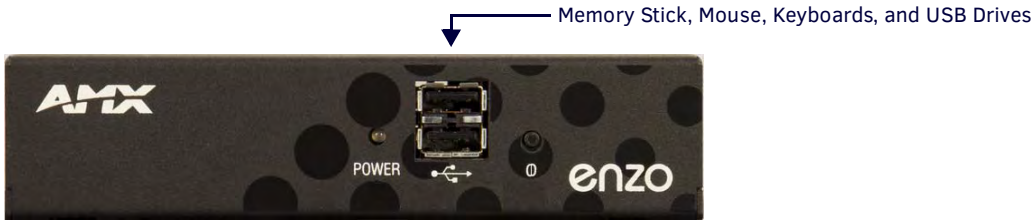


FIG. 1 NMX-MM-1000 (Front Panel)

Power

The front panel features one LED that displays the power and alarm state of the unit. The LED lights green (active and no alarm) or red (one or more alarms). When power is first applied to the device, the LED lights solid red and then blinks green while the device is booting. When the device is finished booting and the device is ready for use, the LED remains solid green.

USB

The front panel features two Type-A USB connectors for mouse and keyboard functionality or reading from and writing to a mass storage device, such as USB hard drive or flash drive. (USB external hard drives may require their own power sources. The maximum current allowed across all USB ports is 4W.)

NOTE: *The USB connectors support USB mass storage devices using a FAT format. USB mass storage devices using an NTFS format may not work on these ports.*

NOTE: *Only one USB drive can be mounted and used at a given time. Once a USB drive is connected and Enzo mounts the drive, the files on it may be accessed. If a message stating the USB drive is mounted is not received, Enzo did not recognize the drive. A storage device's contents are not accessible if the device is connected while another storage device occupies a USB port. If a first USB drive is connected, mounted, and unmounted, a second USB drive will still not be recognized unless the first USB drive is removed from the Enzo device.*

Push Button

A recessed pushbutton is provided on the front panel.

- When in an active session and the button is pressed, it will cause Enzo to go directly to the System Settings screen.
- When not in an active session and the button is pressed, it will put Enzo into sleep mode.
- When Enzo is in Single App mode, if pressed for *more* than 1 second, it will bring up the Settings option.
- When Enzo is in Single App mode, if pressed for *less* than 1 second, it will bring up the dialog to end the session.

Rear Panel Components

The following section lists the components on the rear panel of the NMX-MM-1000.

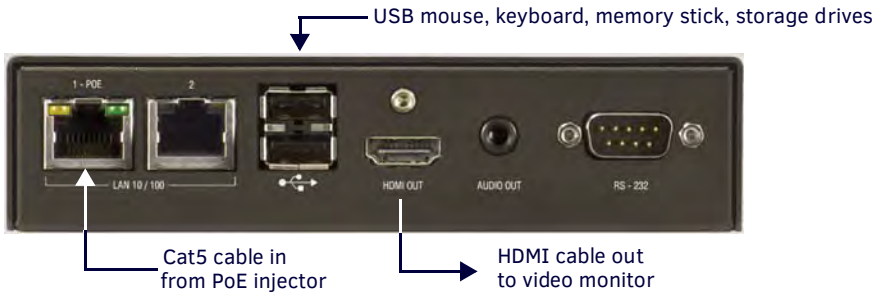


FIG. 2 NMX-MM-1000 (Rear Panel)

USB

The rear panel features two Type-A USB connectors for mouse and keyboard functionality, or reading from and writing to a mass storage device, such as USB hard drives or flash drives. (USB external hard drives may require their own power sources. The maximum current allowed across all USB ports is 4W.)

NOTE: *The USB connectors support USB mass storage devices using a FAT format. USB mass storage devices using an NTFS format may not work on these ports.*

NOTE: *Only one USB drive can be mounted and used at a given time. Once a USB drive is connected and Enzo mounts the drive, the files on it may be accessed. If a message stating the USB drive is mounted is not received, Enzo did not recognize the drive. A storage device's contents are not accessible if the device is connected while another storage device occupies a USB port. If a first USB drive is connected, mounted, and unmounted, a second USB drive will still not be recognized unless the first USB drive is removed from the Enzo device.*

LAN 10/100

The rear panel features two 10/100 Base-T RJ-45 LAN ports for network connection via Cat5 cable. Enzo obtains its power from a Power-over-Ethernet (PoE) source connected to Port 1. This source could be either a PoE injector (not included) or a network switch with PoE output.

FIG. 3 provides the pin outs and signals for the LAN connector and cable.

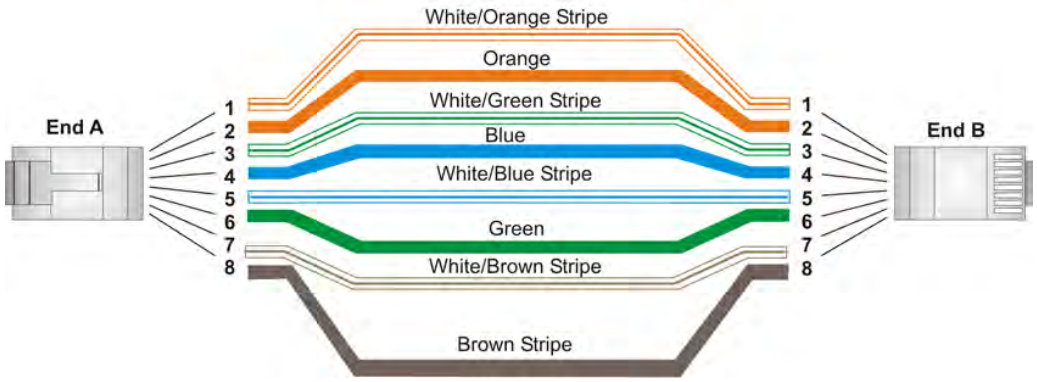


FIG. 3 RJ-45 Wiring Diagram

FIG. 4 describes the blink activity for the LAN connector and cable.

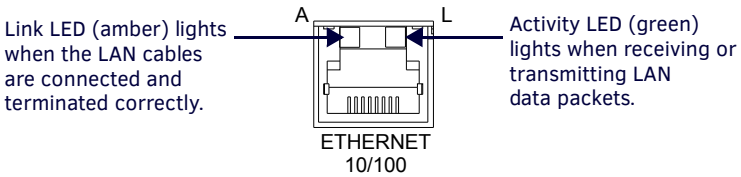


FIG. 4 LAN Connector / LEDs

HDMI OUT

The rear panel features one HDMI connector for video output.

NOTE: *Playback of 1080i video will show interlacing artifacts when the Enzo display resolution is set to 720p. AMX recommends that the Enzo display resolution be set to 1080p in environments where 1080i video will be played.*

The following table describes the pin-out configuration of the HDMI OUT connector:

HDMI OUT Connector - Pinouts and Signals			
Pin	**Signal**	**Pin**	**Signal**
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock-
3	TMDS Data 2-	13	CEC
4	TMDS Data 1+	14	Reserved, HEC Data
5	TMDS Data 1 Shield	15	SCL
6	TMDS Data 1-	16	SDA
7	TMDS Data 0+	17	DDC/CEC/HEC Ground
8	TMDS Data 0 Shield	18	+5V Power (max 50mA)
9	TMDS Data 0-	19	Hot Plug Detect, HEC Data+
10	TMDS Clock+		

FIG. 5 displays the pin locations for the HDMI connector:

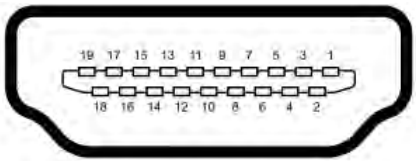


FIG. 5 HDMI Pin-outs

AUDIO OUT

The rear panel features one 3.5mm mini-phono connector for audio output.

RS-232 SERIAL PORT

The rear panel features one 9-pin DB9 connector (FIG. 6). This connector is an ICSP connected serial port designed to send and receive (RX/TX) serial communication to Enzo's serial port via a NetLinx program running on a NetLinx master directed at Port 3. This serial port is not configured the same as the AMX Master Controllers and does not support 5, 6 or 9 bit. Port 3 of the Enzo ICSP device is used for communication and configuration of Enzo's serial port from a connected NetLinx master.

- Allows control of a connected display via Enzo (On/Off, etc.)
- Requires ICSP commands to send strings to the serial port (SEND_STRINGS)
- Command set identical to a master, but serial functionality is a subset
- Capability available to NetLinx Integrators

RS-232 pin-outs (male connector)
Pin 2: RX signal
Pin 3: TX signal
Pin 5: GND
Pin 7: RTS
Pin 8: CTS

FIG. 6 RS-232 (DB9 - Male) Connector Pin-outs

Refer to the display manufacturer for specific characters used on your displays serial port as this varies model to model.

The RS-232 port supports the following data rates and formats:

- Baud rate: 115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200, 600, 300, 150
- Parity: None, Odd, Even
- Data Bits: 7 or 8
- Stop Bits: 1 or 2

Supported Serial Port API Commands

The following send_commands are supported by Enzo's serial port and are further defined in the *Enzo Programmers Guide* located at http://www.amx.com/products.

- GET BAUD
- SET BAUD
- TSET BAUD

Specifications

The following table lists the specifications for the NMX-MM-1000:

NMX-MM-1000 Specifications	
Dimensions:	1.375” x 5.19” x 3.25” (34.8 mm x147.3 mm x 83.4mm) H x W x D
Weight:	1.1 lbs. (0.5 kg)
Mounting Options	• Surface Mount: AVB-VSTYLE-SURFACE-MNT, V Style Single Module Surface Mount Brackets, quantity 2 of 760896, included • Rack Mount Adapter: NMX-MM-RKA, Enzo Rack Mount Adapter (FG3211-60), not included. • The rack mount adapter is designed for use with V Style Rack Mounting Tray (FG1010-720/721) and V Style Rack Mounting Shelf (FG3201-60), not included
Regulatory Compliance:	• FCC • IC • CE EN 55022 Class A • CE EN 55022 Class B • CE EN 55024 • CE EN 60950-1 • IEC 60950-1 • C-Tick • UL 60950-1 • VCCI • RoHS • WEEE
Active Power Requirements:	• Power Consumption: 13W (Max) • Power over Ethernet (PoE), 802.3AF • Power Indicator: (1) LED (red/green), solid red at start of boot, blinking green during boot, solid green after boot is complete
Power Supply	• External, Power over Ethernet (PoE), requires 802.3af compliant PoE Injector or PoE capable Ethernet switch, not included. • Enzo is compatible with PS-POE-AF-TC (FG423-83)
Environmental:	• Operating Temperature: 32° to 104° F (0° to 40° C) • Storage Temperature: –4° to 158° F (–20° to 70° C) • Operating Humidity: 5% to 85%, non-condensing
Control	• NetLinx: Master Code: URL, Auto, Listen ICSP Security: Yes • RS-232: DB-9 Male Supported Baud Rates 150 to 115,200 Used to control display (future firmware release) • Operation Button: Quick press: Sleep Press-and-hold: System Settings
Memory:	• 2 GB RAM • 16 GB Flash memory (12 GB usable)
HDMI Out:	One HDMI connector for video output: **Note:** *AMX recommends using only 1080p or 720p displays to connect to Enzo.* • Output Connection: HDMI Type A Female • Output Signal Type Support: HDMI • Output Resolution: 720p, 1080p **Note:** *Playback of 1080i video will show interlacing artifacts when the Enzo display resolution is set to 720p. AMX recommends that the Enzo display resolution be set to 1080p in environments where 1080i video will be played*
Analog Audio:	One 3.5mm mini-phono connector for audio output: • Output Connection: 3.5 mm stereo audio jack • Output Level (Max): 1 Vp-p into 10 kOhms • Output Impedance: 200 Ohms

Continued ↴

NMX-MM-1000 Specifications	
Ethernet:	Two 10/100 Base T LAN ports for network connection via Cat5 cable. Enzo obtains its power from a Power-over-Ethernet (PoE) source connected to Port 1. • Connection: (2) RJ-45, Auto MDI/MDI-X • Link/Act Indicator: (1) LED (green), on for link, blink off for activity • Speed Indicator: (1) LED (yellow), on for 100 BASE-T, off for 10 BASE-T **Note:** *Integrated 2 port Ethernet switch allows a connection to PoE (power and network), along with an auxiliary connection for another device to the network drop in the room.*
USB:	Four Type-A 2.0 USB connectors for connecting peripheral devices, such as a USB keyboard or mouse, or a mass storage device, such as a USB hard drive or flash drive. • Connection: USB 2.0 Type A Connect USB drive to display documents Connect keyboard and mouse • +5 V Current Output (Max): 4 W total across all USB connections • Wireless Keyboard & Mouse: Supports 2.4 GHz RF wireless keyboard and mouse using wireless dongle (not included) **Note:** *Does not support Bluetooth keyboard and mouse.* **Note:** *Only one USB drive can be connected at a time to the USB ports.* **Note:** *The total available power across all USB ports is limited to 4 Watts. Any USB peripheral that causes the total USB power consumption to exceed this amount will need to be powered with its own supply.*
Serial:	The RS-232 port supports the following data rates and formats: • Baud rate: 115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200, 600, 300, 150 • Parity: None, Odd, Even • Data Bits: 7 or 8 • Stop Bits: 1 or 2 • DB-9 connector
Included Accessories:	• Two Metal V-Style Surface Mount Brackets (**760896**)
Optional Accessories:	• PS-POE-AF-TC, PoE Injector, 802.3af Compliant (**FG423-83**) • CBL-HDMI-FL, HDMI High Speed Flat Cable with RedMere® Technology (**FG10-2180-16**) • AVB-VSTYLE-RMK-1U V-Style Box Tray (**FG1010-720**) • AVB-VSTYLE-RMK-FILL-1U,V-Style Box Tray with Fill Plates (**FG1010-721**) • NMX-VRK V-Style Rack Shelf (**FG3201-60**) • NMX-MM-RKA, Enzo Rack Mount Adapter (**FG3211-60**)

Streaming Video

Streaming Video Support on Enzo allows users to watch video content, such as television, Signage, or a presentation in a meeting space. This video can be sourced from an AMX H.264 Encoder, and requires Netlinx commands to start a stream. For the best video playback, AMX recommends streaming progressive scan video.

The Netlinx Master controlling Enzo will provide the video source location from a particular Encoder. The programmer must program the multicast address, located in the Encoder's Streaming tab, and set up the touch panel to initiate Enzo to play the stream on the conference room display.

Features of streaming media support include:

- Playback of UDP multicast and unicast streams
- Playback controlled by ICSP commands
- Channel name can be shown if provided within the Info bar
- Screen saver shown if channel is lost so that screen does not burn in
- Stream playback automatically resumes when channel is restored

Technical Specs

- Requires ICSP commands to start stream (integrator or RPM)
- Playback up to 1080p, 30fps, and 8Mb/s

NOTE: *Playback of 1080i video will show interlacing artifacts when the Enzo display resolution is set to 720p. AMX recommends that the Enzo display resolution be set to 1080p in environments where 1080i video will be played.*

- H.264 Baseline, Main, and High Profiles
- UDP Multicast or Unicast
- Info bar at bottom of screen can be shown or hidden on command
- Command available to query the video playback state

NetLinx Commands

The following Netlinx commands are available for Streaming Media:

- VIEW
- ?VIEW
- VIEW.CLOSE
- VIEW.MEDIA_CONTROLLER

Refer to the Enzo Programming Guide for full details on these commands.

Media States

Possible Media States include (Only a subset is available depending on the media):

- ERROR
- NOT_FOUND
- NOT_STREAMING
- STREAMING

FIG. 7 reflects a typical system application for streaming video over a network using Enzo.

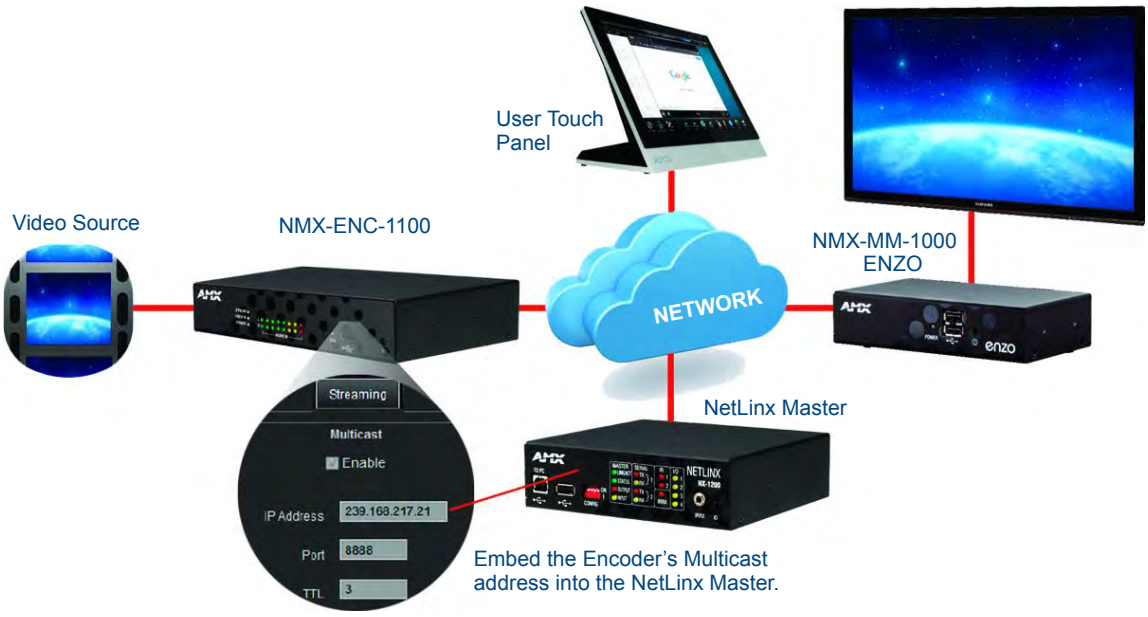


FIG. 7 Stream Video Network Diagram

Installation

Overview

Installing the NMX-MM-1000 is a quick and simple process. Before connecting the NMX-MM-1000 to its peripheral devices and powering the device, be sure to mount the device using the desired method detailed below.

Installation

The NMX-MM-1000 can be mounted using an AVB-VSTYLE-RMK-1U V-Style Box Tray (**FG1010-720/721**). Consult the *Mounting Options for V Style Modules Quick Start Guide* included with the kit for mounting instructions.

The Enzo also has rubber feet that can be applied to the bottom of the unit for table-top mounting.

Mounting with an NMX-VRK V-Style Rack Shelf

Enzo can be mounted in a rack by using an NMX-VRK V-Style Rack Shelf (**FG3201-60**). In addition to the Enzo, the PoE injector module can be mounted on the rack shelf using cable ties to secure it to the provided tie down holes.

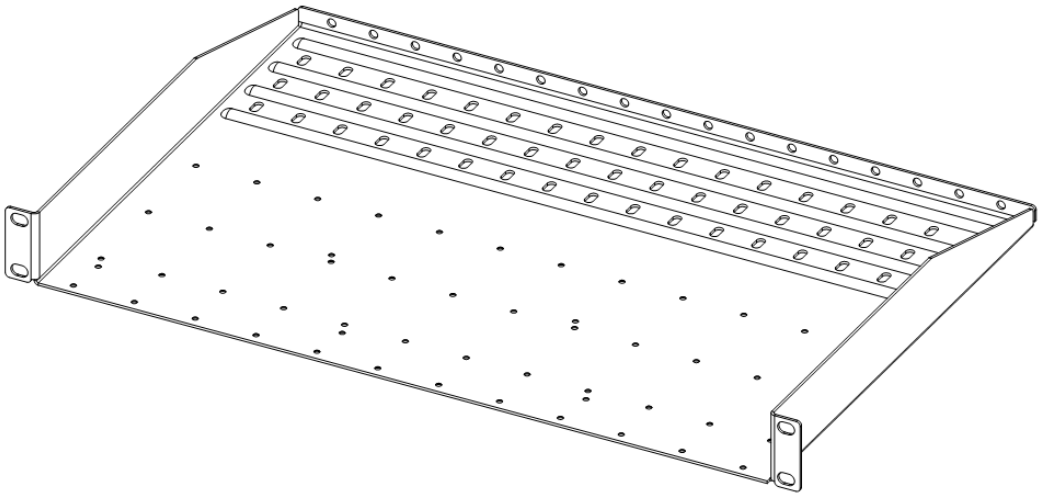


FIG. 8 NMX-VRK V-Style Rack Shelf

Perform these steps to mount the encoder using the NMX-VRK V-Style Rack Shelf:

1. Invert the Enzo and the rack shelf for ease of installation.
2. Attach the rack shelf to the bottom of the Enzo using the #4-40 3/16 inch undercut flat head screws (provided). Insert the screws through the underside of the rack shelf and into the holes on the bottom of the Enzo. Note that only two screws are required.
3. Install the rack shelf in a standard EIA 19 in. (48.26 cm) rack and secure with rack-mounting screws.
4. (This step is optional.) Attach fill plates using the #4-40 3/16 inch undercut flat head screws (provided). Be sure to use the screw holes closest to the front of the tray.
5. Use wire ties (not provided) to mount the PoE injector to the rear section of the rack shelf. This step is optional.

Mounting with an Enzo Rack Mount Adapter

The NMX-MM-RKA Enzo Rack Mount Adapter (**FG3211-60**) is another option for mounting the Enzo in a rack. The rack mount adapter ships with four screws used for mounting the Enzo to the rack mount adapter and the rack mount adapter to the rack. Perform these steps to mount the Enzo using a rack mount adapter.

1. Use two of the provided screws to secure the Enzo to the rack mount adapter (see step 1 in FIG. 9).

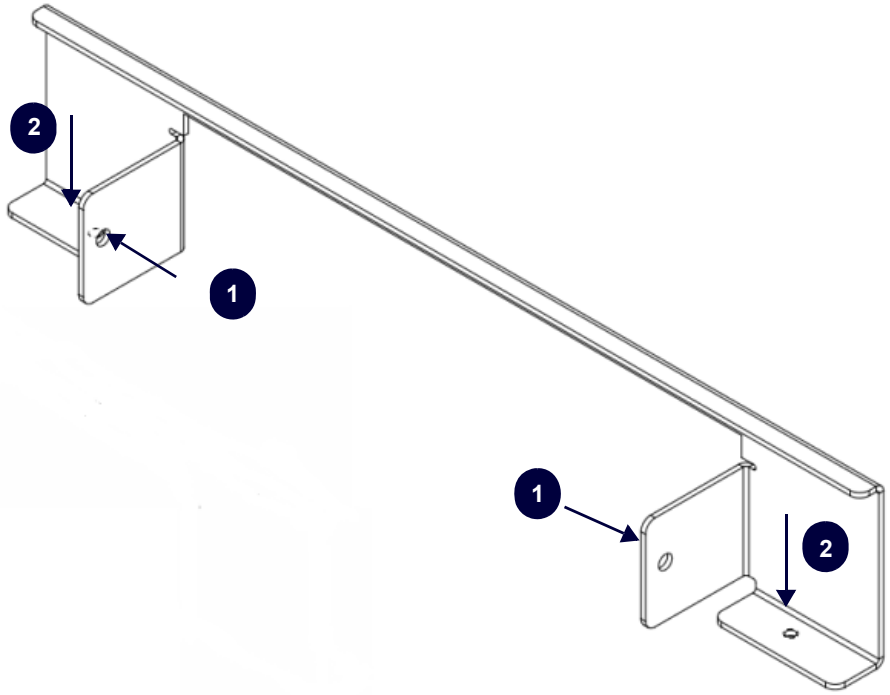


FIG. 9 NMX-MM-RKA Enzo Rack Mount Adapter

2. Use the two remaining screws to secure the rack mount adapter to the rack (see step 2 in FIG. 1).

Mounting with the Surface Mount Brackets

The Surface Mount Brackets are designed for mounting a single module (to a wall, on or under a desk, etc.) The brackets may be attached to mount the top or the bottom flush with the mounting surface.

Insert the #4-40 3/16 inch pan head screws (provided) as shown in FIG. 10 and tighten. Brackets can either align flush with the top or with the bottom.

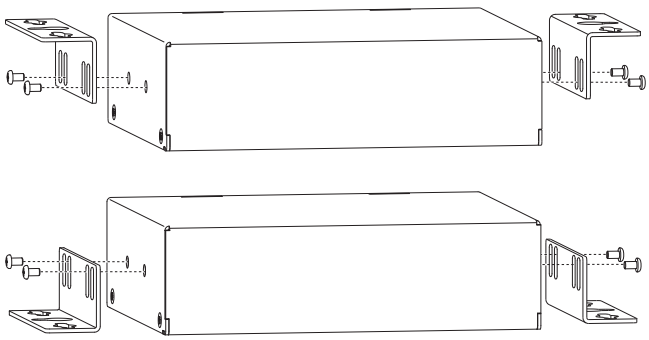


FIG. 10 Installing Surface Mount Brackets

Surface Mounting

Perform the following steps to surface mount the Enzo:

NOTE: *The #8 x 1/2 inch tapping pan head screws provided for mounting to a flat surface are designed for wood. If the module needs to be mounted on a different type of surface, use the appropriate type of fastener, e.g., dry wall anchors (not provided).*

1. Place the NMX-MM-1000 in the desired final position on the mounting surface and mark the screw position as indicated in FIG. 11.

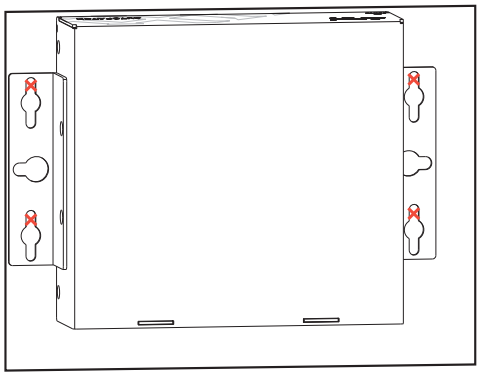


FIG. 11 Mark Screw Positions

Important: The mark for the screw's position in each of the mounting holes needs to be made in the end of the slots (all marks to either the top of the slots or all marks to the bottom).

1. Set the device aside. If using the wood screws provided, drill pilot holes (drill size 29; hole diameter 0.136 in.) for the screws 1/2 inch (1.27 cm) deep. Insert the screws in the holes, but do not tighten them completely.

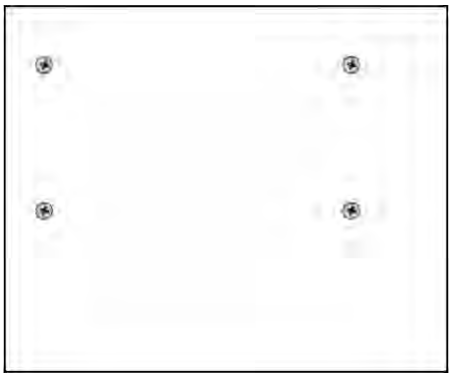


FIG. 12 Pilot Holes with Screws

1. Align the module with the center of the double key-hole slots over the screws and slide into place as indicated in FIG. 13.

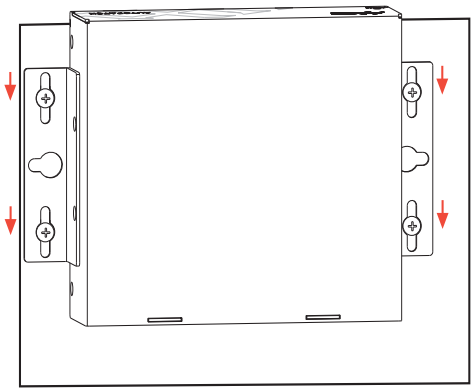


FIG. 13 Sliding Enzo onto Wall Mount Screws

2. Tighten the screws.

Enzo Power Up

This section describes the required steps to successfully power up the Enzo NMX-MM-1000. FIG. 14 provides references to the Enzo rear access ports that will have connections made to peripheral devices, monitors, and power.

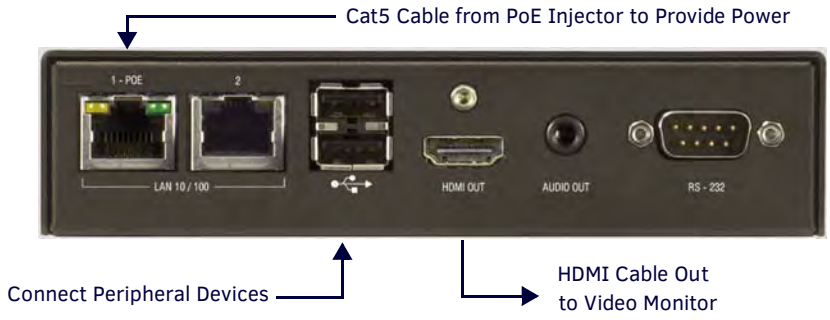


FIG. 14 NMX-MM-1000 (Rear Panel)

Connecting the NMX-MM-1000 to a Video Output

The NMX-MM-1000 uses standard HDMI cabling to connect to a video output. Use an HDMI cable to connect the HDMI OUT port on the rear panel of the device to the display device.

Connecting a Keyboard and Mouse

The front and rear panels of the NMX-MM-1000 each feature two Type-A USB ports for mouse and keyboard functionality.The ports may also be used for reading from a mass storage device, such as a USB hard drive or flash drive. (USB external hard drives may require their own power sources. The maximum power allowed across all USB ports is 4W.)

NOTE: *In addition to a directly connected USB keyboard and mouse, the NMX-MM-1000 also supports using a 2.4 GHz RF wireless keyboard and mouse using a wireless dongle. Bluetooth devices are NOT supported.*

NOTE: *The USB ports support USB mass storage devices using a FAT format. USB mass storage devices using an NTFS format may not work on these ports.*

NOTE: *Only one USB mass storage device can be connected to at a time. Once connected to a USB drive and Enzo mounts the drive, the files on it may be accessed. If a message stating the USB drive is mounted is not received, Enzo did not recognize the drive. A storage device's contents are not accessible if the device is connected while another storage device occupies a USB port. If a first USB drive is connected, mounted, and unmounted, a second USB drive will still not be recognized unless the first USB drive is removed from the Enzo device.*

Connecting PoE Power

Connecting power to the NMX-MM-1000 requires Cat5 cable and a PoE injector, such as the PS-POE-AF-TC available from AMX, or a PoE-capable Ethernet switch. Port 1 must be connected to a network through the PoE injector to receive power to the NMX-MM-1000 device.

1. Connect the PoE injector to an AC outlet (100-240VAC) using a standard power cord.
2. Using Cat5 cable, connect the network switch to the Data In port on the PoE injector.
3. Using a separate Cat5 cable, connect the Data & Power Out port on the PoE injector to LAN Port 1 on the NMX-MM-1000.

FIG. 15 illustrates how to connect the PoE injector to the NMX-MM-1000.

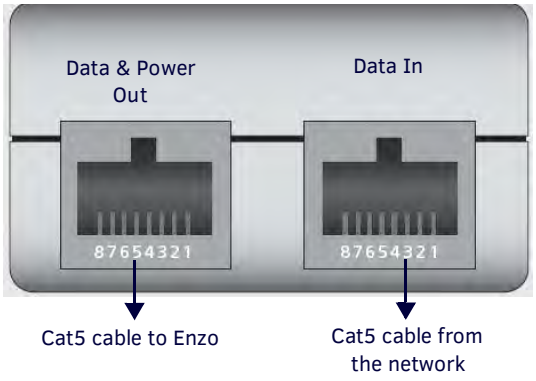


FIG. 15 PoE Injector Connection

Enzo Power-up

When power is applied, the POWER LED on the front panel appears red and then blinks green while the device is booting. When the device is finished booting and the device is ready for use, the LED remains solid green. The device usually takes 20-30 seconds to boot. When booting is complete, the NMX-MM-1000 opens to the Enzo desktop (FIG. 16).

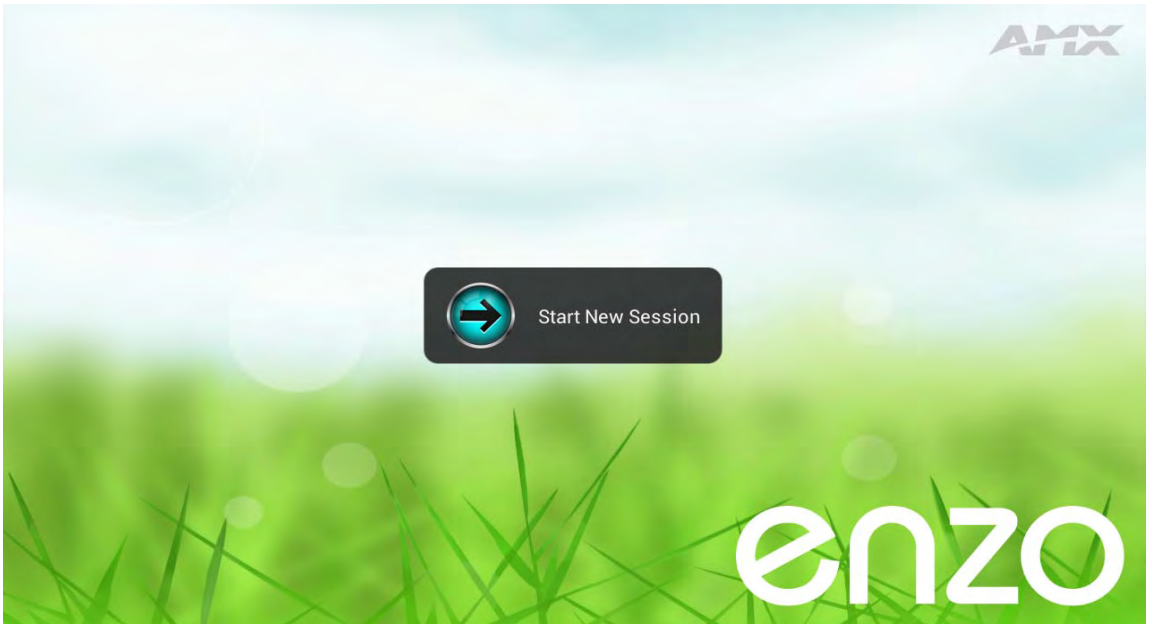


FIG. 16 Enzo Desktop

Locating the Enzo IP Address

On connection, a diagnostics screen can be accessed on which the IP address, Ethernet switch status, etc. can be viewed on the connected video output. Perform the following steps to locate the IP address of the device. For further details on navigating the Enzo interface, refer to the *Enzo Users Guide*.

1. On the Enzo opening screen, select **Start New Session**.
2. Press **F12**.
3. Select **System Settings**.
4. The IP address of the Enzo unit appears in the Device area (see FIG. 17) under the **Device Info** selection.

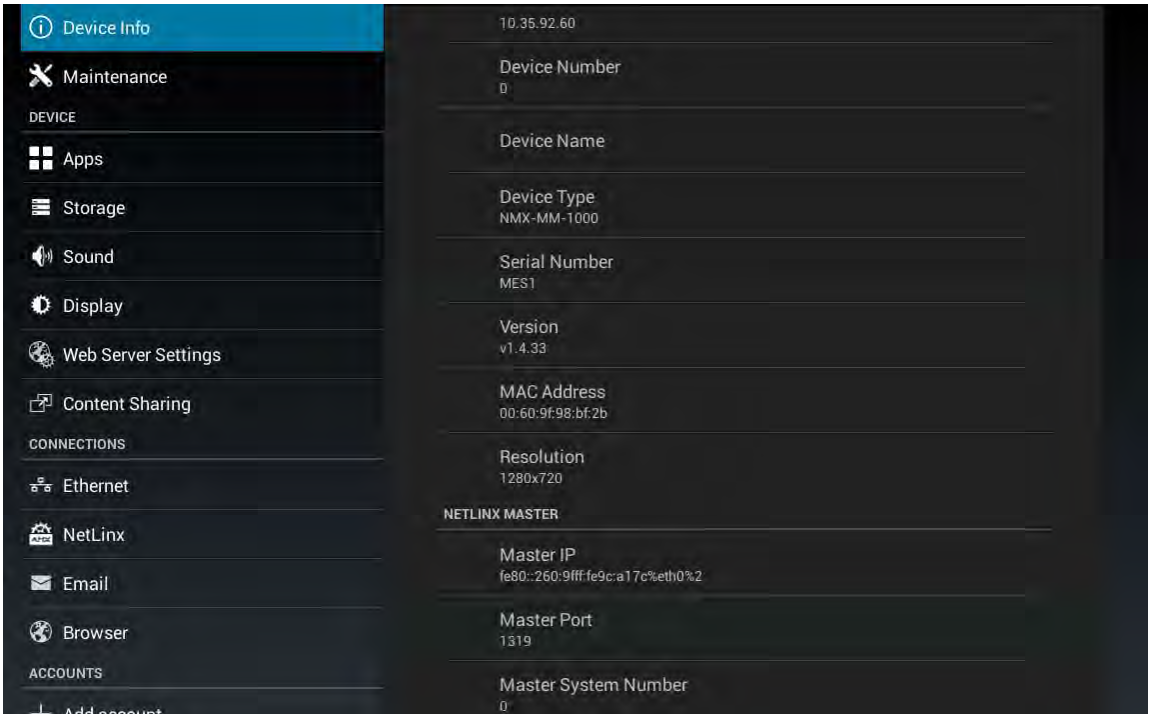


FIG. 17 System Settings - Device Info Screen

Enzo Settings

Overview

This chapter provides details on the settings options for the Enzo Meeting Presentation System. The Settings option allows changing the appearance and functionality of the Enzo interface. Viewing or changing any of the settings requires entering a security password. The default password is **1988**.

Subjects covered are:

- *About* on page 14
- *Applications* on page 14
- *Documents* on page 20
- *Control* on page 20
- *Wallpaper* on page 20
- *Email* on page 21

Settings for Enzo options are available through the Settings menu accessible from the main screen via one of the following methods:

- Press the F12 key on the keyboard to open the Settings window directly (FIG. 19).
- Press the Home key, then Left Arrow key followed by the F1 key to access the Settings menu (FIG. 20).
- A long click on the Enzo icon in the bottom right corner of the main screen opens the Settings window directly (FIG. 19).

Enter the security password in the text box that appears, and select **OK**. The default password is **1988**.

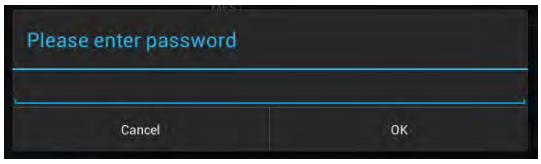


FIG. 18 App Favorites Selection

The Settings window appears as shown in FIG. 19.

FIG. 19 Settings Screen

If an F12 key is not equipped on your keyboard press the Home + Left Arrow key followed by the F1 key to access the Settings menu. Also a long click on the Enzo icon bottom right will bring up the menu. Next select the Settings.

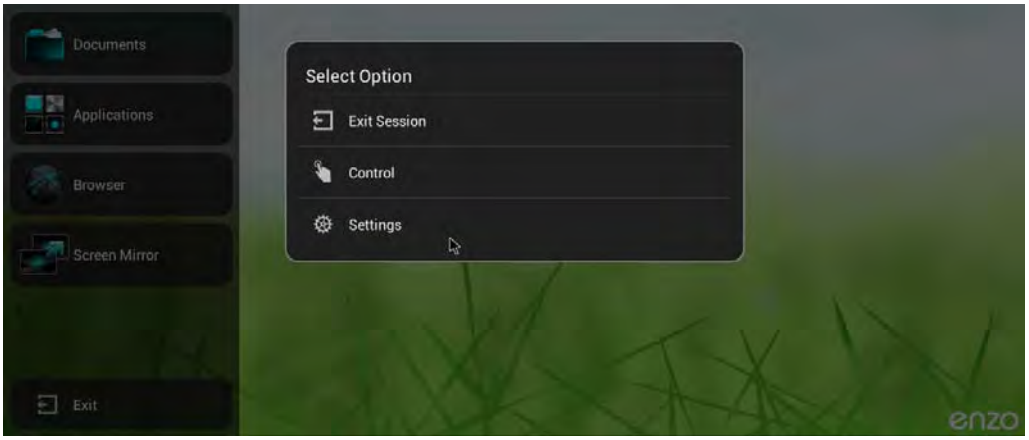


FIG. 20 Enzo Main Screen - Select Option Menu

About

The About option lists information about the Enzo, such as serial number, firmware version, and loaded applications. This information is view-only except for the Name text field, which can be selected and a new device name entered.

Video On Demand

Note that when using Enzo as a Set Top Box (STB), particular details need to be adhered to regarding naming of the Enzo so it appears properly in the Vision2 STB list. Spaces, dashes, and periods are supported and passed to Vision2 in the STB name. All other special characters are being converted to underscores and the STB name will be sent to Vision2 with underscores.

Also, AMX recommends using Static IP addresses or statically-assigned DHCP addresses on Enzo units when used as STBs. This will help to eliminate the possibility of duplicate IP addresses in the Vision2 STB lookup tables.

Applications

The Applications menu enables users to add and activate third-party web browser-based applications on Enzo as well as configure how they are presented on the Main screen.

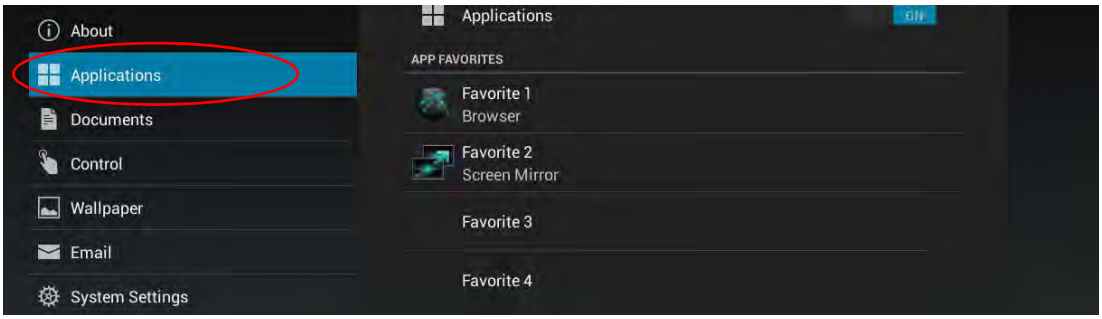


FIG. 21 Applications Settings Selection

1. To access the Applications configuration items, select the **Applications** from the menu.

The Applications configuration options are now available to the user and are described in the table below.

Applications Options	
Applications	Use this slider to toggle the Applications option. If this option is OFF, the Applications button does not appear on the Enzo main screen removing the quick access to APP FAVORITES.
APP FAVORITES	Use the App Favorites to set the sequence of the APP Icons on the Enzo main screen. Favorite 1 will appear at the top of the App list while Favorite 4 appears at the bottom. See *App Favorites* on page 15.

Continued ↴

Applications Options	
APPLICATION MODE	Set Enzo as a Single App device by selecting MirrorOp, Browser, or TV. Otherwise, keep in Multi-App mode to maintain current functionality. Set the Purge on Home or Escape to define the operation when a user presses **Esc** (escape) or **Home** keys on the keyboard. This is only available when Enzo is set in Single App Mode. • *Yes* - Pressing **Esc** (escape) or **Home** in single app mode will purge and resume the app selected. This will log out both the users and the admin if logged into the WebApp. • *No* - Pressing escape or home in single app mode will only pause and resume the app without purging. • *Interactive* - Pressing **Esc** or **Home** will pause the single app mode app and show this user interactive dialog giving the user the option to purge or not purge.
MIRROROP	Use this option to enable a passcode for connecting to Enzo using the MirrorOp app. Leave unchecked for apps that do not have passcode ability. Checking the box brings up a window to generate a random passcode or enter a preferred 4 digit numeric code. Once a new passcode has been set, exit the session to enable it. See *MirrorOp* on page 16.
APPS	Checking the individual loaded Apps in this list will make them appear in the Enzo Main Screen Application List displayed by clicking on the Applications Icon in the left menu. See *APPS* on page 18.
WEBAPPS	Add an app - Used to add a new application to the APPS list above. To add the application, a title and direct URL link must be suppled. See *WebApps* on page 18.

App Favorites

Under the App Favorite heading are Favorite 1 through Favorite 4. Selecting one of these Favorite lines will open a popup window displaying available apps to choose from. Refer to FIG. 22.

FIG. 22 App Favorites Selection

Currently there are four applications included with Enzo. Select one of these apps to assign it to the Favorites spot selected, in this case selecting the TV app for Favorites 3. Repeat for the remaining Favorites positions. The order of the apps is reflected in the Enzo main screen app order from top to bottom. See FIG. 23.

FIG. 23 Enzo Favorite Apps

Application Mode

Use the Application Mode options to set up Enzo for a single application (Browser, MirrorOp, TV only) and control how Enzo purges on exit.

Set Application(s)

Select **Set Application(s)** (FIG. 24) to bring up the Set App Mode App selections (FIG. 25).

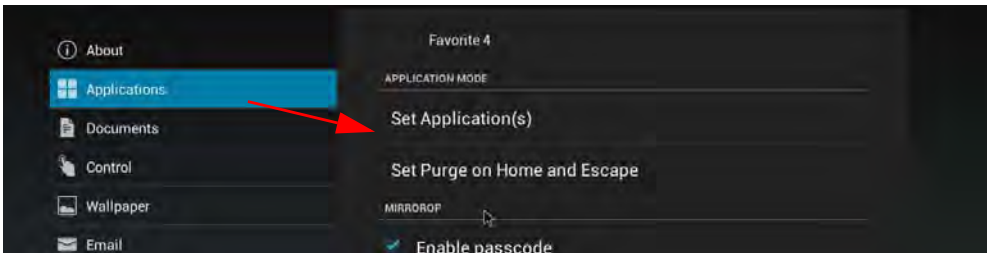


FIG. 24 Applications - Set Applications

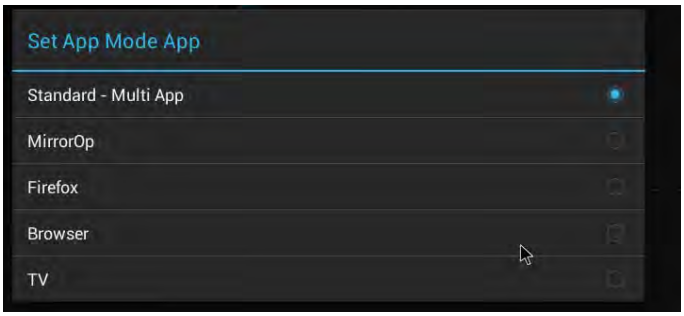


FIG. 25 Set Applications Menu Options

Normally, Enzo is in Standard-Multi App mode and end users may choose from the apps presented on the Home screen. If Enzo is used in a location to provide signage on a TV screen, it could be set up as TV which is a Single App Mode application. Pressing Esc or Home will only back the user out of the current session and return to the App specified (TV, Browser, or MirrorOp).

Set Purge on Home and Escape

The Purge options are only available when Enzo is in Single App Mode. It controls how the system operates when the user presses **Esc** or **Home** keys on the keyboard(FIG. 26.)

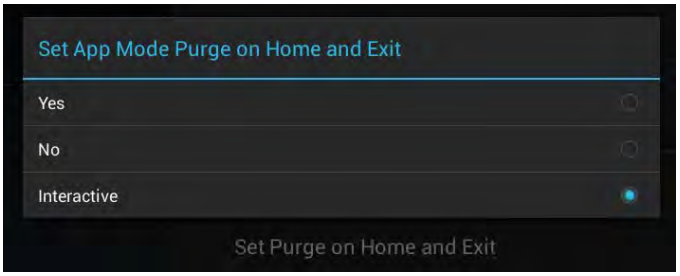


FIG. 26 Set App Mode Purge Menu Options

- *Yes* - Pressing **Esc** (Escape) or **Home** in single app mode will purge and resume the app selected. This will log out both the users and the admin if logged into the WebApp.
- *No* - Pressing **Esc** or **Home** in single app mode will only pause and resume the app without purging.
- *Interactive* - Pressing escape or home will pause the single app mode app and show this user interactive dialog giving the user the option to purge or not purge.

These options can also be selected by the Admin using the WebApp user interface tool. Refer to *Application Mode* on page 48.

MirrorOp

An administrator may want to provide a preloaded USB memory stick to each conference room equipped with an Enzo media presentation system to provide fast screen mirroring capabilities for meeting presenters. This method is referred to as Plug and Show. A link is provided on the AMX website that will download a .zip file to your system. Remove the contents of the .zip file and put them on the memory stick. to be made available in each meeting room. Plug and Show enables users to walk into a conference room, insert a preloaded memory stick into their laptop, desktop, or MAC PC, and launch an executable MirrorOp file from the memory stick without having to install any software on their devices.

NOTE: *Mac users must download and install an audio driver app (like Sound Flower) that allows Mac applications to pass audio to other applications.*

- http://www.mirrorop.com/downloads/amx/PNS_TOKEN.zip

Plug and Show System Requirements

- Windows system – VISTA / 7 / 8
- MAC system – 10.5~10.9

MirrorOp Passcode Configuration

MirrorOp is included on Enzo and provides seamless operation and display of remote PCs, smart phones or Tablet devices for meeting presentations. Some applications require a passcode to create a connection between the device and Enzo's MirrorOp App. The passcode is enabled by default.

1. Click the *Enable passcode* check box shown under the Settings - Applications menu (FIG. 27) to disable the passcode function.

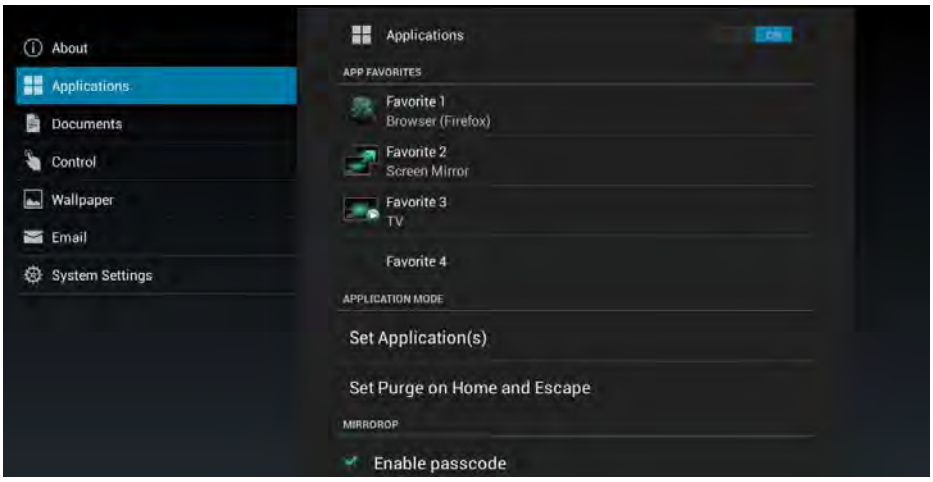


FIG. 27 Enable MirrorOp Passcode

If checking the box to enable the Passcode generation, the following window appears.

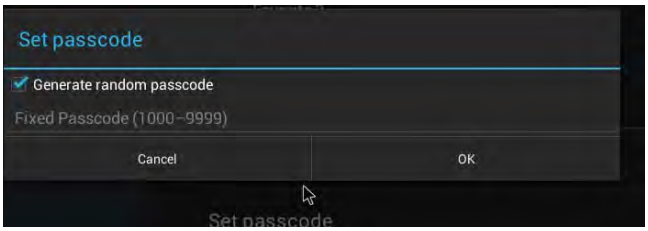


FIG. 28 Set Passcode

2. Select OK to have the system randomly create a passcode used to link MirrorOp apps to Enzo.
3. If a static passcode is desired, uncheck the box and enter a 4 digit numerical passcode (1234 shown).

FIG. 29 Set Passcode Manually

NOTE: *The Enzo web UI and NetLinx commands allow invalid passcodes to be set on Enzo. The valid passcode range is 1000 to 9999. Setting the passcode less than 1000 is equivalent to disabling the passcode. If an invalid passcode is set via the web UI, it will revert to the previously set valid passcode following an Enzo reboot.*

4. Click **Set Time Interval for Passcode Generation** to set the amount of time from 1 minute to 4 hours that Enzo should take to generate a new password.
5. Once the passcode is set, restart the Enzo session to apply the changes.

6. Launch the Screen Mirror App from the Enzo main screen. The IP address and Code (Passcode) are listed (FIG. 30). Enter this data into the MirrorOp Presenter device to enable connection between the two.

FIG. 30 MirrorOp IP Address and Passcode

Multiple devices may connect to Enzo's MirrorOp App and up to four devices may be displayed at one time. For operational details on MirrorOp refer to the *Enzo Users Guide.*

NOTE: *When finished displaying data on MirrorOp, it is advised to close out of the MirrorOp app on your device. Failure to close out will cause a connection to be maintained with Enzo and Enzo will not timeout, close and purge all documents viewed during the session. This may leave confidential data available for the next MirrorOp presenter.*

APPS

Under the Apps heading in the Applications menu are a list of apps that are currently loaded on Enzo. Clicking on the apps enables the check box with a check mark (FIG. 31) which indicates that the app is accessible from the Applications menu on the Enzo main screen (FIG. 32).

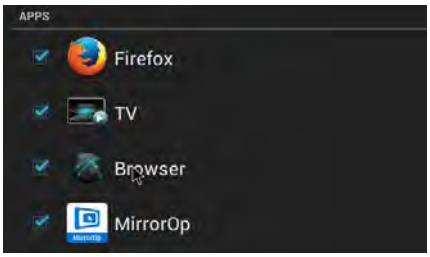


FIG. 31 Checking Apps in Settings

The application is now accessible from the Applications menu on the Enzo main screen. Refer to FIG. 32.

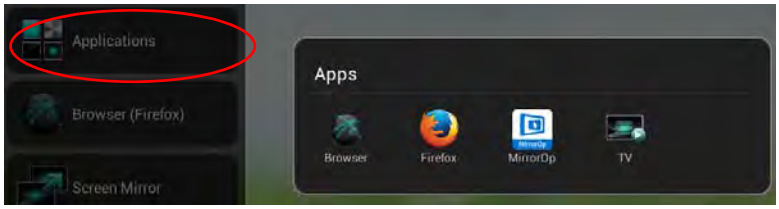


FIG. 32 Enzo Main Screen Applications Icon

WebApps

Under the Web Apps heading is an option to **Add an app**. This option is used to add a new application to Enzo and when added will appear in the APPS list above.Adding a web-based application to Enzo requires knowing the URL of the application. Perform the following steps to add an application to the Enzo Meeting Presentation System: Add a Web-based Application

1. On the main Enzo screen, perform a long mouse click on the Enzo icon at the bottom right of the screen to bring up the Settings menu. The Password window appears.

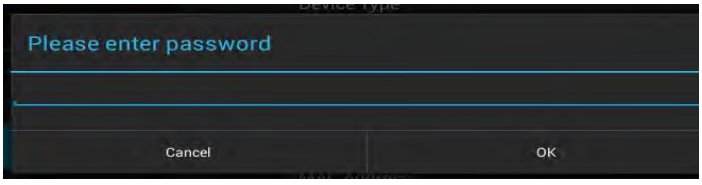


FIG. 33 Password Confirmation

2. Type the password (**1988**).

3. Select **Applications** (FIG. 34).

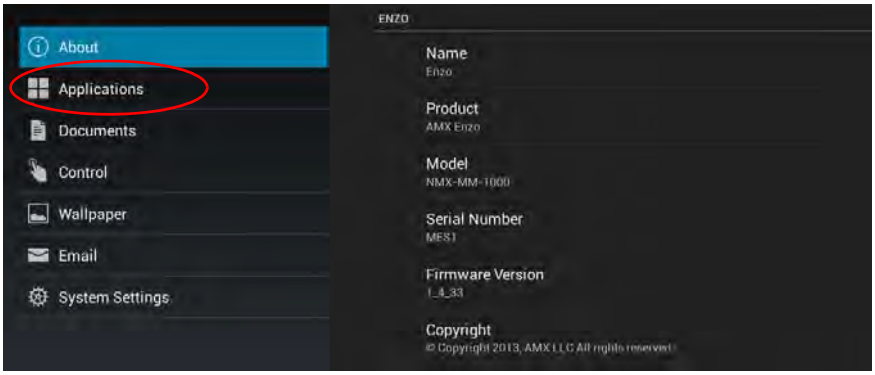


FIG. 34 Application Dialog Box

4. The Applications options appear on the screen (FIG. 35).

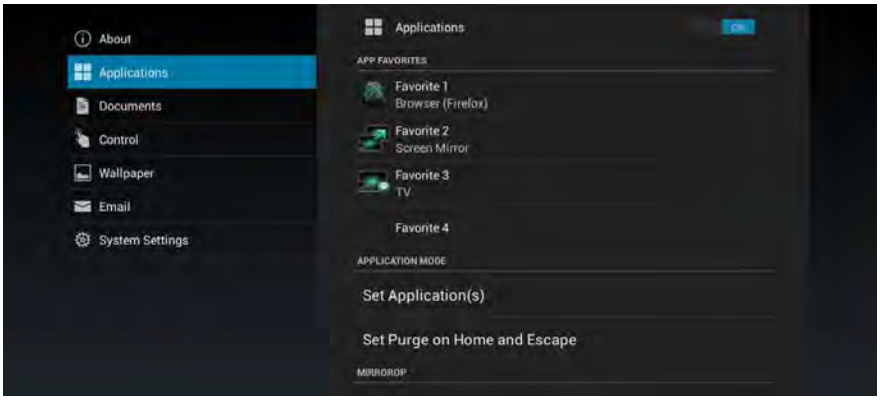


FIG. 35 Applications Menu

5. Scroll down the right menu options and under the *WEBAPPS* heading select **Add an App** (FIG. 36).

FIG. 36 Application Dialog Box

6. The Application dialog box opens (FIG. 37).

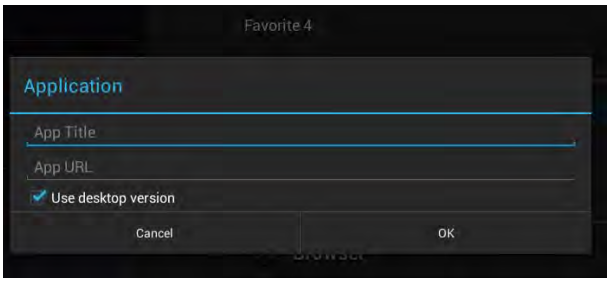


FIG. 37 WebApps Applications

7. Enter the name of the application in the **App Title** text field.
8. Enter the web address of the application in the **App URL** text field.
9. Click **OK**. The app now appears in the Apps list and is also available from the Enzo main screen when the Applications button is clicked. Add the new web app to the Favorites list to keep it available on the main screen task bar.

Documents

The Documents option allows document activation from the main screen and to indicate which types of content sources are available. If all three types of content sources are disabled, the Documents button does not appear on the Enzo main screen.

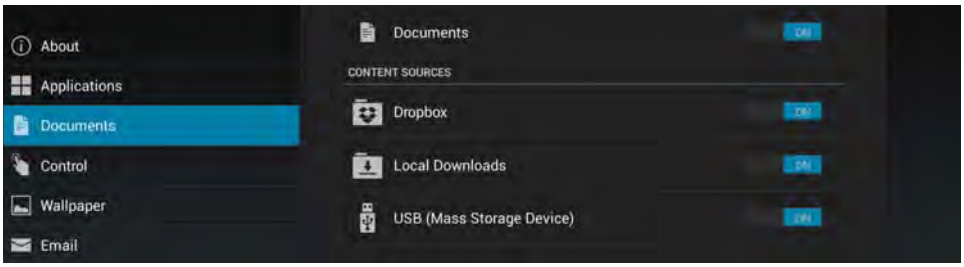


FIG. 38 WebApps Applications

Documents Options	
Documents	Use to toggle the Documents option. If this option is disabled, the Documents button does not appear on the Enzo main screen. (default = enabled).
Dropbox®	Select to toggle whether the Dropbox option is available. (default = disabled). **NOTE:** *Due to Dropbox API changes, Dropbox support in Enzo will end after June 2017.*
Local Downloads	Select to toggle whether the Local Downloads option is available (default = enabled).
USB (Mass Storage Device)	Select to toggle whether the USB option is available. (default = enabled).

Control

The Control option allows access to NetLinx control. When the Control button is selected, Enzo attempts to connect to a NetLinx Master on the network. When connected, a Virtual Keypad may be accessed if one is programmed on the Master. If the Virtual Keypad is enabled, it may be accessed at any time by pressing the F2 button on the keyboard. Use the Control option to toggle whether to turn on NetLinx control. If this option is disabled, the Control button appears dimmed on the Enzo main screen.

NOTE: *If this button appears dimmed, the option is disabled in the Enzo settings.*

Wallpaper

The Wallpaper option allows selecting a different wallpaper for the Enzo interface. Any wallpaper selected appears on all screens except for the Start Session screen. Selecting the Wallpaper option displays the current wallpaper and a graphical list of available wallpapers. Personal images may be selected as the wallpaper by loading them into the root folder of a USB drive and inserting the drive into one of the USB ports on Enzo.

Changing the Wallpaper on the Main Screen

The Wallpaper options are accessible by long clicking on the Enzo icon at the bottom right of the main screen. Perform the following steps to change the wallpaper on the main screen:

1. On the Enzo main screen, perform a long mouse click on the Enzo icon at the bottom right corner of the screen.
2. Select **Wallpaper**. The current wallpaper and a graphical list of available images appears (FIG. 39). An image may also be selected from a USB drive to use as the wallpaper. Load one or more images in the root folder of a USB drive, and insert the USB drive into Enzo. The images will be available to select from the graphical list.

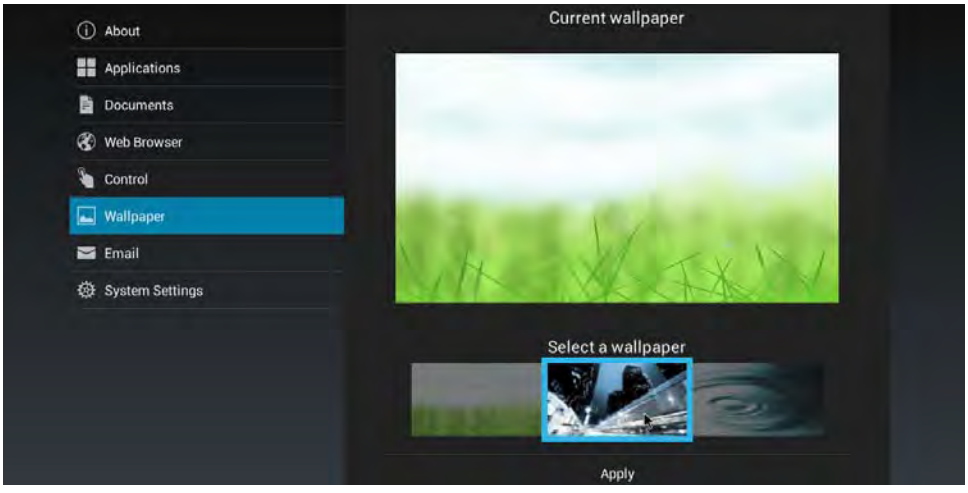


FIG. 39 Wallpaper Screen

3. Select the image to use as the new wallpaper and click **Apply**.

Email

The Email option allows e-mail activation on the Enzo Meeting Presentation System. The default subject and message for any e-mail messages sent may be set a swell as the maximum size for attachments. The following table list the Email options.

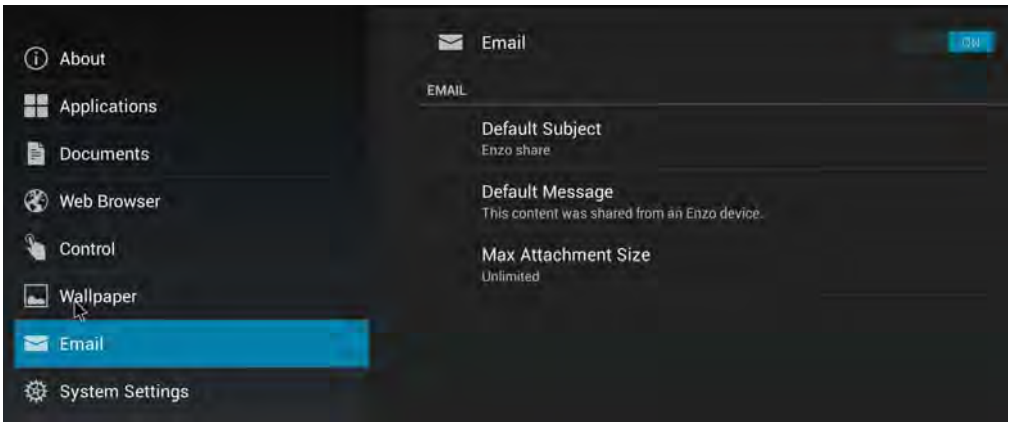


FIG. 40 WebApps Applications

Email Options	
Email	Use this option to toggle the e-mail option.
Default Subject	Select this option to indicate a default subject line for every outgoing e-mail.
Default Message	Select this option to indicate a default message for every outgoing e-mail.
Max Attachment Size	Select this option to set the maximum size for a file attached to an outgoing e-mail. Attachments or set an unlimited attachment size may be disabled.

Enzo System Settings

Overview

The System Settings option allows setting and viewing various device and usability settings for the Enzo Meeting Presentation System. Most of the options available in this area are password-protected. The default password is **1988**. See the *Security* section on page 36 for information on changing the password and other security settings. This chapter provides details on the configuration settings for the Enzo interface under the following software headings:

- *Info* on page 24
- *Device* on page 26
- *Connections* on page 29
- *Accounts* on page 32
- *System* on page 33

Configuration options are available through the Settings menu accessible from the main screen via one of the following methods:

- A long click on the Enzo icon in the bottom right corner of the main screen opens the Settings window directly (FIG. 41).
- Press the F12 key on the keyboard to open the Settings window directly (FIG. 41).
- If the keyboard is not equipped with an F12 key, press the Home key, then Left Arrow key followed by the F1 key to access the Select Options menu (FIG. 42), select **Settings** and then select **System Settings**.

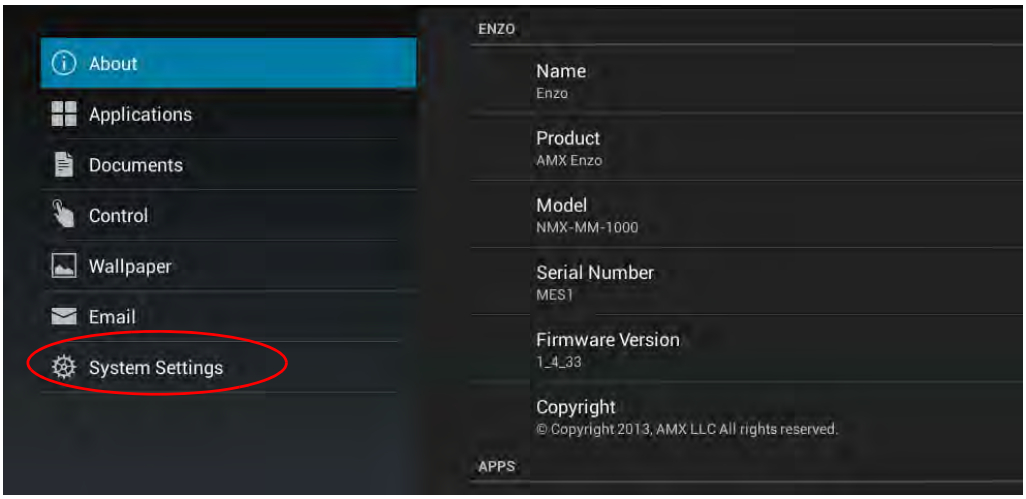


FIG. 41 Settings Screen

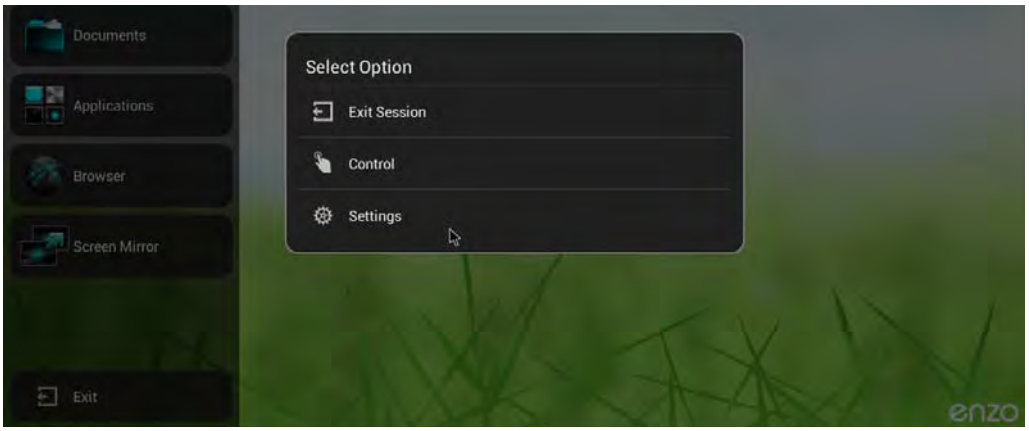


FIG. 42 Enzo Main Screen - Select Option Menu

The system Settings window appears as shown in FIG. 43. Each sub heading is defined in the following table under their respective heading.

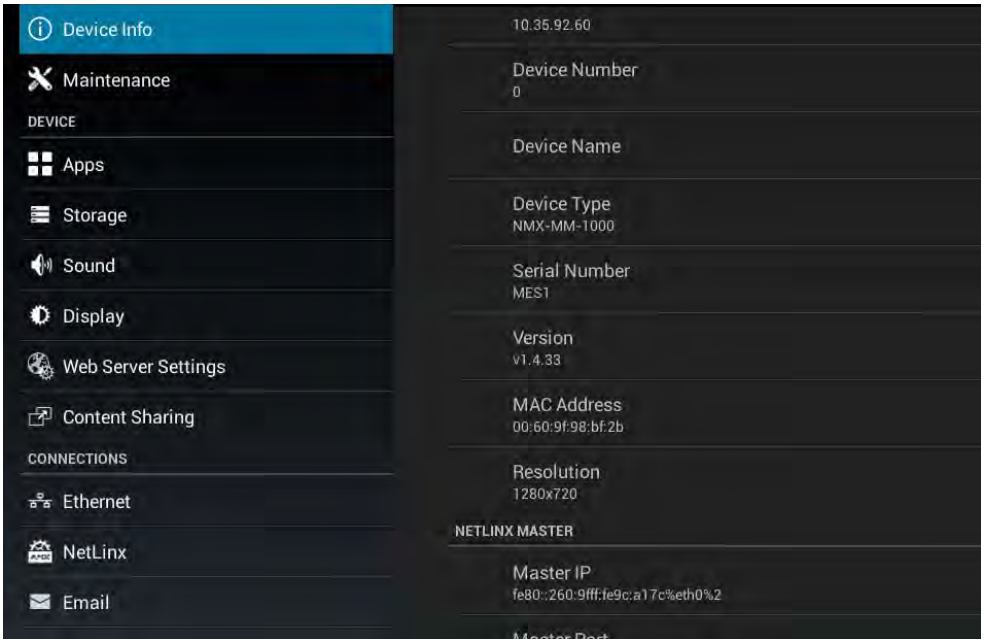


FIG. 43 Device Info Screen

System Settings Options	
Info	
Device Info	The Device Info area lists information about the device such as its IP address and firmware version. Additionally, information may be found about Enzo's available memory and the connected NetLinx Master, if any. All information in this area is view-only.
Maintenance	The Maintenance area provides the option to reboot the device.
Device	
Storage	The Storage area displays the amount of space available on internal storage, and lists the amount of internal storage space individually used by Apps, Pictures and Videos, Audio, Downloads, Cached Data, and Miscellaneous files. If a USB storage device is connected, the same storage information for it may be viewed in this area.
Sound	The Sound area provides options to select the outgoing audio port and set the volume levels and system sounds for the Enzo.
Display	The Display area provides options to set the resolution, timeout period, turning off the HDMI signals on timeout, and font size for the outgoing video.
Web Server Settings	Enable the MirrorOp Webapp to access it via a Web Browser and orchestrate how the multiple MirrorOp devices are displayed. Set the MirrorOp passwords for Admin and basic users.
Content Sharing	Enables sharing content from AMX Modero X G5 touch panels to display on Enzo meeting room presentation systems.
Connections	
Ethernet	The Ethernet area displays the network information for the Enzo.
NetLinx	The NetLinx area displays the network information for the connected NetLinx Master.
Email	The Email option allows setting up a mail server to use when sending e-mail through Enzo.
Browser	Use the Browser settings to create a list of preferred URLs that will connect to their Mobile sites instead of the PC Desktop (default) sites. This is also where to set the default homepage.
Accounts	
Add Account	The Add Account option allows setting up a new user account for certain applications. **NOTE:** *This option is not currently used by any applications on Enzo.*

Continued ↴

System Settings Options	
System	
Date & Time	The Date & Time area lists a set of options for setting the date and time for the Enzo Meeting Presentation System. By default, the Enzo Meeting Presentation System uses the date and time provided by the network. **NOTE:** *If the time is set manually in Enzo, not using network time and not connected to a master, then the time setting will not persist through power cycle. For time to persist through a power cycle it must be set to use network time or be connected to a master. If connected to a master it will pull the current time from the master.*
Language & Input	The Language & Input area lists a set of options which allow setting the language used by the Enzo Meeting Presentation System and adjust the settings for the peripheral keyboard and mouse connected to the device.
Security	The Security area lists a set of options for adjusting the security settings for the Enzo Meeting Presentation System.
Reset and Update	The Reset and Update area lists a set of options to reset the Enzo Meeting Presentation System to its factory settings or update the firmware. **NOTE:** *Reset Settings will boot any users off of the WebApp.*
Diagnostics	The Diagnostics area displays the temperature of the Enzo Meeting Presentation System and provides an option to view a log file.

Refer to the following sections for procedures on accessing each of the sub menus.

Info

The Info heading contains subheadings for static Enzo device information and maintenance tasks. Items covered are:

- *Device Info* on page 24
- *Maintenance* on page 25

Device Info

The Device Info screen (FIG. 44) lists information about the device such as its IP address, firmware version, Enzo's available memory and the connected NetLinx Master, if any. All information in this area is view-only.

FIG. 44 Device Info Screen

Maintenance

The Maintenance screen (FIG. 45) provides the option to reboot the device.

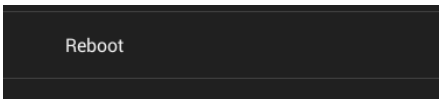


FIG. 45 Maintenance Screen

Rebooting Enzo

Perform the following steps to reboot the Enzo:

1. On the main Enzo screen, perform a long mouse click on the Enzo icon at the bottom right of the screen.
2. Enter Password (**1988).**
3. In the Settings menu, select **System Settings**.

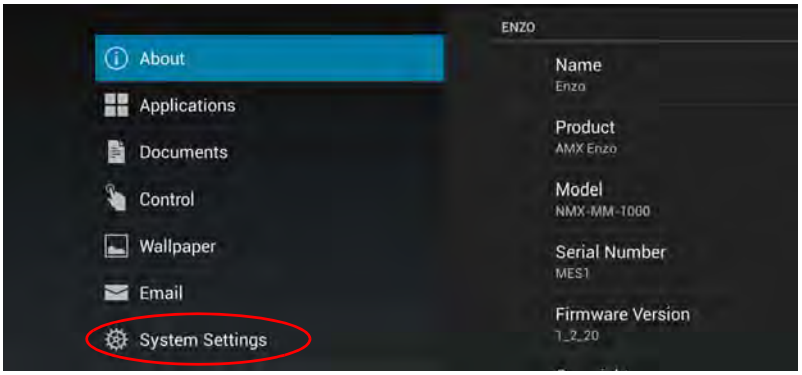


FIG. 46 System Settings Option

4. From the System Settings menu select **Maintenance**.

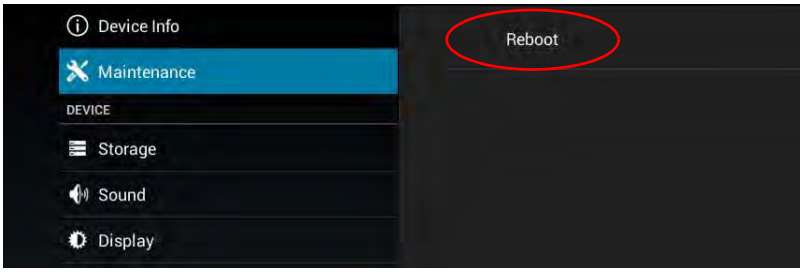


FIG. 47 Maintenance Option

5. The Maintenance screen (FIG. 45) provides the option to reboot Enzo. Select **Reboot**.

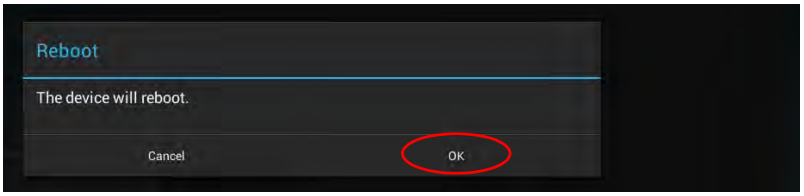


FIG. 48 Maintenance Option

6. The Reboot confirmation pop up appears. Select **OK** to reboot Enzo.

Device

The Device heading contains subheadings that determine audio and visual outputs and indicates Enzo's storage capacity. Tasks covered under Device are:

- *Storage* on page 26
- *Sound* on page 26
- *Display* on page 27
- *Content Sharing* on page 28

Storage

The Storage screen (FIG. 49) displays the amount of space available on internal storage, and lists the amount of internal storage space individually used by Apps, Pictures and Videos, Audio, Downloads, Cached Data, and Miscellaneous files. If a USB storage device is connected, the same storage information for it can be viewed in this area.

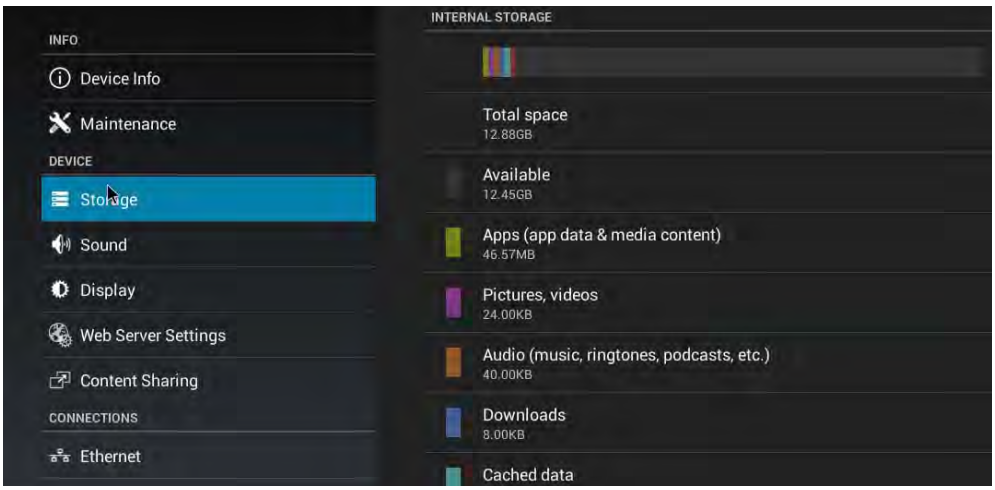


FIG. 49 Storage Screen

Selecting an individual group of files opens a listing of all files in the group.

Sound

The Sound screen (FIG. 50) provides options to select the outgoing audio port and set the volume levels and system sounds for the Enzo. The following table lists the options on the Sound screen:

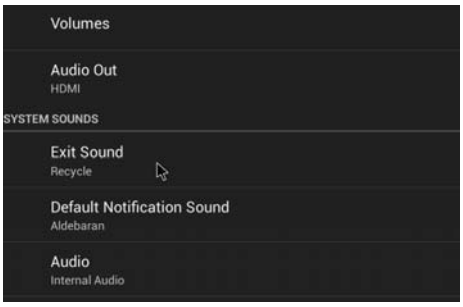


FIG. 50 Sound Screen

Sound Options	
Volumes	This option opens the Volumes screen to set the volume levels for general media, notifications, and alarms. Use the sliders to adjust the sound levels for each option.
Audio Out	This option opens the Audio Out menu to select which port to use for outgoing audio. Options are Analog or HDMI.
Escape Sound	Disable or Recycle the audible sound when Escaping Enzo.
Default Notification Sound	This option opens the Default Notification Sound menu to select from a list of sound options. Select a notification sound and click OK. New selections immediately take effect.
Audio	This option enables choosing an audio device for playing system sounds.

Display

The Display window (FIG. 51) provides options to set the resolution, timeout length, and font size for Enzo.

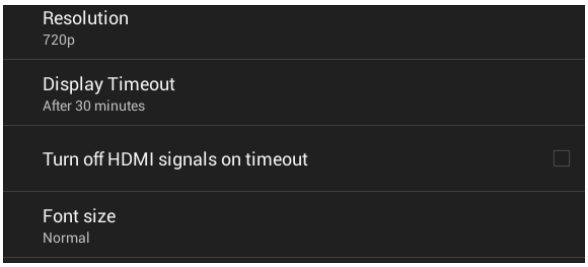


FIG. 51 Display Screen

The following table lists the options on the Display screen:

Display Options	
Resolution	This option opens the Resolution menu to set the display resolution for the video display. Options to choose from are 720p, 1080p, or Auto. The default setting is 720.
Display Timeout	This option opens the Display Timeout menu to set the amount of time before the video display goes into screen saver mode. A set number of timeout options from 5 seconds to 2 hours may be selected which immediately take effect. **NOTE:** *If not connecting a keyboard or mouse to the USB port, the display timeout must be set to None or there will be no way to wake the unit up once it enters the timed out state.*
Turn Off HDMI Signals on Timeout	This option turns off the HDMI signal when Enzo times out and goes to "sleep" so displays that are connected to Enzo, if they had a built in sleep feature on signal loss, will turn off as well. Click to check the box and enable.
Font Size	This option opens the Font Size menu to choose a font size for all text on the video display. Choose from Small, Normal, Large, or Huge. The default setting is Normal. When an option is selected, it immediately takes effect.

Setting the Display Resolution

The display resolution on the Enzo Meeting Presentation System is set to 720 by default. A definite resolution of 1080p or 720p may be selected if needed. Perform these steps to set the display resolution:

1. On the main screen, perform a long mouse click on the Enzo icon at the bottom right of the screen.
2. Select **System Settings**.
3. In the Info section, select **Display**.
4. Enter the security password in the text box that appears, and select **OK**. The default password is **1988**.
5. Select **Resolution**, and select the resolution desired from the list that appears. The new resolution takes effect after rebooting the Enzo.

Web Server Settings

Use this menu to enable the MirrorOp Webapp and set the Webapp Moderator password.

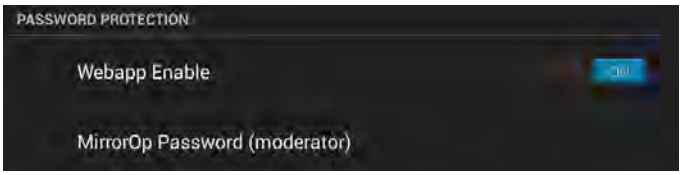


FIG. 52 Display Screen

Password Protection	
WebApp Enable	Enable the MirrorOp Webapp to access it via a Web Browser and orchestrate how the multiple MirrorOp devices are displayed.
MirrorOp Password (moderator)	Set the MirrorOp passwords for Moderator users to control conference presentations.

Content Sharing

Content Sharing is an AMX app that enables sharing content from AMX Modero X G5 touch panels to display on Enzo meeting room presentation systems. With Content Sharing enabled, G5 touch panel users can enter the Enzo IP address and connect to Enzo and share content from USB or other downloads.

Checking the **Auto Discovery** box on Enzo's Content Sharing page enables G5 touch panel users to scan the network for available Enzo devices without knowing the IP addresses. Refer to the Modero X G5 Touch Panel Instruction Manuals for details on sharing content with Enzo.

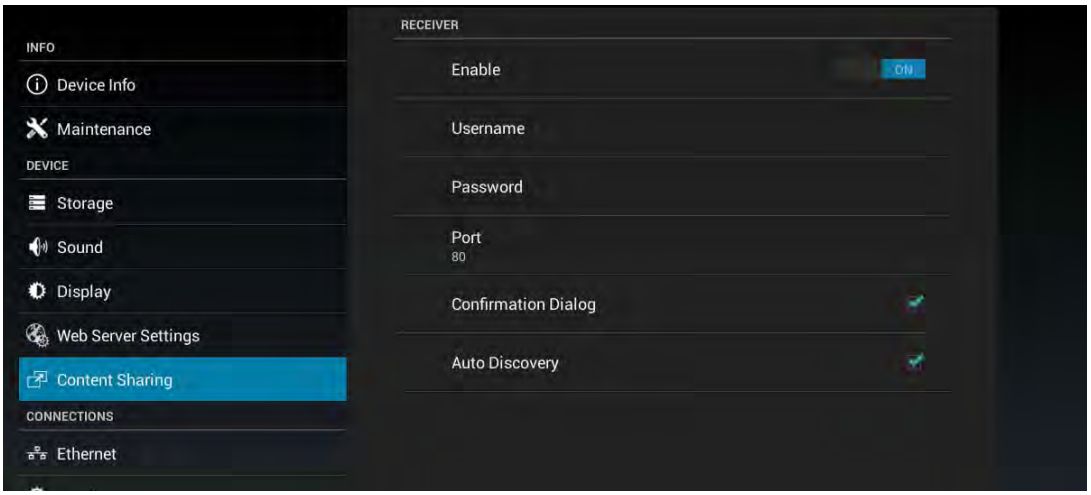


FIG. 53 System Settings - Content Sharing

The following table details the Content Sharing options:

Display Options	
Enable	This option enables Content Sharing so AMX touch panels can connect and share content.
Username	Specify a Username that the touch panel will need to initially connect and share content. The user name must match the Touch Panel Content Sharing settings.
Password	Specify a Password that the touch panel will need to initially connect and share content. The Password must match the Touch Panel Content Sharing settings.
Port	Specify a port on the network to use for data transfer between the Enzo and the content sharing device.
Confirmation Dialog	Checking this box will make Enzo launch a confirmation window whenever a remote panel tries to share content on Enzo's display. Click OK to allow or Cancel to deny the content. Unchecked, the content will automatically start playing on Enzo's display.
Auto Discovery	Checking this box will enable remote panels to discover Enzo devices on the network without knowing the IP and Port information. If the Username and Password are enabled, the panel user will still need to enter these before establishing a connection.

When a G5 Touch Panel initiates Content Sharing to Enzo, if the Confirmation Dialog box is checked on Enzo, a confirmation dialog window appears on the Enzo display (FIG. 54). Click **OK** to accept. Only one file transfer at a time is allowed from the touch panel to Enzo. If the file starts buffering, users can click on the Enzo desktop to use other features until the buffering is complete. At that time the content will appear automatically on the Enzo display.

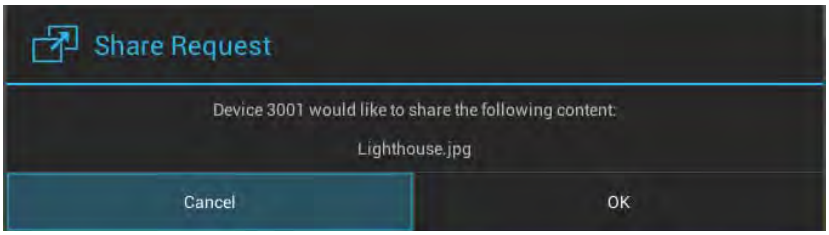


FIG. 54 System Settings - Content Sharing

Connections

The Connections heading contains subheadings that enable users to set Enzo external interface settings. Tasks covered under Connections are:

- *Ethernet* on page 29
- *NetLinx* on page 30
- *Email* on page 31
- *Browser* on page 31

Ethernet

The Ethernet screen (FIG. 55) displays the network information for the Enzo. Select any listed network option and change it using the on-screen keyboard or keypad.

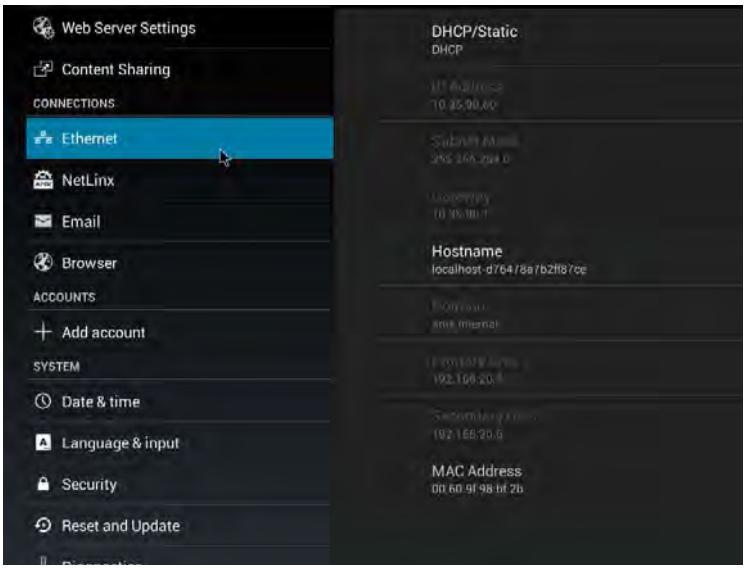


FIG. 55 Ethernet Screen

The following table lists the options on the Ethernet screen:

Ethernet Options	
DHCP/Static	This option opens the DHCP/Static menu to select the type of IP address for the Enzo. Choose from DHCP or Static which will immediately take effect.
IP Address	This option opens the IP Address text box to enter the IP address of the Enzo. This option is only available if a static IP address is set.
Subnet Mask	This option opens the Subnet Mask text box to enter the subnet of the Enzo. This option is only available if a static IP address is set.
Gateway	This option opens the Gateway text box to enter the gateway address of the Enzo. This option is only available if a static IP address is set.
Hostname	This option opens the Hostname text box to enter the host name of the Enzo.
Domain	This option opens the Domain text box to enter the domain name of the Enzo. This option is only available if a static IP address is set.
Primary DNS	This option opens the Primary DNS text box to enter the primary DNS address of the Enzo. This option is only available if a static IP address is set.
Secondary DNS	This option opens the Secondary DNS text box to enter the secondary DNS address of the Enzo. This option is only available if a static IP address is set.
MAC Address	This option displays the MAC address of the Enzo. This option is view-only.

NetLinx

The NetLinx screen (FIG. 56) displays the network information for the connected NetLinx Master.

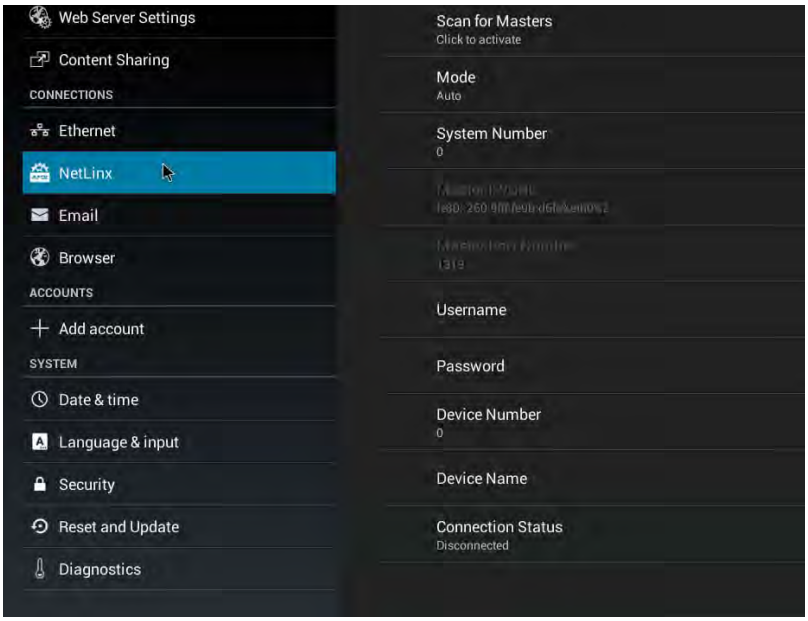


FIG. 56 NetLinx Screen

The following table lists the options on the NetLinx screen:

NetLinx Options	
Scan for Masters	This option scans the network for available Masters.
Mode	This option opens the Mode menu to select the NetLinx Master mode. Choose from **URL**, **Auto**, or **Listen**.
System Number	This option opens the System Number text box to enter the system number of the target Master. This option is only available when Mode is set to Auto.
Master IP/URL	This option opens the Master IP/URL text box to enter the IP address or URL of the target Master. This option is only available when Mode is set to URL.
Master Port Number	This option opens the Master Port Number text box to enter the port number of the target Master. This option is only available when Mode is set to URL.
Username	This option opens the Username text box to enter the user name required to log on to the target Master.
Password	This option opens the Password text box to enter the password required to log on to the target Master.
Device Number	This option opens the Device Number text box to enter the device number of the Enzo as defined the Master's code.
Device Name	This option opens the Device Name text box to enter the device name of the Enzo.
Connection Status	Indicates the units Ethernet connectivity status as Connected, Disconnected, or Listening.

Click on any of the options listed from Scan for Masters to Device Name to bring up a configuration change window.

Email

The Email screen (FIG. 57) lists a set of email server options for sending e-mail through Enzo.

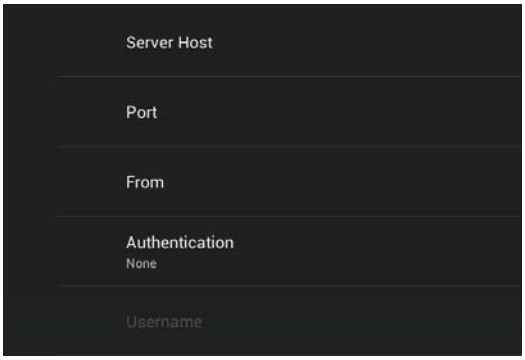


FIG. 57 Email Screen

The following table lists the options on the Email screen:

Email Options	
Server Host	This option enables entering an email server. Enter the name of the email server in the Server Host text box that appears.
Port	This option enables entering the port number of the mail server. Enter the port number in the Port text box that appears.
From	This option enables entering the e-mail address to use as the sending e-mail address. Enter the e-mail address in the From text box that appears.
Authentication	This option enables indicating whether authentication is required on the mail server. Choose from SSL, TLS, or None. The default is None.
Username	This option enables entering the user name required for authentication. This option is only available if authentication is required on the mail server. Enter the user name in the Username text box that appears.
Password	This option enables entering the password required for authentication. This option is only available if authentication is required on the mail server. Enter the password in the Password text box that appears.

Browser

Use the Browser settings to perform the following tasks:

- Set a default Homepage.
- Create a list of URLs that need to be specified whether to use the mobile or desktop versions of those sites when opened in the Enzo browser.
- Set which on board browser to use as the default when launched from the home page.

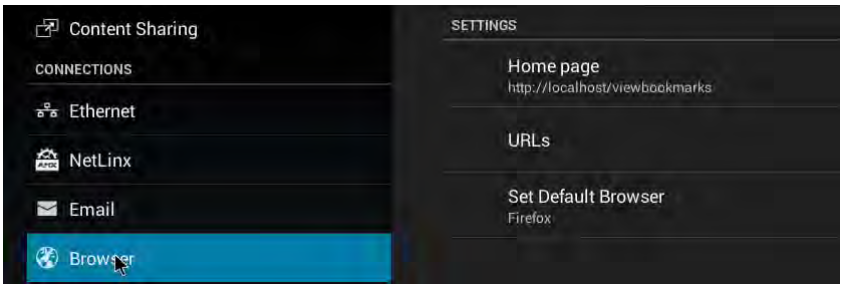


FIG. 58 Browser Settings

Note: *On browser launch, you may get a notification "Older version of chrome is detected" and an offer to update to stay secure. Please ignore this response since the browser is embedded on Enzo and cannot be upgraded through the browser app.*

Some desktop versions of websites require using Flash to play video. Due to Enzo being on the Android platform, flash is not supported. Using the mobile version of those sites will play those videos because flash is not used on mobile sites. To specify which sites use the Mobile version (such as Youtube), follow these steps:

1. Click on URLs to bring up list of URLs entered as shown in FIG. 59.

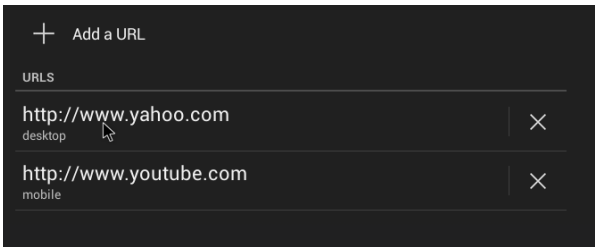


FIG. 59 URL Site Preference Settings - Mobile or Desktop

2. Click on the + *Add URL* to enter new sites or click on an existing site from the list to change preferences.
3. Repeated clicking on the URL entry will alternate the preference between desktop or mobile as shown under each URL listed in FIG. 59 above.

Accounts

The Accounts heading enables administrators to enter account login information for additional apps. This data transitions across sessions.

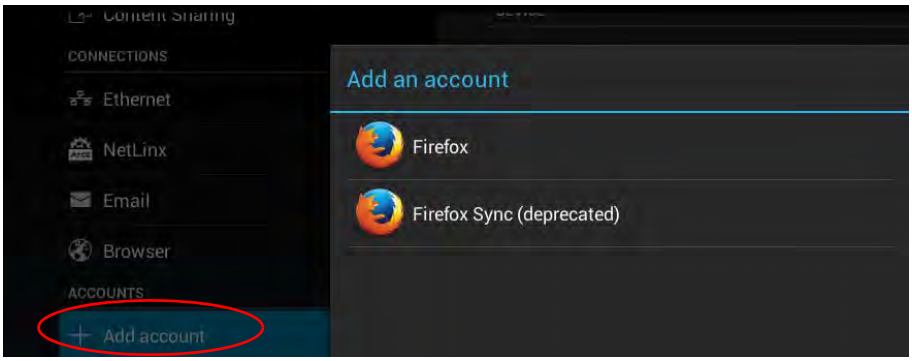


FIG. 60 Accounts Subheadings

Currently, the on-board App Firefox can be linked to a User account, Click on the logo to bring up the Create a Firefox Account screen.

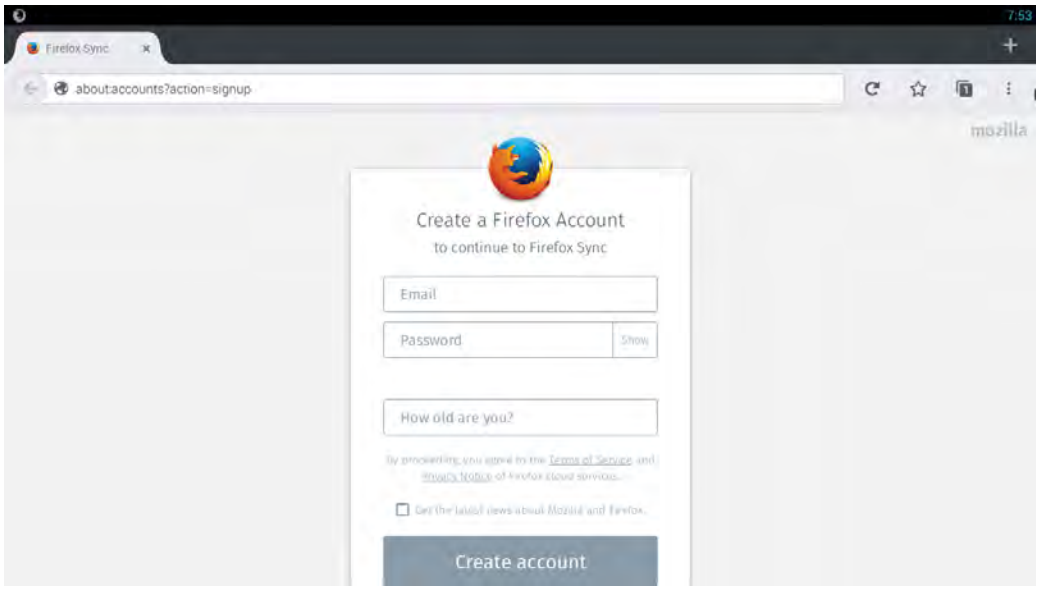


FIG. 61 Add a Firefox Account

Enter account information or press Escape to return to the Systems Settings Menu.

System

The SYSTEM heading is used to configure system level parameters. Items covered are as follows:

- *Date & Time* on page 33
- *Language & Input* on page 34
- *Security* on page 36
- *Reset and Update* on page 37
- *Diagnostics* on page 37

Date & Time

The Date & Time screen (FIG. 62) lists a set of options for setting the date and time for the Enzo Meeting Presentation System. By default, the Enzo Meeting Presentation System uses the date and time provided by the network.

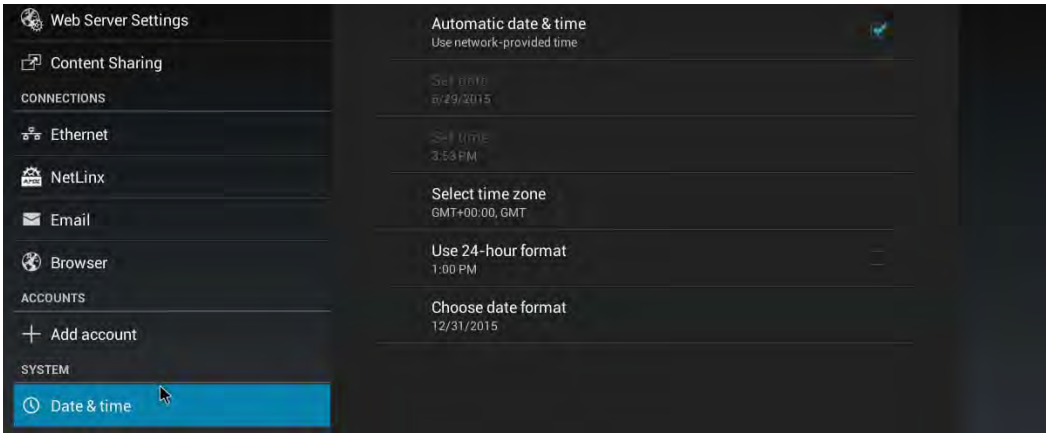


FIG. 62 Date & Time Screen

The following table lists the options on the Date & Time screen:

Date & Time Options	
Automatic Date & Time	A check indicates Enzo automatically retrieves the current date and time from a network.
Set Date	Opens the calendar tool to set the current date. After choosing the correct date, click **Done**. This option is only available if Enzo is not set to automatically retrieve the date and time from the local network.
Set Time	Opens the Set Time tool to set the current time. After choosing the correct time, click **Done**. This option is only available if Enzo is not set to automatically retrieve the date and time from the local network. **NOTE:** *If the time is set manually in Enzo, not using network time and not connected to a master, then the time setting will not persist through power cycle. For time to persist through a power cycle it must be set use network time or be connected to a master. If connected to a master, it pulls the time from the master.*
Select Time Zone	Opens the Select Time Zone menu to select a new time zone. The default setting is GMT.
Use 24-hour Format	Indicates whether Enzo is to use a 12-hour or 24-hour clock. Checking the box selects a 24-hour clock.
Choose Date Format	Opens the Choose Date Format menu to select the date format from the provided list. A selected option immediately takes effect.

Setting the Date and Time

By default, the Enzo Meeting Presentation System uses the network-provided date and time. It is suggested to verify that the date and time are correct while setting up the device. Perform these steps to set the date and time on the Enzo Meeting Presentation System:

1. On the main screen, perform a long mouse click on the Enzo icon at the bottom right of the screen.
2. On the Settings screen, select **System Settings**.
3. In the System section, select **Date & Time**.
4. Enter the security password in the text box that appears, and select **OK**. The default password is **1988**.
5. Check that the current date and time is correct on the device.
6. Choose **Select time zone** and select the proper time zone from the provided list.

NOTE: *If the time is set manually in Enzo, not using network time and not connected to a master, then the time setting will not persist through power cycle. For time to persist through a power cycle it must be set use network time or be connected to a master. If connected to a master it pull the time from the master.*

Language & Input

The Language & Input screen (FIG. 63) lists a set of options to set the language used by the Enzo Meeting Presentation System and adjust the settings for the peripheral keyboard and mouse used to connect to the device.

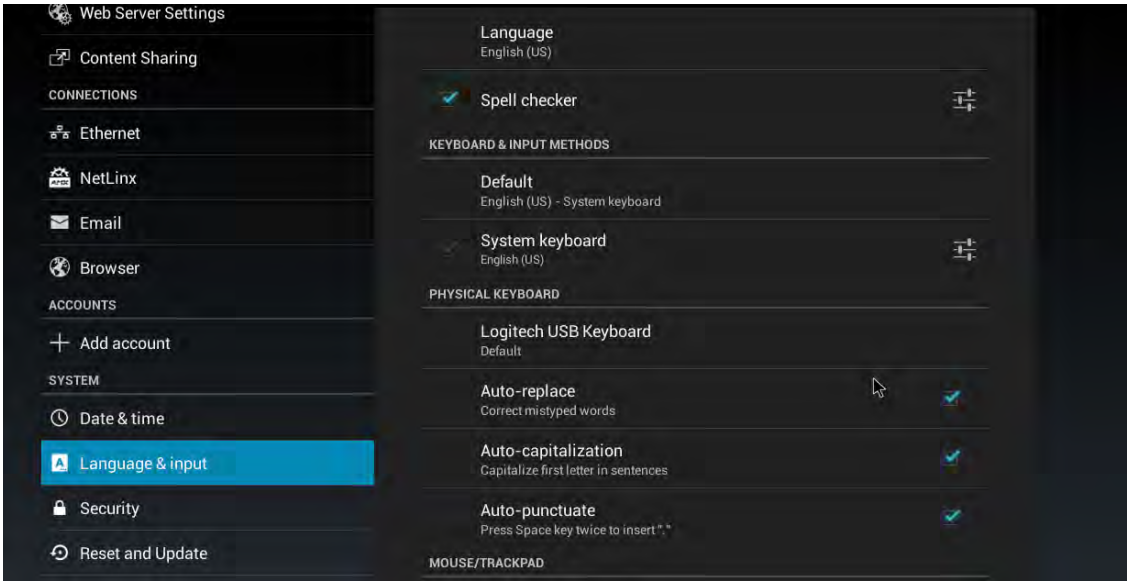


FIG. 63 Language & Input Screen

The following table lists the options on the Language & Input screen:

Language & Input Options	
Language	This option opens the Language menu to choose the language for Enzo to use.
Spell Checker	This option turns on the spell checker for Enzo and any apps.
Keyboard & Input Methods	
Default	This option opens the Choose Input Method menu to indicate whether using a physical keyboard or the on-screen keyboard.
System Keyboard	This option changes the settings for the system keyboard. The keyboard options can be accessed by clicking the Settings button located on the right side of this option.
Physical Keyboard	
Keyboard Display	This field shows the keyboard type by manufacturer. Users may select a different language keyboard from several languages preprogrammed in Enzo. If needed, users may select more than one keyboard language and switch between them by pressing Ctrl + Space-bar. This option is not available if using the on-screen keyboard.
Auto-Replace	This option selects auto-replace options, which corrects any mistyped words, if enabled. This option is not available if using the on-screen keyboard.
Auto-Capitalization	This option turns on auto-capitalization, which if enabled, automatically capitalizes the first letter in each sentence. This option is not available if using the on-screen keyboard.
Auto-Punctuate	This option turns on auto-punctuate, which inserts a period by pressing the space bar twice. This option is not available if using the on-screen keyboard.
Mouse/Trackpad	
Pointer Speed	This option adjusts the speed of the mouse pointer on the screen. Use the slider that appears to change the speed and click OK to accept the change.

Change Keyboard Language

1. Select Language and input from the left-hand menu options (FIG. 63).
2. The *Choose keyboard layout* pop-up window appears (FIG. 64). Press Ctrl + Space-bar to swap with the other selected keyboard type or click on *Set up keyboard layouts* at the bottom of the window to choose another language.

FIG. 64 Multiple Keyboards Selected

3. If choosing another language, the screen shown in (FIG. 65) pops up. Choose one or multiple of the many language keyboards provided. Selecting it will make a check box next to each selection.

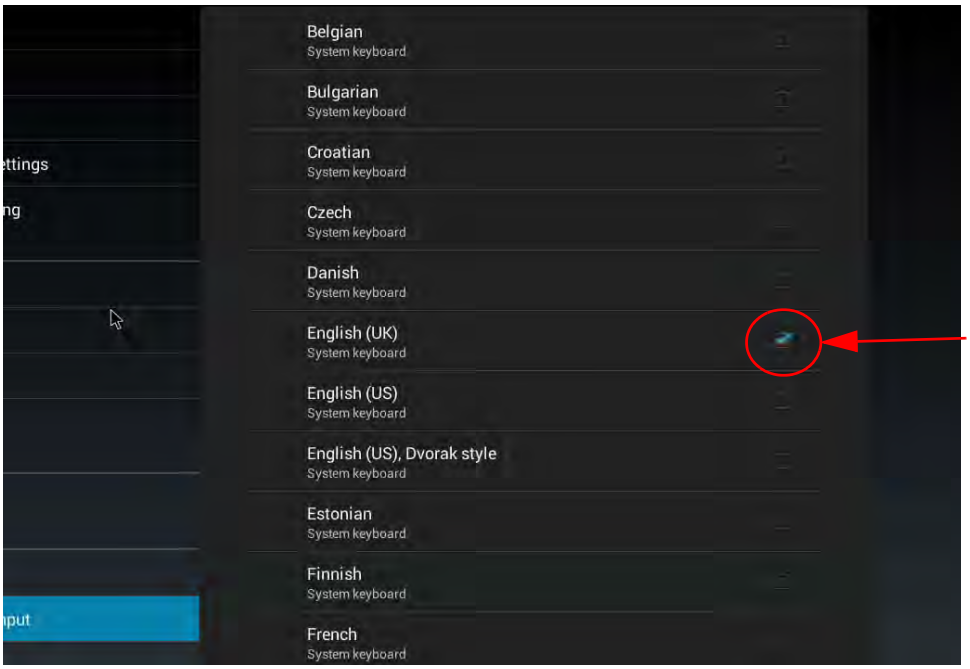


FIG. 65 Multiple Keyboards to Choose From

4. Hit Esc to return to the "Choose keyboard layout" pop up. All languages selected will now be displayed (FIG. 66). Switch between the selections using the Ctrl + Spacebar or mouse.

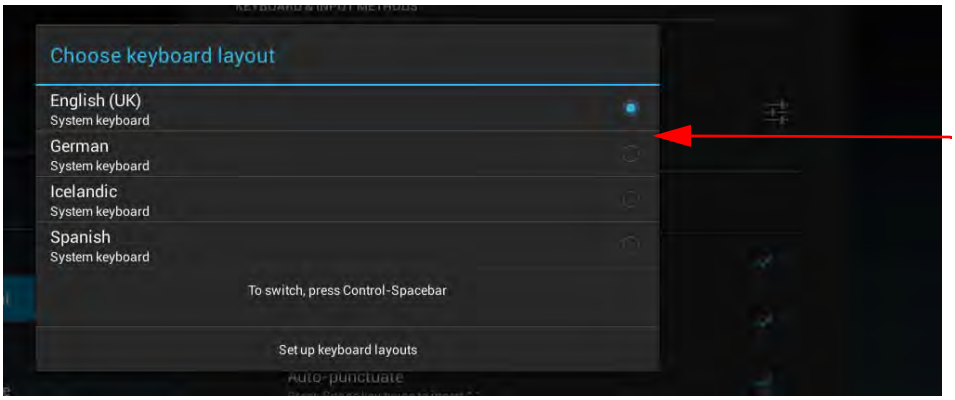


FIG. 66 Multiple Keyboards to Cycle Through

5. To remove options, go back to the *Set up keyboard layouts* and remove the check marks from those selections (FIG. 65).

Security

The Security screen lists a set of options for adjusting the security settings for the Enzo Meeting Presentation System. The following table lists the options on the Security screen:

FIG. 67 Reset and Update Screen

Security Options	
Protected Access	
Configuration Protected	Unchecked, this option leaves the Enzo configuration unprotected. If this option is checked, a security password is needed when accessing the Enzo settings.
Passwords	
Make Passwords Visible	Click this option to allow all passwords to be visible as they are entered. If this option is enabled, each keystroke in a password briefly appears on the screen as it is entered. Each character is hidden as soon as the next character is entered. This setting is disabled by default.
Security	This option sets the security level for the Enzo. The only available setting is Low.
Set Password	This option changes the security password for accessing the settings of the Enzo. The password must be entered twice and the two instances must be identical to change the password.
Device Administration	
Unknown Sources	Checking the box will allow installing apps from unknown sources.
Credential Storage	
Trusted Credentials	Clicking on this will display a list of trusted system or user certificates from multiple creators.
Install from Storage	Clicking on this will signal Enzo to attempt to install certificates from external storage (USB).
Clear Credentials	Clicking this will clear all credentials from Enzo.

Reset and Update

The Reset and Update screen (FIG. 68) lists a set of options to reset the Enzo Meeting Presentation System to its factory settings or update the firmware.

NOTE: *Reset Settings will boot any users off of the WebApp.*

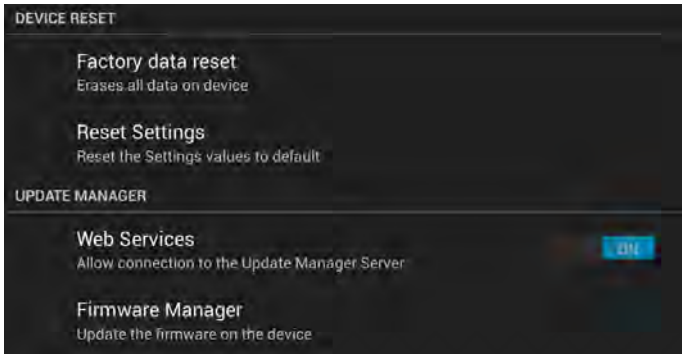


FIG. 68 Reset and Update Screen

The following table lists the options on the Reset and Update screen:

Reset and Update Options	
Device Reset	
Factory Data Reset	This option resets the Enzo's data to its factory settings.
Reset Settings	This option resets the Enzo's settings to its factory default settings. Click Yes to confirm to reset the settings. **NOTE:** *Reset Settings will boot any users off of the WebApp.*
Update Firmware	This option updates the firmware file for the Enzo. If necessary, it can be reverted to a previous firmware version or to the factory version. See the *Download the ZIP file and unzip the contents to a known location.* section on page 69 for instructions on upgrading firmware.
Update Manager	
Web Services	Click this to enable Enzo to connect to the Update manager server for simple firmware updates.
Firmware manager	Use this option to update the Enzo firmware from USB, Revert to previous load, Revert to Factory Firmware load, or load the current Web Server version.

Diagnostics

The Diagnostics screen (FIG. 69) displays the temperature of the Enzo Meeting Presentation System and provides an option to view a log file. Also featured is the option to enable or disable Secure Shell (SSH) access. If SSH is disabled, the Enzo cannot be accessed through AMX Shell. See the *Enzo Programmers Guide* for more information.

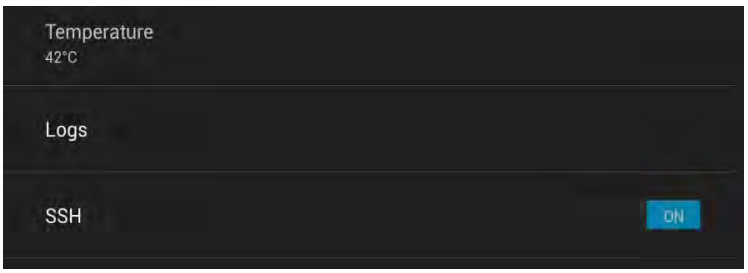


FIG. 69 Diagnostics Screen

The following table lists the options on the Diagnostics screen:

Diagnostics Options	
Temperature	This option displays the current temperature of the Enzo device. This option is view-only.
Logs	This option opens a log file to view system and application diagnostics log messages.
SSH	This option toggles whether SSH is enabled. If SSH is disabled, Enzo cannot be accessed via AMX Shell. This option is enabled by default.

Enzo Networking

Overview

This chapter captures all of the networking information (ports, security, etc) that relate to Enzo and the applications that it runs. This information is intended to be used by IT professionals setting up Enzo devices in their networks.

Ports

The following tables list the ports used for the specific applications or services.

AMX Control

Port	Type	Service	Description	Inbound	Outbound	Can be disabled?
1319	TCP	ICSP	Communication between the Central Controller and AMX devices. Device Discovery Broadcasts Port cannot be configured.	√	√	√ To Disable place into URL mode and configure an invalid or missing host/URL address.
1319	UDP	ICSP	Communication between the Central Controller and AMX devices. Port cannot be configured.	√	√	√ To Disable, place into URL mode and configure an invalid or missing host/URL address.
80	TCP	Content Sharing	Allows a Modero G5 Touch Panel to send content to Enzo. Port may be configured.	√		√

MirrorOp

Port	Type	Description	Inbound	Outbound	Can be disabled?
389	TCP	Command (MirrorOp screen projection command, e.g. start projection, stop projection)	√	√	√
443	TCP	Command	√	√	√
445	TCP	Command	√	√	√
515	TCP	Screen Data (e.g. Windows/Mac desktop, MirrorOp Presenter data)	√	√	√
1041	TCP	Screen Data	√		√
1047	UDP	Data – Discovery (find available devices on the network)		√	√
1048	UDP	Data		√	√
1049	UDP	Data		√	√
1688	TCP	Audio (Audio projection data, e.g. Windows/ Mac audio)	√	√	√
8080	TCP	Screen Data	√	√	√
31865	TCP	Discovery Reply (replies to device discovery request)	√	√	√

NOTE: *Some of these ports are backup ports (e.g. 389, 443, 445) that will be used if the primary port is in use by the PC.*

NetLinx

Port	Description	Inbound	Outbound	Can be disabled?
1319	ICSP Communication with NetLinx masters.	√ (If ICSP is placed into listen mode.)	√ (If ICSP is placed into URL or auto mode.)	√ (Place into URL mode and configure an invalid or missing host/URL address.)

Web Browser, MirrorOp Web App or other Cloud Services

Port	Type	Description	Outbound	Can be disabled?
80	TCP	HTTP communication for: Web Browser, MirrorOp Web App, and Dropbox. Port cannot be configured.	√	√ (If Web Browser is disabled.)
443	TCP	HTTPS communication for: Web Browser, MirrorOp Web App, and Dropbox. Port cannot be configured.	√	√ (If Web Browser is disabled.)

Serial Data

Port	Description	Inbound	Can be disabled?
3	Port 3 is used for communication and configuration of Enzo's serial port from a connected NetLinx master.	√	

SSH

Port	Description	Inbound	Can be disabled?
22	Secure Shell Diagnostics Console	√	√ (Disable SSH in System Settings)

Streaming Receiver

Port	Type	Service	Description	Inbound	Can be disabled?
Varies	UDP	Transport Stream	IPTV, or Room overflow video. Multicast Join is initiated by command from AMX Master.	√	N/A

Secure Web Server Keystore Files:

For Administrators/Installers who want to have SSL for a number of Enzo devices with a given domain, they will need to install the keystore file and certificates with the Common Name matching the domain that Enzo has. Loading a Keystore file onto Enzo requires a reboot.

1. Install the *CRT* as a trusted certificate in the browser of your choice to have secure access to Enzo.
2. Install the *keystore* on Enzo from a USB stick via Documents file browser. The following steps show using a USB stick.
   a. From the Enzo main screen, click on **Documents** to open the Select Content Source pop-up FIG. 70.

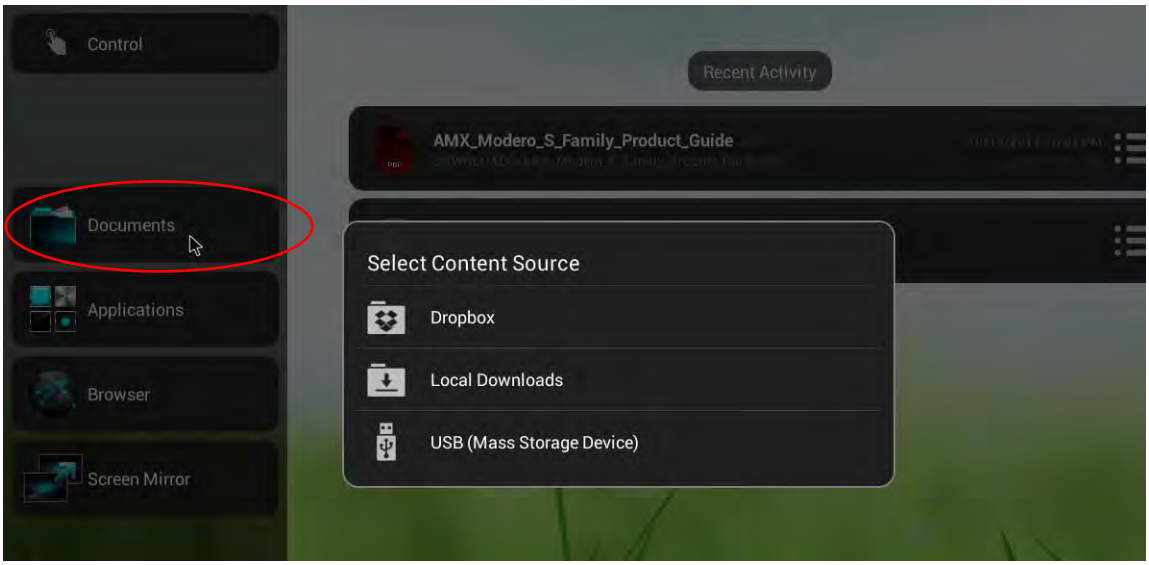


FIG. 70 Enzo Documents - Select Content Source

b. Click on **USB (Mass Storage Device)** to access the files on the USB memory stick (FIG. 71).

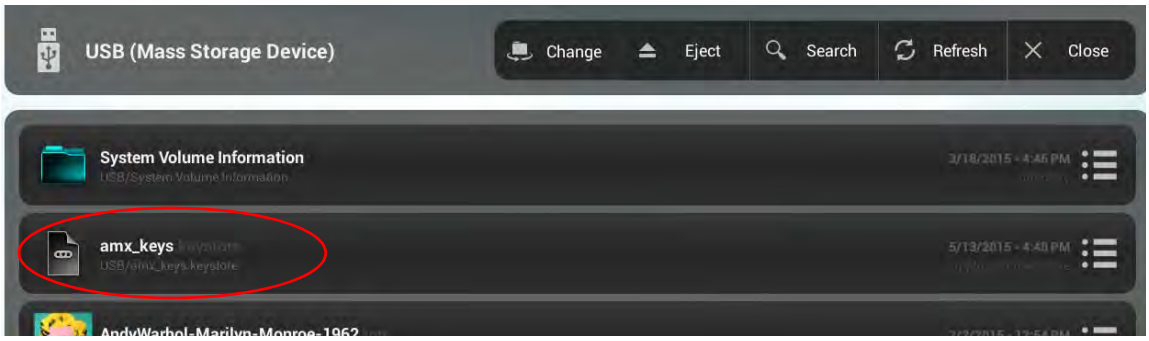


FIG. 71 Keystore File on USB Example

c. Select the keystore file and Enzo will provide a confirmation dialog pop-up (FIG. 72).

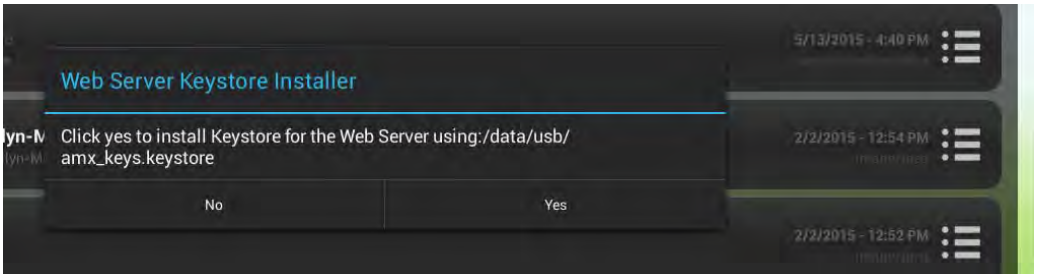


FIG. 72 Keystore Installer Confirmation Dialog

3. A message pops up at the bottom of the screen warning that the new changes will not take effect until Enzo is rebooted. Restart Enzo.
4. Check/Test using the WebApp with the browser on your system. The following images are different SSL Icons seen when securely connecting to Enzo using "HTTPS."

Internet Explorer

Internet Explorer shows a lock symbol to the right when the Certificate and Keystore are successfully executed (FIG. 73).

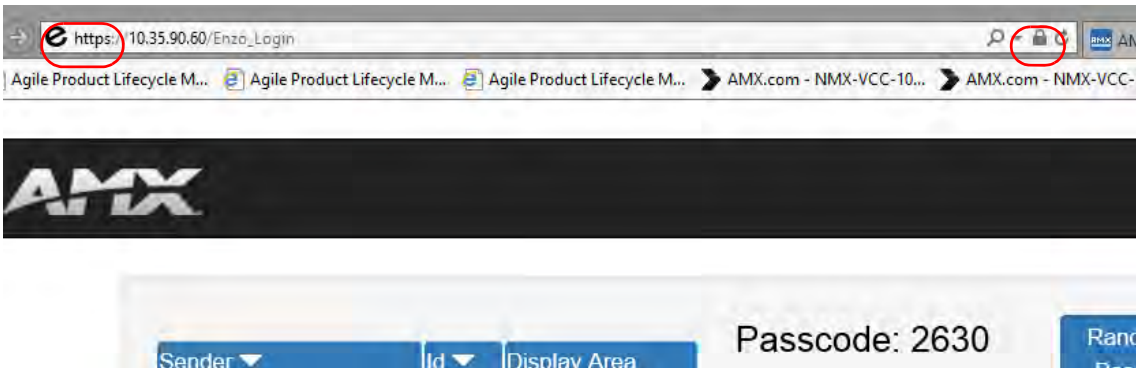


FIG. 73 Internet Explorer SSL Trusted Certificate Icon

Fire Fox

Fire Fox browsers show a lock symbol when the Certificate and Keystore are successfully executed (FIG. 74).

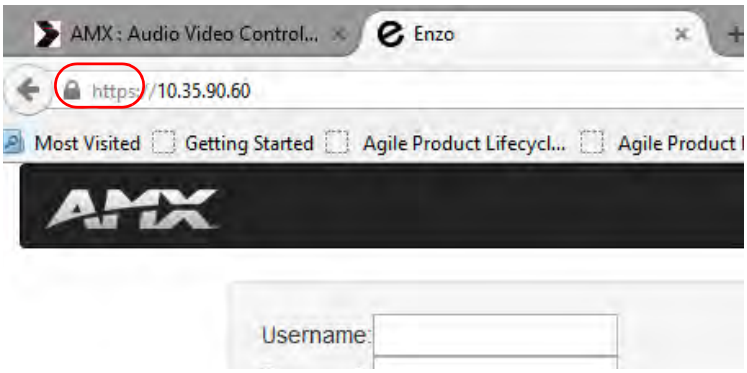


FIG. 74 Fire Fox SSL Trusted Certificate Icon

Chrome

Chrome browsers show an x'd lock symbol when the Certificate and Keystore are successfully executed (FIG. 75).

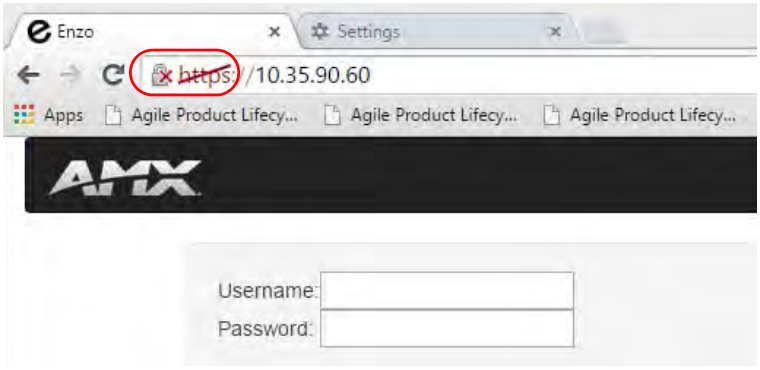


FIG. 75 Chrome SSL Trusted Certificate Icon

NOTE: *Since the security is not, "audited publicly" in Chrome browsers, it shows an X over the icon. If you click on the lock however, you will see that the connection is encrypted.*

Opera

Opera browsers show a green lock symbol when the Certificate and Keystore are successfully executed (FIG. 76).

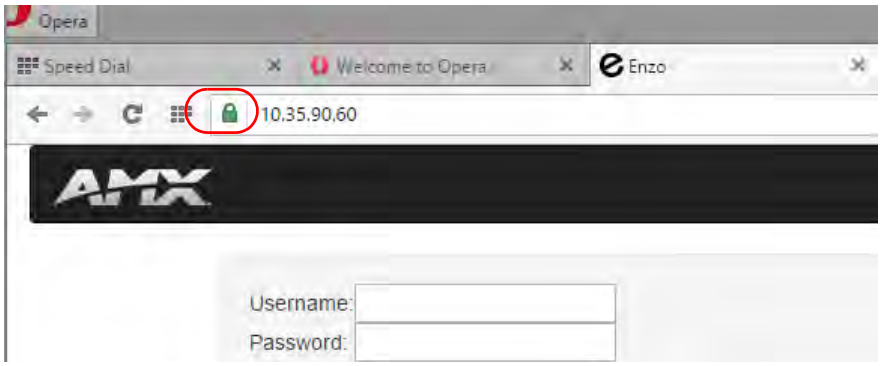


FIG. 76 Opera SSL Trusted Certificate Icon

Safari

Apple Safari browsers show a lock symbol when the Certificate and Keystore are successfully executed (FIG. 77).

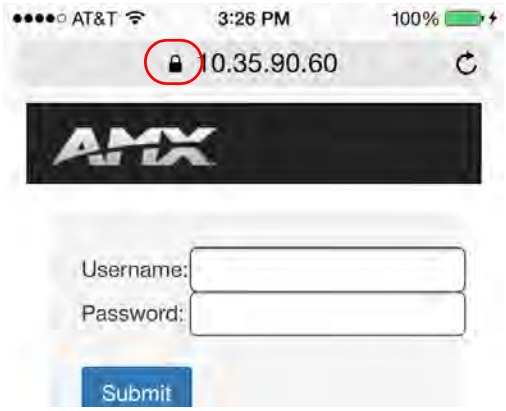


FIG. 77 Safari SSL Trusted Certificate Icon

MirrorOp on the Network

The MirrorOp technology built into Enzo enables content sharing over an IP network. MirrorOp Sender software for Windows or Macintosh and Android encodes and forwards the screen image to the MirrorOp application on Enzo. MirrorOp Presenter software which runs on mobile devices which do not allow screen sharing, such as Apple IOS, allows document sharing web browsing and presentation control on the Enzo from the mobile devices.

The illustration below shows the network communication between the MirrorOp Sender (or Presenter) and Enzo. All traffic is initiated from the Sender with replies from Enzo. With the exception of the discovery broadcast, which is only required to automatically populate the receiver's IP address in the sender, all traffic is TCP. An AV stream over a MirrorOp connection typically uses about 6Mbps of bandwidth, depending on the content..

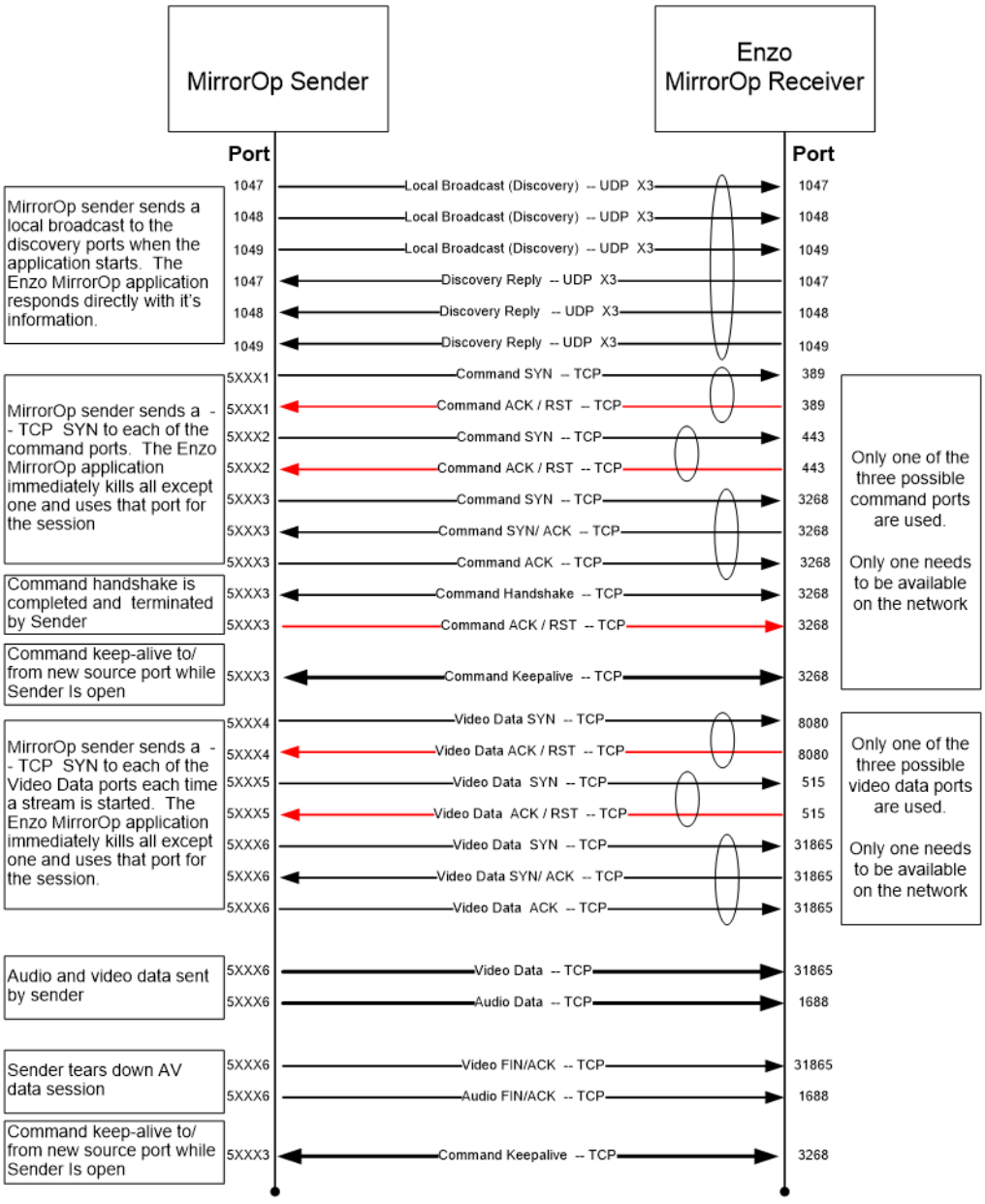


FIG. 78 MirrorOp Network Communication Map

Firewall Traversal and ACLs

A common request is to allow an Enzo in a conference room to be available from the organizations computers on the protected enterprise network as well as from visitor's computers on a guest network. This can be accomplished by setting up firewall rules or Router Access Control Lists to allow the required traffic to pass. Below are some common scenarios to choose the best logical placement of the Enzo. A primary concern for placement of the Enzo on the Enterprise or Guest network will be the requirements for other Enzo functions to access content.

Scenario 1: Firewalled / DMZ Guest Network

This configuration works well when MirrorOp is the primary application and the Guest network is firewalled from an Enterprise network.

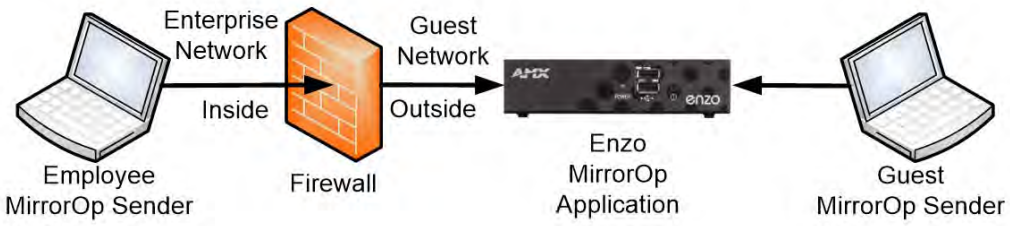


FIG. 79 Enzo on Fire-walled Guest Network

Configuration

- Since all traffic is initiated by the MirrorOp Sender no configuration would be required on a standard firewall.

Limitations

- Device Discovery broadcasts will not pass the firewall so the Enzo IP address (displayed on the Enzo Display when MirrorOp is activated) will have to be entered on the MirrorOp Sender from the Enterprise network.
- Enzo applications like document viewers and web browsers can't reach content on the Enterprise network.

Scenario 2: Isolated Guest Network

This configuration is appropriate when the guest network is logically isolated from the enterprise network via an Access Control List that does not permit traffic between the networks. It allows Enzo applications, like document viewers and web browsers, access to content on the Enterprise network and allows guests to present via MirrorOp. MirrorOp discovery will not forward past the router so guests will be unaware of any MirrorOp devices unless they see the Enzo screen and manually enter the information. Employees will be able to automatically discover Enzo Mirror Op devices on the same subnet.

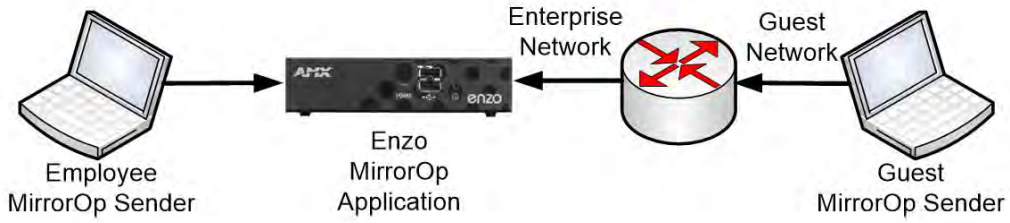


FIG. 80 Isolated Guest Network Scenario 1

Configuration

- An Access Control List (ACL) between the Enterprise network and the Guest network will need to be set up by the network administrator using Enzo's IP address and the port list from Appendix, Ports and Protocols, MirrorOp at the end of this documents.

Scenario 3: Isolated Guest Network

This configuration is appropriate when all access to the enterprise network by guests is prohibited by policy. Guests can directly access Enzo and employees will initiate all traffic between the Enterprise and the Guest Networks.

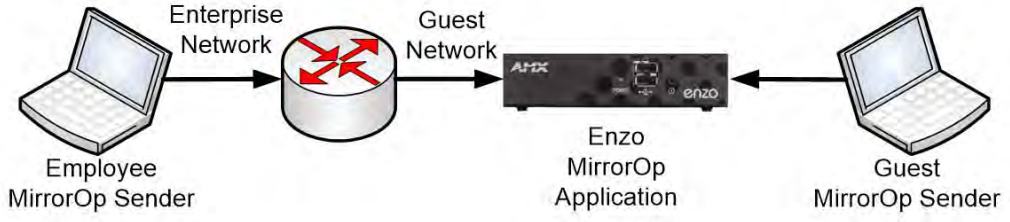


FIG. 81 Isolated Guest Network Scenario 2

Configuration

- An Access Control List (ACL) between the Enterprise network and the Guest network will need to be set up by the network administrator using the Enzo's IP address and the port list from Appendix, Ports and Protocols, MirrorOp at the end of this documents.

Limitations

- Device Discovery broadcasts will not pass the router so the Enzo IP address (displayed on the Enzo Display when MirrorOp is activated) will have to be entered on a MirrorOp Sender from the Enterprise network.
- Enzo applications like document viewers and web browsers can't reach content on the Enterprise network.

WebApp

This chapter provides details on using the WebApp for the Enzo Meeting Presentation System. The WebApp option enables an administrator to control appearance and functionality of the MirrorOp presentations, TV Viewing, making Enzo a Single-App device, etc. Viewing or changing any of the settings requires entering a username and security password as defined below in *WebApp Access*.

Subjects covered are:

- *WebApp Access* on page 46
- *Administrator WebApp Overview* on page 47
- *MirrorOp - Manage Connections* on page 53
- *Sender* on page 56
- *Administrator MirrorOp Admin Settings* on page 59
- *Administrator - TV Settings* on page 64
- *Vision 2 Configuration* on page 66

Supported Web Browsers

Enzo supports the following Web Browsers:

- Chrome 31+ *(Preferred for best user experience)*
- Firefox 25+ *(Preferred for best user experience)*
- Internet Explorer 10+
- Safari 7+

NOTE: *Enzo browser support has 2 other limitations; 1 is screen size (~1024X768 - ~1920X1080) and the other is that the check box for the tutorial is only available if localStorage is available.*

WebApp Access

To connect to Enzo using the *MirrorOp WebApp*, follow these steps:

1. Launch a Web Browser window.
2. Obtain the Enzo IP address or Hostname using the Enzo MirrorOp screen or through the System Settings menu.
3. Type in one of the following commands to the browser address bar:

```
http://[Enzo IP Address]
http://[Enzo Hostname]
```

4. If the information is correct, the following window appears (FIG. 82).

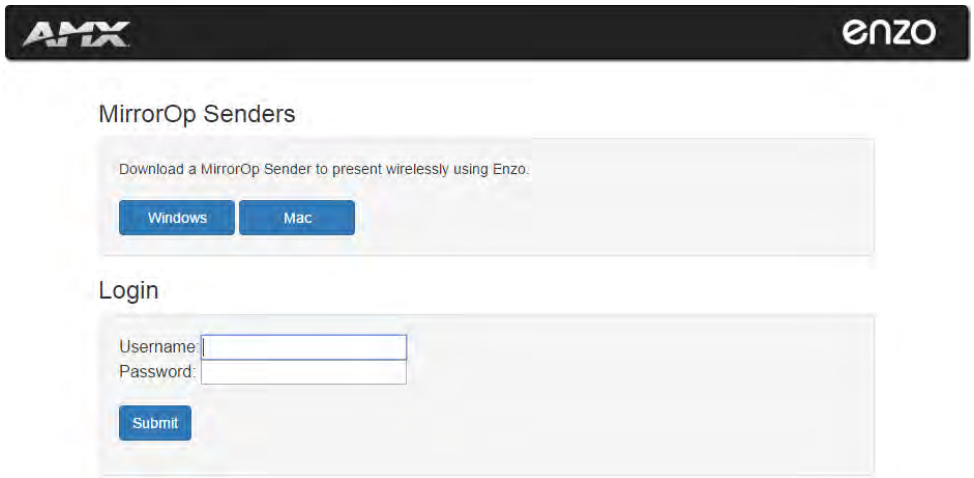


FIG. 82 MirrorOp WebApp Login Screen

5. Log into the WebApp using one of the following credentials:

Username	Password	Description
Admin	1988	Provides full access to the configuration menu items for TV tuning and Screen Mirroring.
moderator	moderator	Provides access to Screen Mirror Moderator functions only. See *MirrorOp - Manage Connections* on page 53 for Moderator functions.

Administrator WebApp Overview

Logging into the WebApp using *admin* credentials displays some menu options not available to Moderator WebApp users. An Admin WebApp user can control options like MirrorOp display functions, Moderator functionality, TV Tuning, and Password control. When logging in, the Home screen appears (FIG. 83).

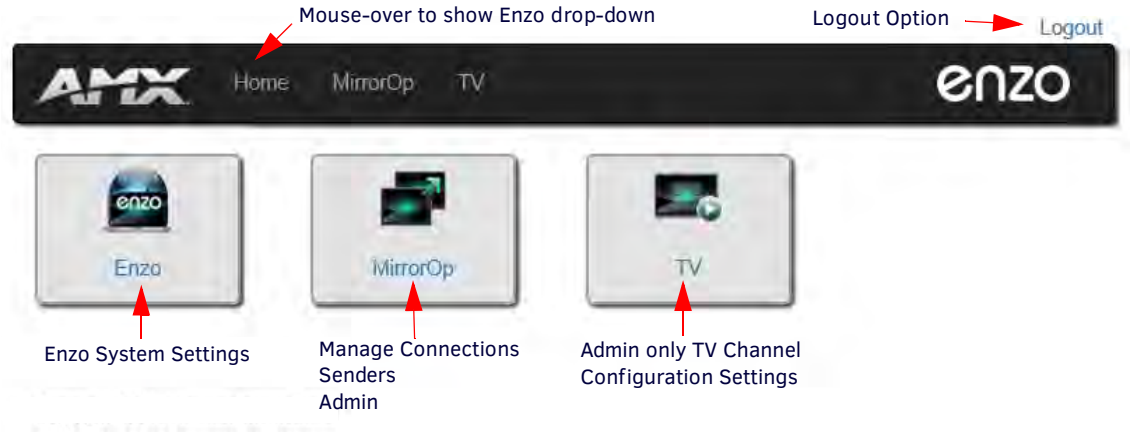


FIG. 83 Admin WebApp Home Screen

Home

Fast-clicking on the Home menu option returns the administrator to the view in FIG. 83.

Holding the mouse cursor over the Home menu displays the drop-down options ENZO and Bookmarks (FIG. 84).

FIG. 84 Ways to Access MirrorOp Manage Connections Screen

Clicking on Enzo in this drop-down option is the same as selecting the Enzo icon in the main screen area. Refer to the following sections for these drop down options: The System Settings window appears.

Enzo - System Settings

1. Select **Enzo** or the **Enzo** Icon to display the *System Settings* page (FIG. 85).

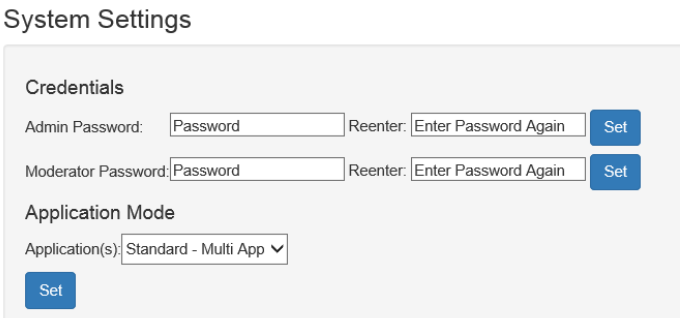


FIG. 85 Admin WebApp Security Screen

Credentials

The system credentials are defined below:

System Settings - Credentials Option	
Admin Password:	Set a new password for the Administrator user. Once set, the default password will no longer be valid. This will also change the password for the Settings and System Settings menus from the Enzo interface that only the Administrator should have access to. **IMPORTANT:** *Once this password is changed, the default 1988 will no longer log an Admin in.*

System Settings - Credentials Option	
Moderator Password:	Set a new password besides the default "*moderator*" used for the user "moderator". Once set, the default password will no longer be valid. **IMPORTANT:** *Once this password is changed, the default password will no longer log a Moderator in.*

Application Mode

The Application Mode section enables administrators to set Enzo up as a single application device. If Enzo's only purpose were to be room presentations, the admin would select MirrorOp mode, and when the user launches Enzo, it will always come up at the MirrorOp login screen (FIG. 86). This is the same if Browser or TV app were selected for Single App Mode as well.Otherwise, leave this set as Multi-App mode so users may select the applications to use.

FIG. 86 MirrorOp Connection Screen - Single App Mode

1. Click on the drop-down to select a single app (FIG. 87) to reconfigure Enzo from the following options:
   - **MirrorOp** - Presentation tool to allow users to project their content on conference room displays
   - **Firefox** - Firefox Web Browser to pull up web content on the conference room display
   - **Browser** - Standard Web browser to pull up web content on the conference room display
   - **TV** - Stream video content from a video server onto the conference room display

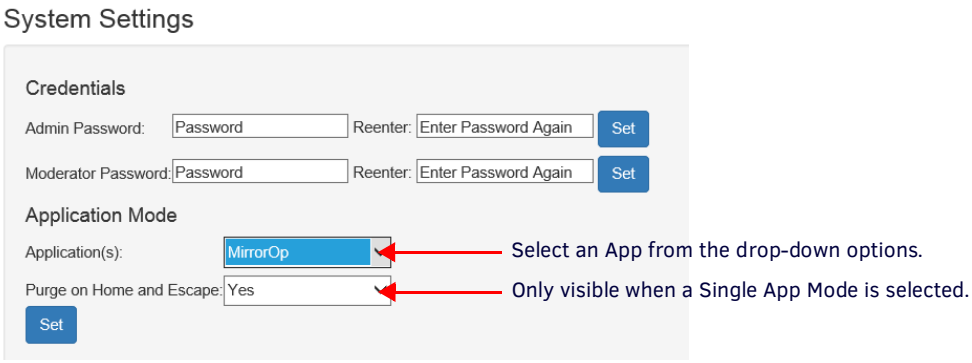


FIG. 87 Admin WebApp Security Screen

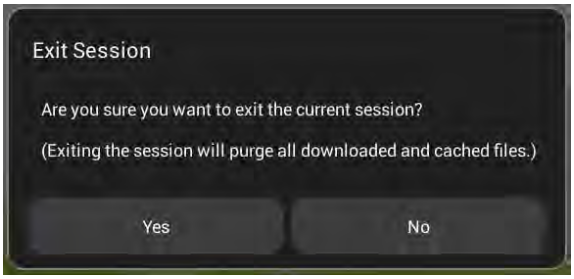
When selecting a Single App, the *Purge on Home and Escape* option appears (FIG. 87). Choose from the following options to control the way Enzo purges sessions when the user selects the **Home** or **Esc** keyboard keys.

- *Yes* - Pressing **Esc** (escape) or **Home** in single app mode will purge and resume the app specified above. This will log out both the users and the admin if logged into the WebApp.
- *No* - Pressing **Esc** or **Home** in single app mode will only pause and resume the single app mode app without purging.
- *Interactive* - Pressing escape or home will pause the single app mode app and show this user interactive dialog giving the user the option to purge or not purge.

System Settings - Application Mode Options	
Application(s):	Selecting an application in this list will render Enzo a single application device for any users who access it. Options are: • *Standard - MultiApp* = shows the main Enzo screen with all applications available • *MirrorOp* = Enzo will only be used for presentations • *Browser* = Enzo will only have the browser accessible to users. • *TV* = Enzo will only be used as a TV viewing device.

System Settings - Application Mode Options

Continued ↴

Purge on Home and Escape:	Purge on Home and Escape is only available when Enzo is set in Single App Mode and has the following options. • *Yes* - Pressing Esc (escape) or Home in single app mode will purge and resume the app selected. This will log out both the users and the admin if logged into the WebApp. • *No* - Pressing escape or home in single app mode will only pause and resume the app without purging. • *Interactive* - Pressing escape or home will pause the app and show this user interactive dialog giving the user the option to purge or not purge. 

When in Single-App mode, Enzo's settings can be accessed using the ID button on the front panel.

- Pressing the button for 1 second or *less* will launch pop-ups requesting to end the session (FIG. 88). Follow the steps presented to save or Escape the session. Enzo will return to its single app mode.

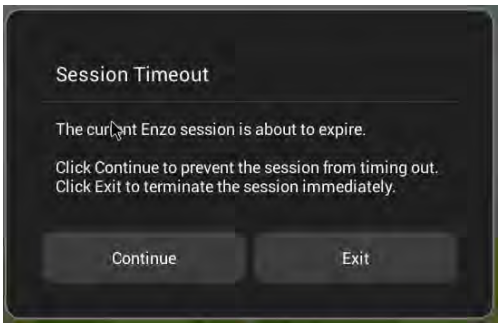


FIG. 88 Single App Mode - Fast Pressing the ID Button

- Pressing the ID button for *more* than 1 second will bring up the Settings menu option (FIG. 89).

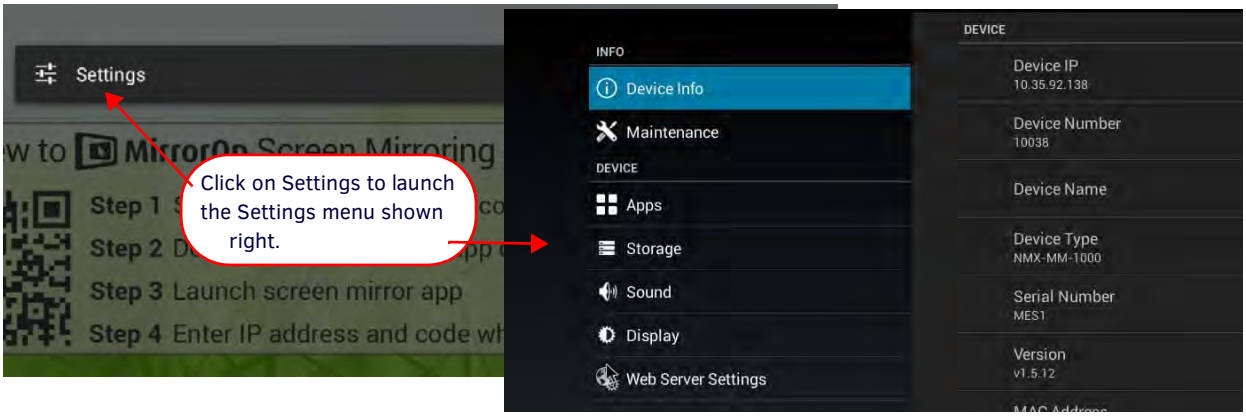


FIG. 89 Single App Mode - Slow Pressing the ID Button

NOTE: *If Enzo is in single app mode and responds false to a ?SESSION command, this indicates that Enzo is in a timed out state as there is no other way to be out of session while in single app mode. Wake Enzo up with any number of commands other than APP.LAUNCH and put a delay to allow for the known multiple launches of the app after wake up, then issue the APP.LAUNCH for the app desired. Use the ACTIVITY.STATE responses to track the open app and reopen the desired if needed.*

Bookmarks

Holding the mouse cursor over the Home menu displays the drop-down options ENZO and Bookmarks (FIG. 90).

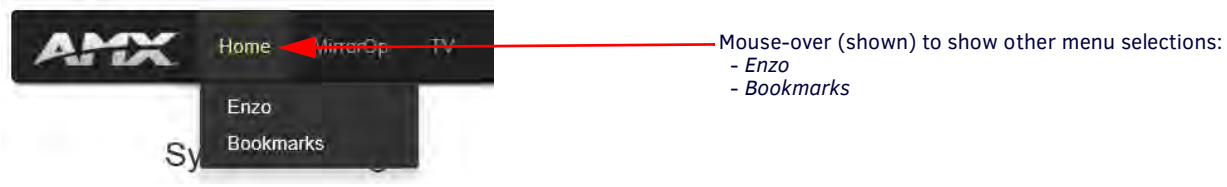


FIG. 90 Accessing the Bookmarks Screen

Clicking on **Bookmarks** in this drop-down option brings up web page (FIG. 91) that will display a series of programmed bookmarks once the Administrator and Moderator sets them up. These bookmarks can be presented to ENZO users automatically when launching a Browser app by setting the default web URL in the Systems Settings to **http://localhost/viewbookmarks**. Refer to the *Browser* section on page 31 to set the default web URL.

FIG. 91 Bookmarks Display Page

Click on the Edit button to set up the bookmarks for your Enzo. FIG. 92 shows the Administrator/Moderator options to set up the Bookmark and icon.

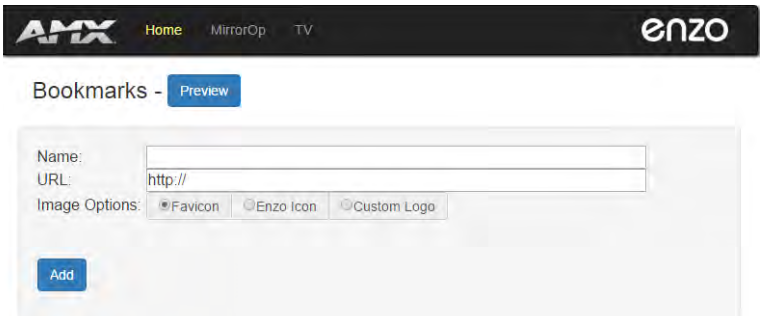


FIG. 92 Bookmarks Entry

Name

1. Enter a descriptive Name using up to 14 characters that will be displayed on the particular Bookmark.

URL

2. Enter the URL of the bookmark including the URL information "*http://www.*", otherwise the bookmark will not function.
3. Click Add to set the new Bookmark, in this example, **AMX** is used. The system automatically pops up a new set of fields for the next bookmark entry (FIG. 93).

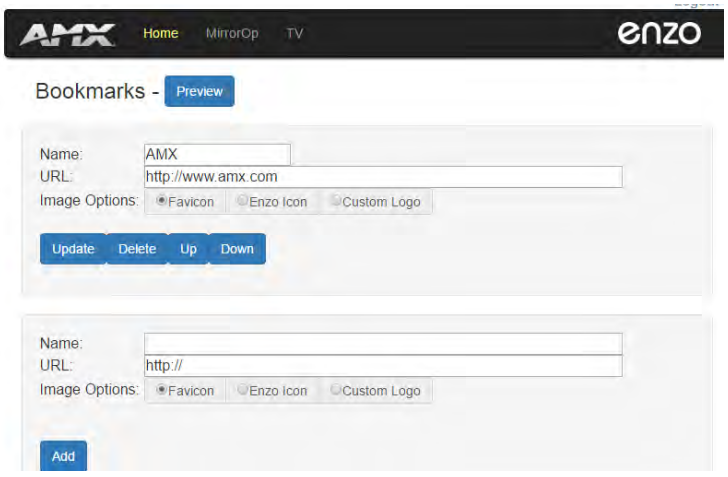


FIG. 93 Bookmarks Entry

Image Options

4. The Image Options defaults to the website Favicon. Some sites do not provide a Favicon or the one provided is low quality. The Admin has the option to link to a higher resolution or custom Icon of their choosing by selecting the Custom Logo radial button and entering the URL of the new Icon, or click the radial button to use the default Enzo Icon (FIG. 94). To use an optional Icon from the web, refer to *Using Alternative Web Logos* section on page 52.

FIG. 94 Enzo Default Logo

NOTE: *Any custom Icons used should be constrained to 48p X 96p (HXW) to fit within the bookmark boundaries.*

5. Note that when an entry is made, additional buttons appear (*Update, Delete, Up Down*). The Admin can use these buttons to update changes to the bookmark, rearrange the order of the bookmarks as they appear on the */viewbookmarks* page, or delete the bookmark.
6. Continue entering Bookmarks and adding them to the list (FIG. 95).

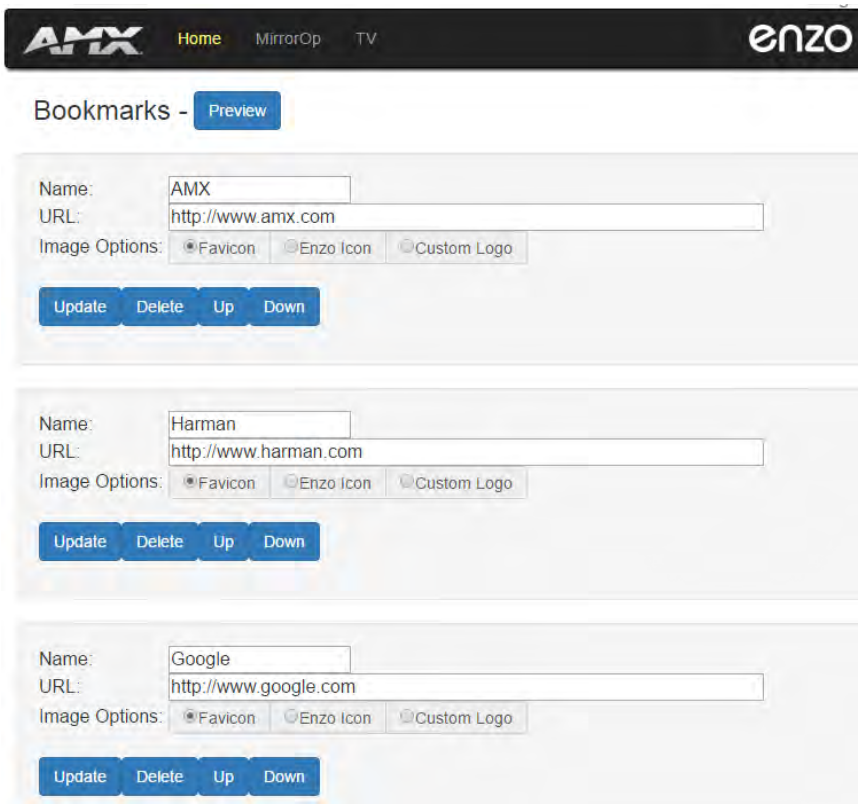


FIG. 95 Multiple Bookmark Entries

7. The /viewbookmarks page can be viewed by clicking on the Preview button at the top of the page FIG. 96.:

FIG. 96 Bookmarks Preview

8. After setting the Enzo default browser in System Settings to **http://localhost/viewbookmarks**, when users launch a Browser from Enzo they will be greeted with the a screen resembling the following example.

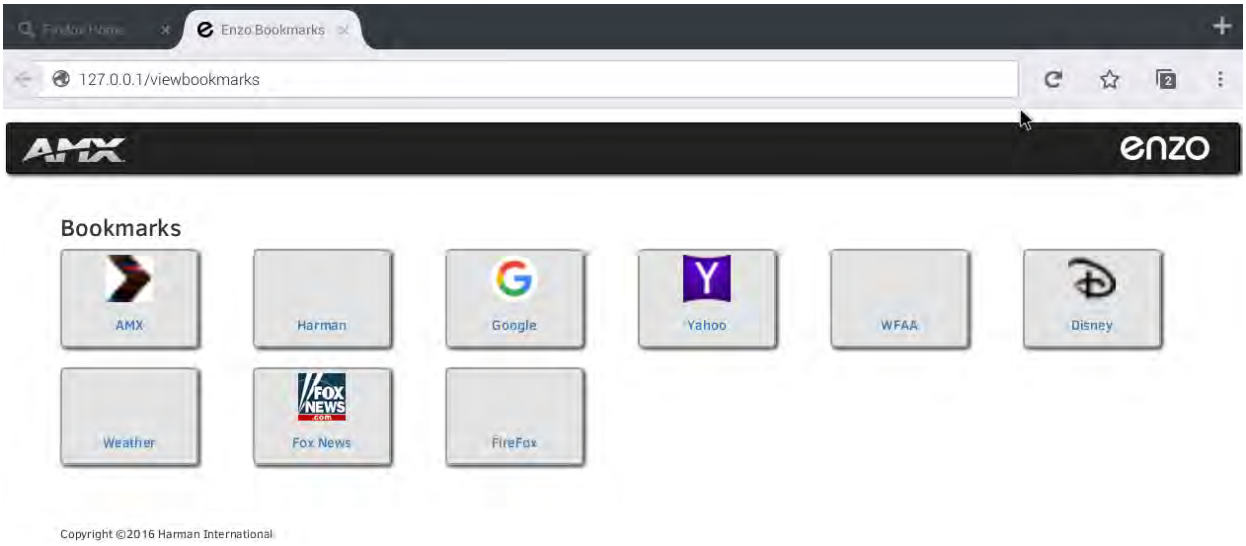


FIG. 97 Multiple Bookmarks Preview

Using Alternative Web Logos

Some websites will not have a Favicon defined, or the Icon they are using is of poor resolution. To use an alternate image for the bookmark, follow these steps:

1. Locate an image with crisp clean lines on the website in question. In this example Google is used (FIG. 98). Right-click on the image and view the source to find the size of the image. Some examples of viewing source code are:
   - Google Chrome - Inspect
   - Internet Explorer - Inspect Element
   - Mozilla Firefox - Inspect Element (Q)

FIG. 98 Viewing Logo Size in Source Code

2. After clicking to inspect, the HTML code will show in a side window with the logo field highlighted. Check for the image size, in this case it is 272x92dpi. The proper image size should be 48dpi or less in height.

3. To use the image anyway, right-click on the image to open the drop down menu.

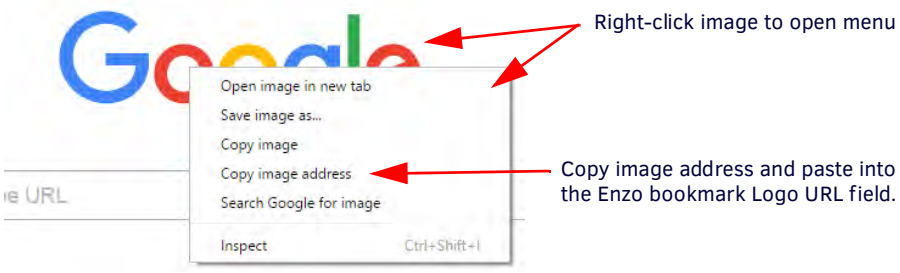


FIG. 99 Copying an Image Location

4. Select the appropriate menu item to copy the image. Some examples are:
   - Google Chrome - Copy Image Address
   - Internet Explorer - Copy
   - Mozilla Firefox - Copy Image Location
5. Go back to the WebApp Bookmarks page and click in the Image URL field to place the cursor inside it and hit the *Ctrl + v* to paste the location into the field.

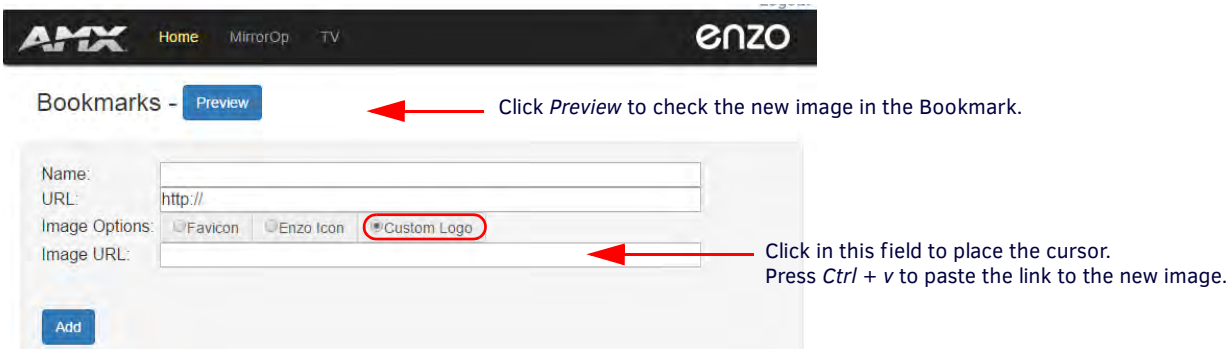


FIG. 100 Pasting the Logo URL Link

6. The new link is now entered into the field. Click on Update to update the new changes.
7. Test the new image by hitting the Preview button at the top of the screen. In this example you can see the size of the image exceeds the size of the Bookmark. Best practice is to find a logo sized within our constraints to properly fit the bookmark.

FIG. 101 Google Image Too Large for Bookmark

MirrorOp - Manage Connections

For Admin users, fast-clicking on the MirrorOp icon will bring up the MirrorOp Manage Connections page (Moderators will immediately see the MirrorOp Tutorial in (FIG. 103) when logging in). Mouse-over the top *MirrorOp* menu selection and the *Manage Connections* and *Admin* selections are revealed.

FIG. 102 Ways to Access MirrorOp Manage Connections Screen

The Manage Connections screen is accessible to both Administrators and Moderators, but managing connections in Conference mode is expected to be a Moderator task. This screen controls which MirrorOp presenters are displayed on the MirrorOp display. Many presenters can be connected to Enzo at once, but only up to four inputs may display in four quadrants of the screen at one time. Each of the four active sender lines are color matched to the quadrant in which it is being displayed.

1. Log into the WebApp using admin or the following credentials:
   - Username: moderator
   - Password: moderator
2. Admin users select **MirrorOp** in the top header or the icon in the main screen area. Moderators continue with Step 3.
3. A tutorial (FIG. 103) appears describing how to select a Sender from a list and then selecting the Display Area to place that sender in.

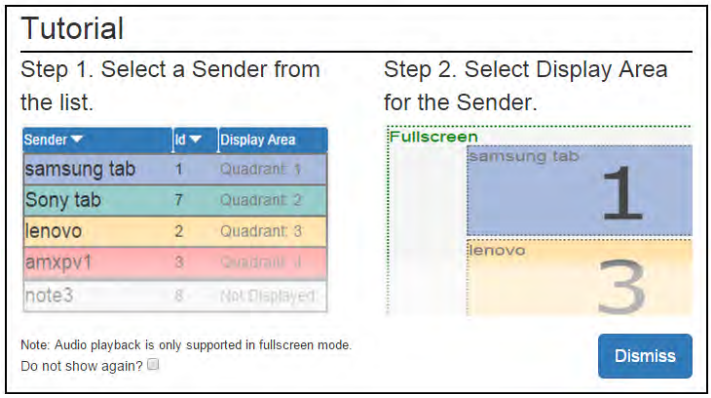


FIG. 103 Manage Connections - Web UI Instructions

4. Select **Dismiss** to remove the Web UI instructions and begin managing connections. To remove this tutorial from subsequent sessions using this browser, check the "*Do not show again?*" box in the bottom left corner. These instructions will still be visible by other users unless they opt out. Clearing browser cache will also bring back these instructions when logging into Manage Connections.

NOTE: *The check box on Web UI instructions popup is not displayed when using browsers that do not support local storage, such as IE11 on Windows8.*

5. Click on a connection from the left side Sender list first, and then click on a quadrant or full screen will make that Sender active and display in that location. The quadrants are color coded with the Senders List as shown (FIG. 104).

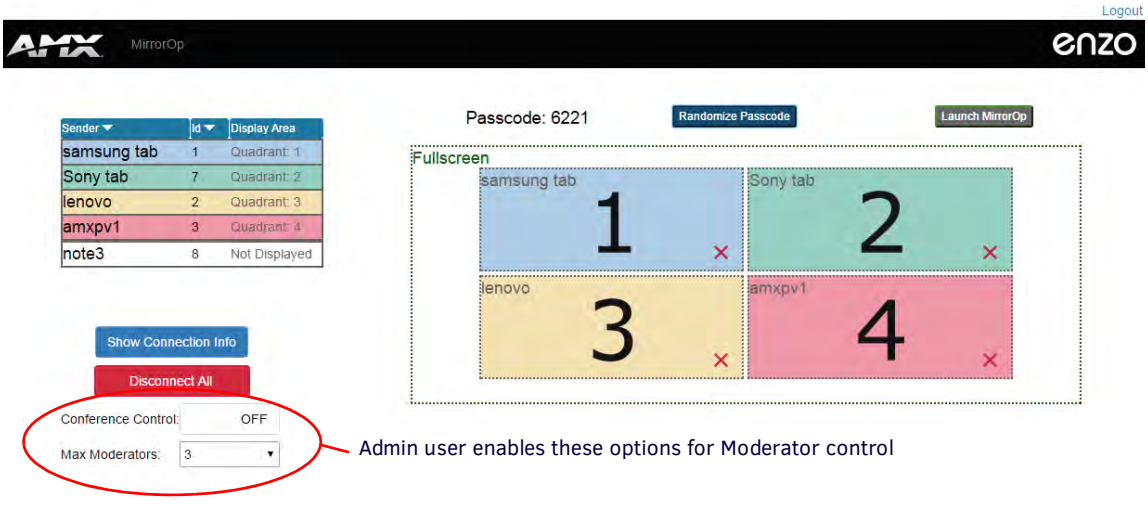


FIG. 104 Manage Connections Area

NOTE: *Audio playback is only supported in Fullscreen mode.*

WebApp Options	
Sender:	The Senders list shows each device connected to MirrorOp on Enzo that the Moderator may choose from and assign to certain quadrants or the full display. Assigning a quadrant or full display doesn't necessarily make the Sender display any content. Presenting is still under the full control of the Sender using the MirrorOp app. When senders press "Play" on their app, their content will then be displayed in the quadrant assigned here. Until they press play, if assigned to a quadrant, a red "X" will mark the area.
Id:	The MirrorOp app assigns an Id to each presenter as they connect.
Display Area:	The display area reflects the actual Enzo display output by Quadrant or Fullscreen as assigned by the Moderator. Clicking on one of the Senders, Moderators can assign a quadrant or full screen display to the sender by then clicking on the area to display. Up to four quadrants can be populated with individual Senders at one time.
Show Connection Info:	Clicking on **Show Connection Info** allows Moderators to toggle the login credentials (IP address and passcode) back onto the Enzo display during a presentation (FIG. 106) so late comers can get connected to present. Pressing it once will make it appear on screen and pressing it a second time will remove it from the screen. See *Show Connection Info* on page 56.
Disconnect All	Causes all existing connections to be booted from MirrorOp.
Conference Control: (optional)	The Conference Control option is available for the Admin user by default and can be made available for the Moderators only from the Admin account. **ON -** Presenters can only connect to MirrorOp but cannot begin presenting. They will see a message saying "Projector is in Conference mode. Only the conference Admin can allow someone to project." **OFF -** Presenters/Senders may connect to MirrorOp and begin presenting from their devices. Moderators may still assign full screen or quadrants to the presenters.
Max Moderators: (optional)	The Max Moderators option is available for the Admin user by default and can be made available for the Moderators, only from the Admin account. This option enables up to three moderators to control the presentations. **Note:** *Max Moderators includes Admin and Moderator users, up to 3 total.*
Passcode: xxxx	This is the current passcode, displayed so presenters can use it to connect.
Randomize Passcode:	The passcode for connecting to MirrorOp through Enzo is displayed as a courtesy. Click **Randomize Passcode** to have the system randomly generate a new passcode which must be entered on the presenting device to connect to Enzo.
Launch MirrorOp	If MirrorOp isn't launched on Enzo, the Moderator may launch it remotely from the WebApp using this option. If Enzo is not in a session, selecting Launch MirrorOp will take Enzo into session and launch the MirrorOp app.

6. Moderators may sort Senders using the tools provided at the top of the sender list. Sorting can be performed using the following options:
   - Sender – Sort the list of senders alphabetically either ascending or descending.
   - Id – Sort the list by Id number assigned when they connect either ascending or descending.
   - Display Area – Pulls the four Senders assigned to the quadrants to the top of the list. Other sort methods mentioned above may not leave active Senders in the viewable area depending on the Id number or name.

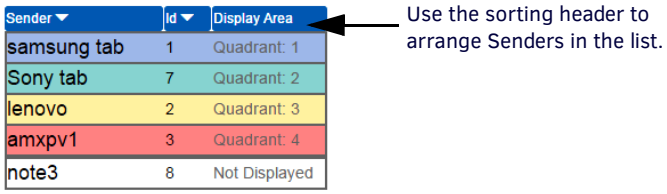


FIG. 105 Sorting Senders Ascending or Descending

Show Connection Info

Clicking on Show Connection Info toggles the login credentials (IP address and passcode) on the Enzo display during a presentation (FIG. 106) so late comers can get connected to present. Pressing it once will make it appear on screen and pressing it a second time will remove it.

FIG. 106 Show Connection Info During a Presentation - Example

Sender

MirrorOp presenters no longer need to download online versions of MirrorOp through corporate networks to present materials. Enzo stores versions that can be downloaded directly by accessing the WebApp homepage.

Additionally, inside the WebApp the Sender settings enable Admins or Moderators to download MirrorOp and begin presenting, or Admins to load the latest Sender releases to store on Enzo for PC or MAC presenters.

To present material, click on the appropriate Sender version; Windows or MAC. This can be accessed before logging into the WebApp as well.

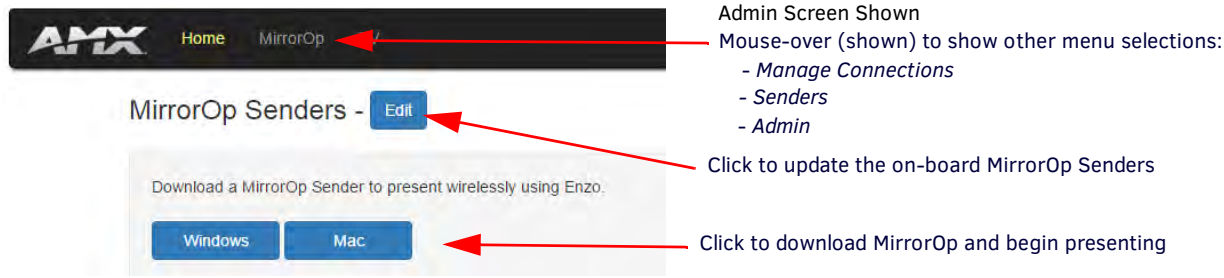


FIG. 107 MirrorOp Sender

The program downloads onto your computer. Look for a note in your browser like the one shown in FIG. 108. This one is shown in the bottom left of the browser window. Check your download folder if having difficulty locating this download.

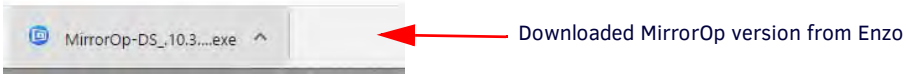


FIG. 108 MirrorOp Downloaded from Enzo

Click on the Download to launch MirrorOp. A MirrorOp window will momentarily appear (FIG. 109).

FIG. 109 MirrorOp Launching

The MirrorOp Sender will then appear as shown in FIG. 110. Enter the IP or Hostname in the bottom field. Once connected to Enzo, type the four digit passcode displayed on the Enzo MirrorOp screen and click **OK**.

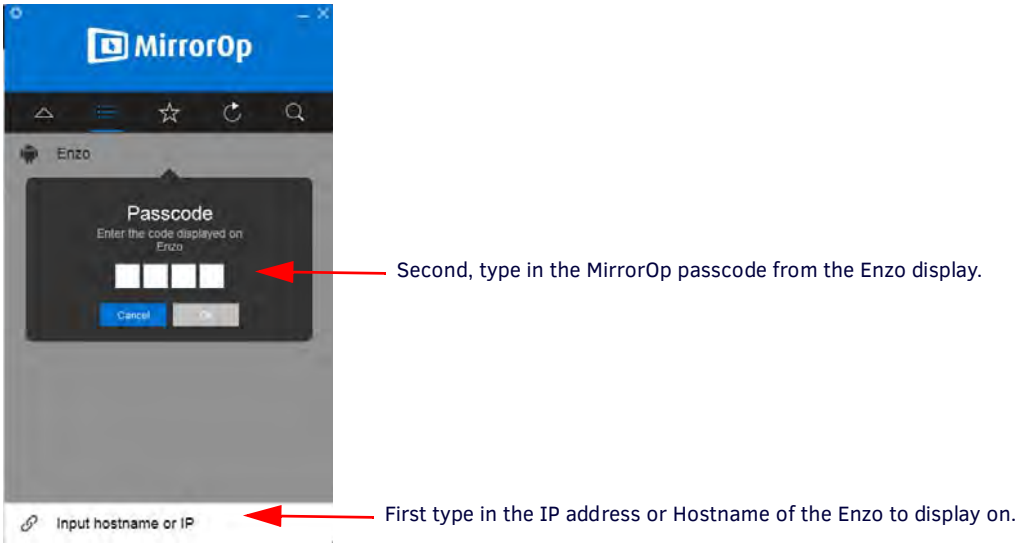


FIG. 110 MirrorOp Login Window

The Sender then appears as shown.

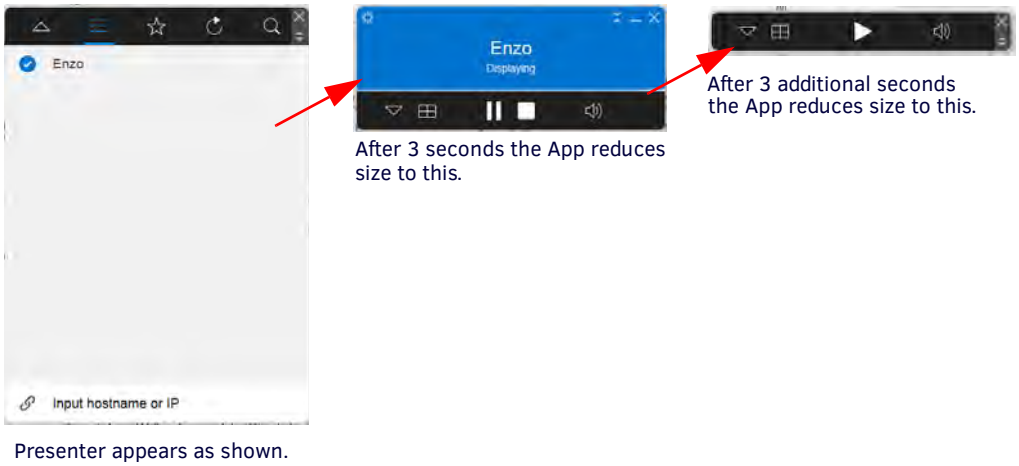


FIG. 111 MirrorOp Sender Window

Administrators can prepare their content on their devices and then press the Play button (FIG. 112) to begin presenting.

FIG. 112 MirrorOp Sender Options

To select a quadrant for multiple presenters, click on the table icon circled in FIG. 113, and select an option.

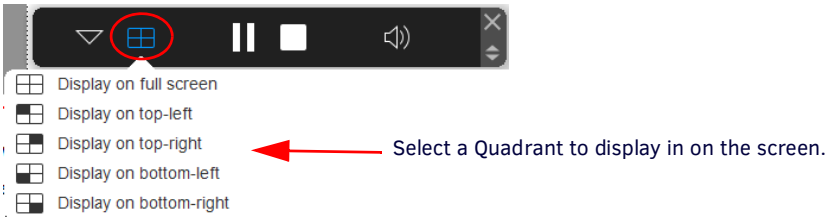


FIG. 113 Display on a MirrorOp Quadrant

To stop presenting, click on the white square (STOP) icon.

To leave the Enzo, click on the options arrows on bottom right of the bar FIG. 112 to open the current presenting Enzo FIG. 114. Click on the cog to access settings and select Disconnect.

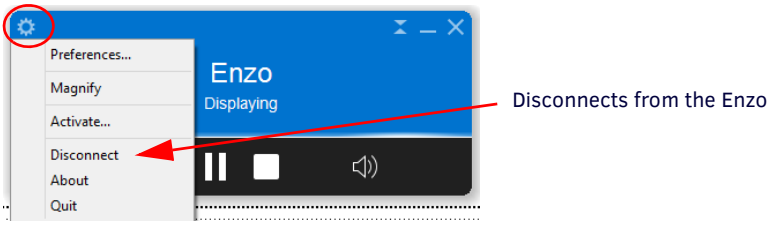


FIG. 114 Display on a MirrorOp Quadrant

Administrators -Senders - MirrorOp Updates

Administrators can download newer versions of MirrorOp Sender for Windows or MAC directly onto Enzo to keep it up-to-date. Follow these steps:

1. From the WebApp MirrorOp menu, select Senders to bring up FIG. 115.

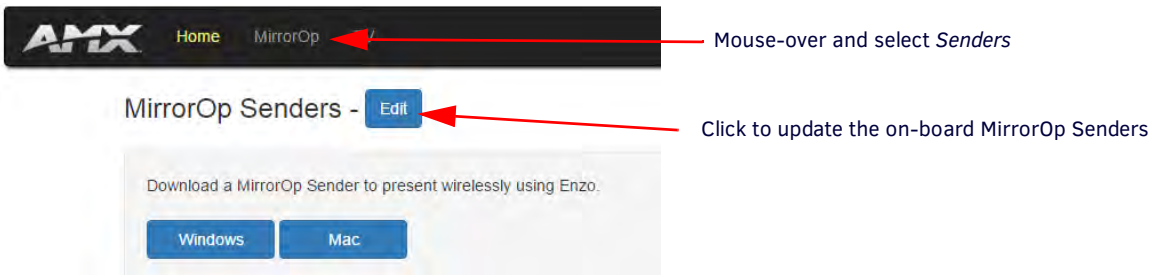


FIG. 115 MirrorOp Sender

2. Click on the Edit button to open the MirrorOp download options FIG. 113. Use the Choose file option to locate the MirrorOp version to upload. Click **Upload** to put the new version on Enzo. The original version shipped with Enzo can always be reloaded by selecting **Revert to Default**.

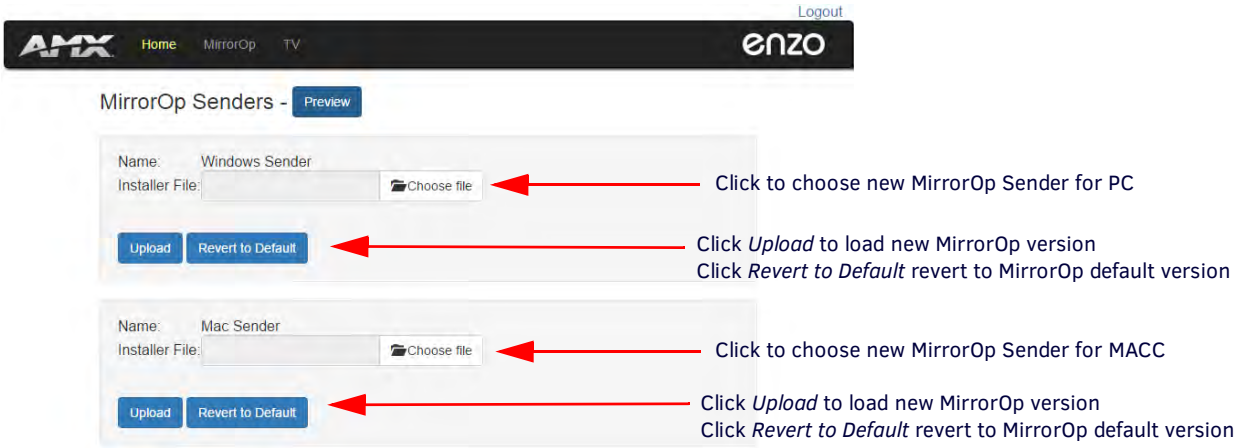


FIG. 116 MirrorOp Sender

Administrator MirrorOp Admin Settings

The Admin selection is used to allow Admin access to the privileged MirrorOp settings that control form and function of the app.

NOTE: *If Enzo settings were recently reset, start a new Enzo session before making changes in the WepApp.*

1. Mouse-over the top *MirrorOp* menu selection and the *Manage Connections* and *Admin* selections are revealed.

FIG. 117 Ways to Access MirrorOp Manage Connections Screen

2. Click on **Admin** to access the Admin settings for MirrorOp control. This screen is divided into the following categories and defined in the following pages:
   - *Start Screen* on page 59
   - *Conference Control* on page 62
   - *Settings* on page 62
   - *Instructions* on page 64

Start Screen

The Start Screen menu enables administrators to change the default MirrorOp screen settings seen when MirrorOp is launched, displaying the IP address and Passcode. The Enzo name, IP address, and passcode may all be customized by an Admin user. A custom background image may be loaded from a local machine using a file browser, or choose from the default background images to show certain features of the MirrorOp home screen. The fields are defined in the following table.

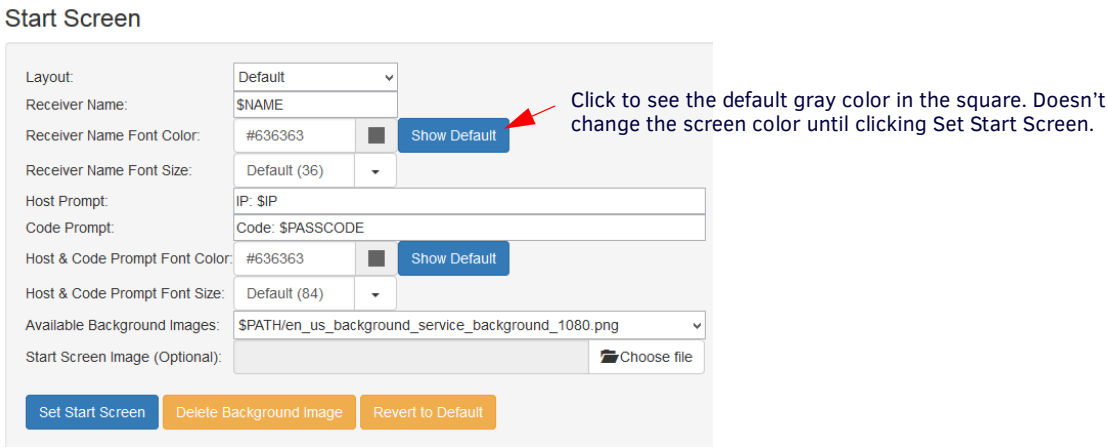
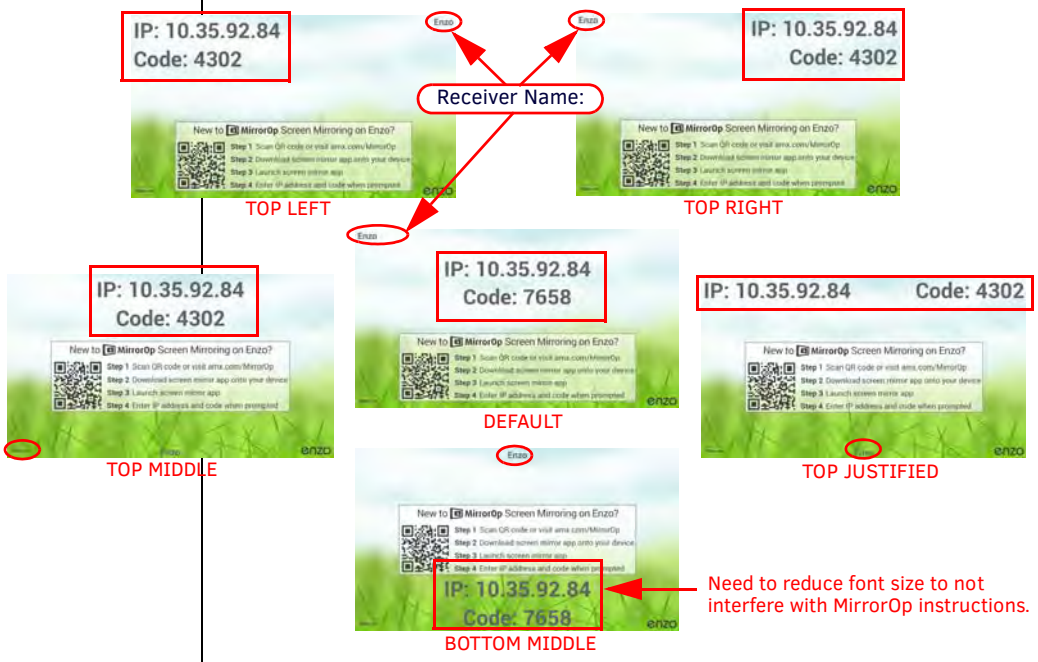
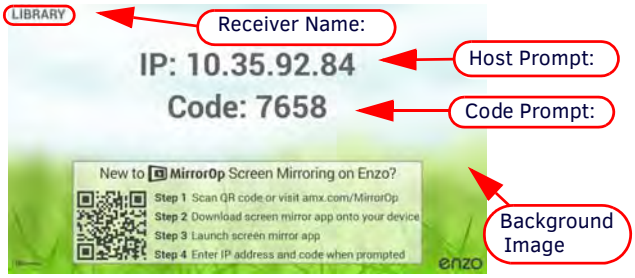
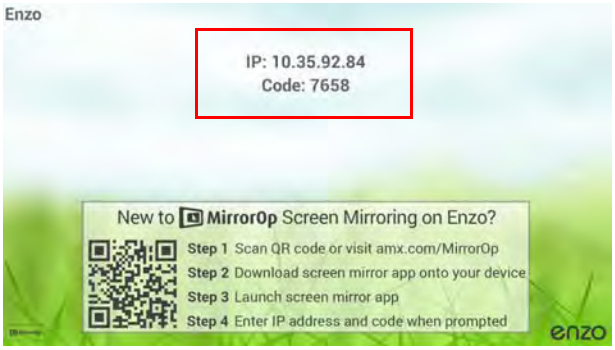


FIG. 118 WebApp Start Screen Settings

Start Screen Options	
Layout	Choose a layout to place the system credentials (IP address and Code) in the desired location. Layouts include the following options: 
Receiver name:	"$NAME" displays Enzo or other Admin configured name at the top left of the main screen. Admin users may enter additional information such as conference room name or teacher's room number following or in place of this NetLinx code to customize each room display. Example shown with "Library" added. 
Receiver Name Font Color:	Shows a numerical representation for the color chart. Default dark gray is 636363. Click on the color square to launch the color picker. Select a color from the vertical bar and then click in the pallet to adjust the shade. The right vertical bar allows transparency settings. Click and slide to select setting. This only applies to the receiver name that is displayed on screen.
Receiver Name Font Size:	Change the size of the receiver name only ($NAME or custom). Default is 36.
Host Prompt:	Displays the Enzo IP address on the MirrorOp connection screen.

Continued ↴

Start Screen Options	
Code Prompt:	By default, the MirrorOp display shows the Code Prompt needed to connect to Enzo and present. If no passcode is needed (Enable Passcode is OFF), a message could be put in this field to alert presenters (ex., “Passcode Not Required”). To do so, enter the string in the Start Screen section under Code Prompt (below). This text will display on the MirrorOp screen if no Netlinx coding is present (i.e., $PASSCODE).
Host & Code Prompt Font Color:	Shows a numerical representation for the color chart. Default dark gray is 636363. Click on the color square to launch the color picker. Select a color from the vertical color bar and then click in the pallet to adjust the shade. The right vertical bar allows transparency settings. Click and slide to select setting. This only applies to the IP address and passcode displayed on screen.
Host & Code Prompt Font Size:	Change the size of the host IP address and passcode only ($IP/$PASSCODE or custom). The image below shows the Host and Code Prompt reduced to 36. Default is 84. 
Available Background Images:	Select a new image to display on the MirrorOp Screen from these defaults: • $PATH/en_us_background_service_background_1080.png • $PATH/mirrorpop_background_1080.png **NOTE:** *Background images without the “service_background” will not display the QR code and instructions.*
Start Screen Image (Optional):	Select a new image for the background from a local PC using the file browser. Images should be png files in 720p (1280 by 720) or 1080p (1920 by 1080). If an invalid file is uploaded, just delete and try again.
Set Start Screen	Click to implement new changes.
Delete Background Image	Deleting the selected image will remove the image from Enzo memory. The default images are saved however so they can be replaced when “Revert to Default” is selected.
Revert to Default	Click to change all Start Screen settings back to factory default.

Conference Control

Use the *Conference Control* settings to enable control of MirrorOp presentations, enable additional MirrorOp Moderators (up to 3 total) and allow a Moderator to change presenter layouts. Any changes made in Conference Controls take effect immediately.

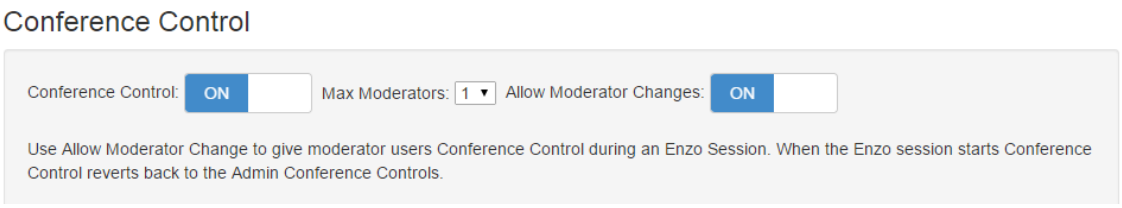


FIG. 119 WebApp Conference Control Settings

Conference Control Options	
Conference Control:	The Conference Control option is available for the Admin user by default and can be made available for the Moderators only from the Admin account. **ON -** Presenters can only connect to MirrorOp but cannot begin presenting, "Projector is in Conference mode. Only the conference Admin can allow someone to project." appears. **OFF -** Presenters/Senders may connect to MirrorOp and begin presenting from their devices. Moderators may still assign full screen or quadrants to the presenters. **NOTE:** *These changes take immediate effect.*
Max Moderators:	Define the number of WebApp moderators allowed to log onto the system at one time and control presenters/senders. Up to 3 total moderators are allowed (including Admin). **NOTE:** *These changes take immediate effect.* **NOTE:** *The Max Moderators option includes Admin and Moderator users, up to 3 total.*
Allow Moderator Changes:	*On* - Enables conference control and setting the max number of moderators (up to 3) from the MirrorOp Conference Control screen. See FIG. 120 for examples of moderator changes. *Off* - Admin users retain the ability to enable conference control and set max number of moderators (up to 3). **NOTE:** *These changes take immediate effect.*

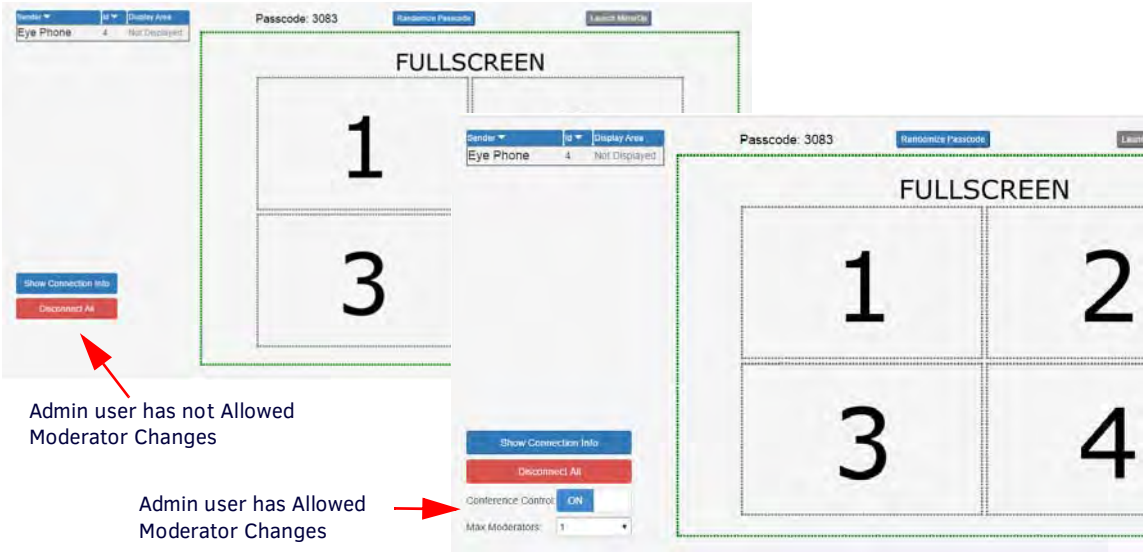


FIG. 120 WebApp Moderator Manage Connections Screen With and Without Conference Control

NOTE: *If Enzo has been rebooted during a session, it may not be reflected on the conference display until communications resume.*

Settings

Use the settings menu to set the passcode generation behavior for MirrorOp users on Enzo. Application changes require logging off and starting a new Enzo session. Screen options are defined in the table below.

NOTE: *An Enzo session re-start is required to apply changes when changing the passcode mode, setting the passcode or setting the time interval.*

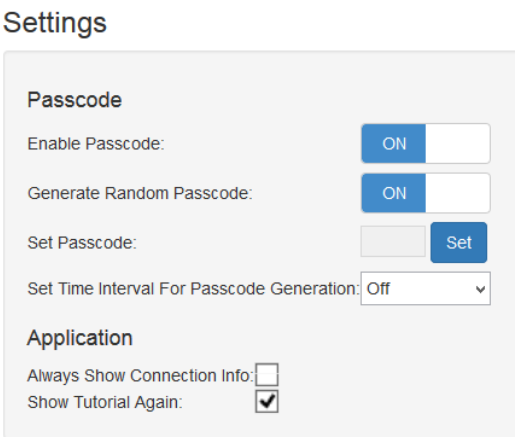
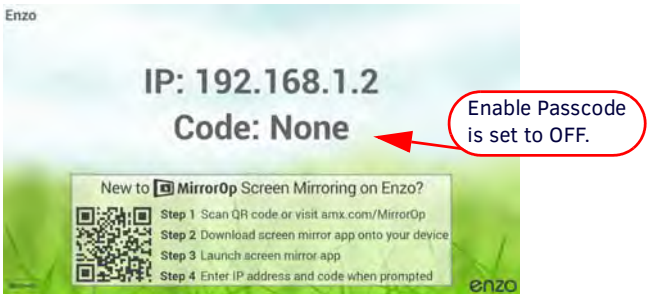
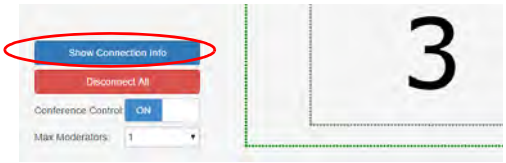


FIG. 121 WebApp Settings

Settings Options	
Passcode:	
Enable Passcode:	*On* - Enables the 4 digit passcode on the Enzo main screen when MirrorOp is launched. This passcode is entered be Presenter/Senders on their devices to gain access to the display. *Off* - No passcode if needed to present. The screen will display "CODE: NONE" as shown below. When toggling between On/Off, Enzo sessions must be restarted for new changes to take effect. 
Generate Random Passcode:	When enabled, the system will automatically generate a 4 digit passcode for every session. An example is if presenters are disconnected using *Disconnect All*, a new passcode will be generated since it is essentially a new session.
Set Passcode:	Use to set a recurring four digit Admin defined passcode. **NOTE:** *The Enzo web UI and NetLinx commands allow invalid passcodes to be set on Enzo. The valid passcode range is 1000 to 9999. Setting the passcode less than 1000 is equivalent to disabling the passcode. If an invalid passcode is set via the web UI, it will revert to the previously set valid passcode following an Enzo reboot.*
Set Time Interval for Passcode Generation:	Choose from the list to set how often to generate a new passcode when "Generate Random Passcode" is enabled.
Application	
Always Show Connection Info:	Checking this box will cause the IP address and Passcode to always remain on the MirrorOp screen so presenters can log in. It will also remove the *Show Connection Info* button in the Manage Connection screen. 
Show Tutorial Again:	Check to have the tutorial always display when launching Conference Control.

Instructions

The Instructions shown at the bottom of the Admin screen provide a guide to using the NetLinx commands in the above sections.

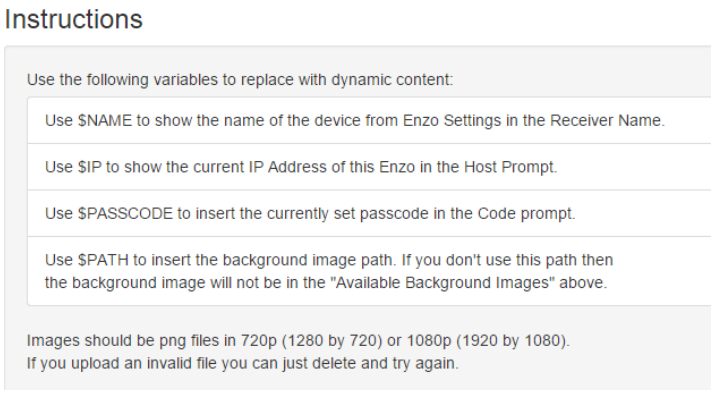


FIG. 122 WebApp Home Page Instructions

Administrator - TV Settings

The TV selection enables Admin users to upload their JSON coded channel configuration files or define a Vision 2 Video Server, test them, and configure their default behavior when the app is launched.

NOTE: *If Enzo settings were recently reset, start a new Enzo session before making changes in the WepApp.*

1. From the WebApp Home screen, click on the TV icon or the TV top menu bar selection (FIG. 123). A mouse-over of the TV menu bar will show an Admin selection. This is the same menu as if clicking on the other options just mentioned.

FIG. 123 WebApp TV Menu Selection

Channel Configuration Settings

The Channel Configuration menu appears (FIG. 124). If using a Vision 2 video server as a video source, select the Vision 2 option which will change user configuration options. Go to *Vision 2 Configuration* on page 66. If not using Vision 2 as a video server, continue.

NOTE: *For creating Vision2 Producer channels, refer to the Best Practices documented in the Vision2 Instruction Manual available at www.amx.com.*

JSON File Configuration

Under *Configuration File:*, enter a URL, which includes HTTP and FTP, to configure a channel list that is stored on an FTP server. Examples of a Json file are included in the Enzo Programmers Guide available at www.amx.com/products/NMX-MM-1000. There are also example files available for download from the product page located under the "Device Modules" section on the right side of the page:

`http://www.amx.com/products/NMX-MM-1000.asp`

1. Choose file option to launch a file folder window on your local machine and select the file from your stored location. Refer to the Programmers Guide for a JSON file example.

Instructions

A set of instructions are provided at the bottom of the page for tips on configuring JSON files into ENZO.

NOTE: *This Configuration File option is not available for iOS devices.*

2. Once your file is selected and displayed in the Configuration file window, click on **Upload** to upload the configuration file to Enzo (FIG. 126).
3. When the file is uploaded, Enzo will automatically test it (FIG. 127).
4. Once the file is tested, Enzo will show if it successfully passed (FIG. 128).
5. If the file was not successful (FIG. 129), check that your file was created correctly and re upload. Refer to the Enzo Programmers Guide located at http://www.amx.com/products under the Presentation Systems option.

FIG. 124 Select a Local JSON Channel Configuration File

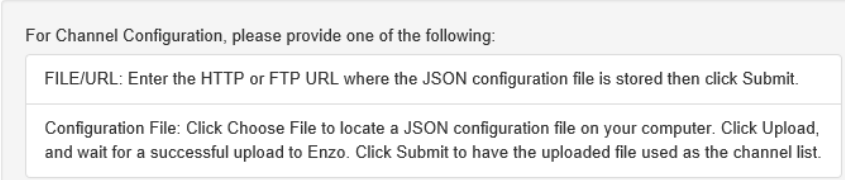


FIG. 125 Icon Visibility Options - OFF (left) vs. ON (right)

Channel Configuration	
URL:	See section *Channel Configuration Settings* on page 64. Type in the URL of the configuration file or load using the Configuration File option below. Hit **Submit** to load the file on Enzo. The system will indicate that it is Testing the file (FIG. 127) and then Pass or Fail it (FIG. 129).
Configuration File: (Optional):	If creating a configuration file, save it locally as a JSON file and access it using the **Choose File** button. Once selected, click the **Upload** button to load the file on Enzo. The system will indicate that it is Testing the file (FIG. 127) and then Pass or Fail it (FIG. 129).

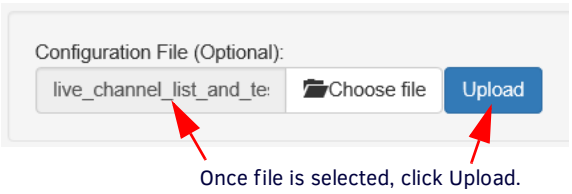


FIG. 126 Upload Configuration File

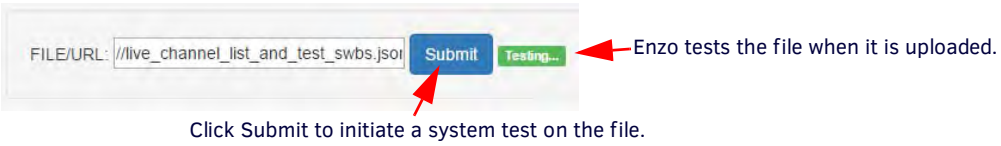


FIG. 127 Upload Configuration File Testing

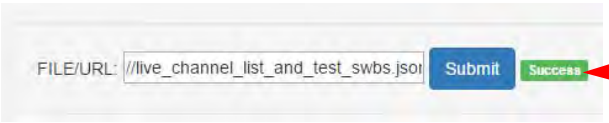


FIG. 128 Upload Configuration File Successful

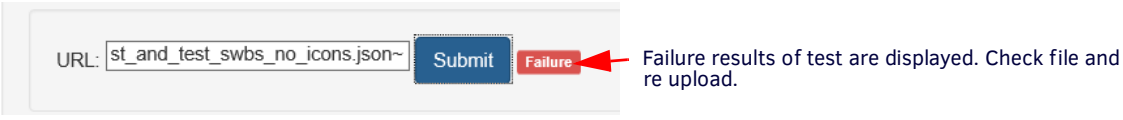


FIG. 129 Upload Configuration File Successful

Vision 2 Configuration

Toggling the selectable Vision 2 options to ON will change the Channel Configuration options as shown (FIG. 130). Toggling the Vision 2 option to "ON" changes the Channel Configuration settings to enable connecting to a Vision 2 server. Once the server is connected, the end user will see the Video On Demand (VOD) line up when selecting the Guide view.

NOTE: *For creating Vision2 Producer channels, refer to the Best Practices documented in the Vision2 Instruction Manual available at www.amx.com.*

NOTE: *When the guide is open and the Admin toggles Vision2 On and Off, the users needs to close the Guide and reopen to reflect the change.*

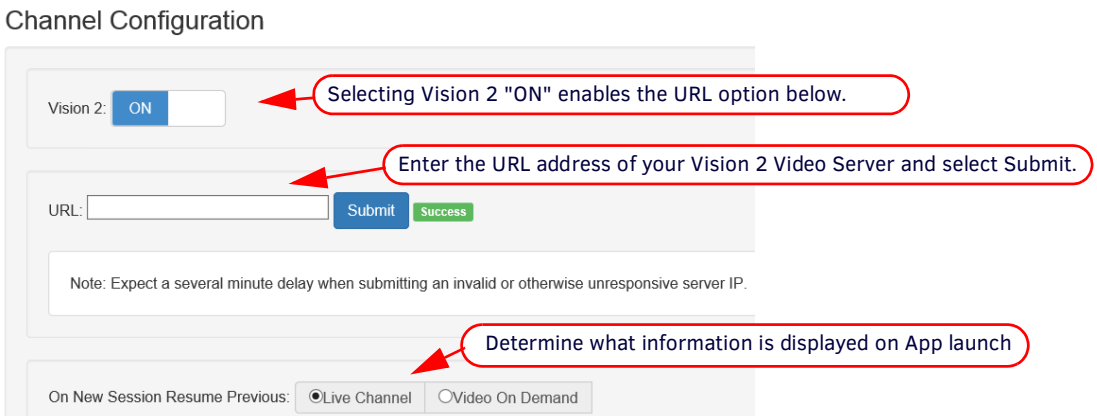


FIG. 130 WebApp - TV - Vision 2 Settings Screen

1. Enter the URL of the Vision 2 video server using the format and example shown below:

- `Format - http://[IP Address of Vision2 Server]`
- `Example - http://10.35.84.138`

NOTE: *The protocol (http://) MUST be included before the IP address.*

2. Enzo will go through a series of confirmations such as Saving and Testing, and Success or Failure (FIG. 131). If the connection fails, check your server URL and resubmit.

   NOTE: *Expect a several minute delay when submitting an invalid or otherwise unresponsive server IP.*

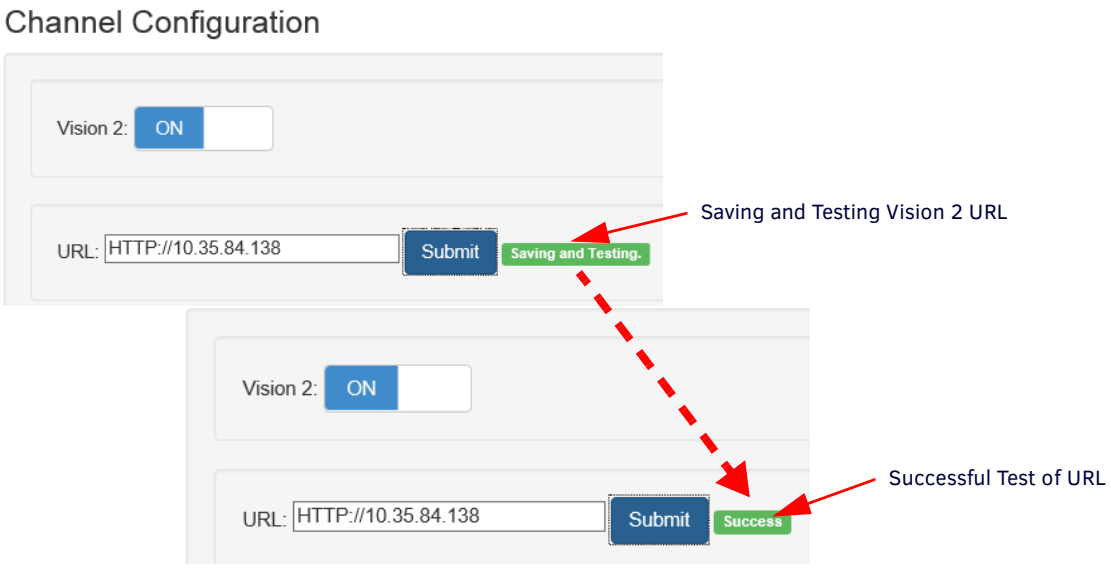


FIG. 131 WebApp - TV - Vision 2 Submission

3. Enabling Vision 2 introduces an additional configuration screen called *Video On Demand* outlined in the next section.
4. Select one of the radial, buttons to determine how the TV functions when resuming operation in a new session.
   - Live Channel - When starting a new session and opening the TV app, the app will tune to the previous live channel or the first live channel on the list if no previous channel is available.
   - Video On Demand - When starting a new session and opening the TV App, the App resumes at the beginning of the last VOD selected.

Video On Demand

When the Vision 2 option is ON, the Video On Demand Options configuration screen appears. This screen enables administrators to customize the look and feel of the Video On Demand Channel Guide used by end users to select their programs.

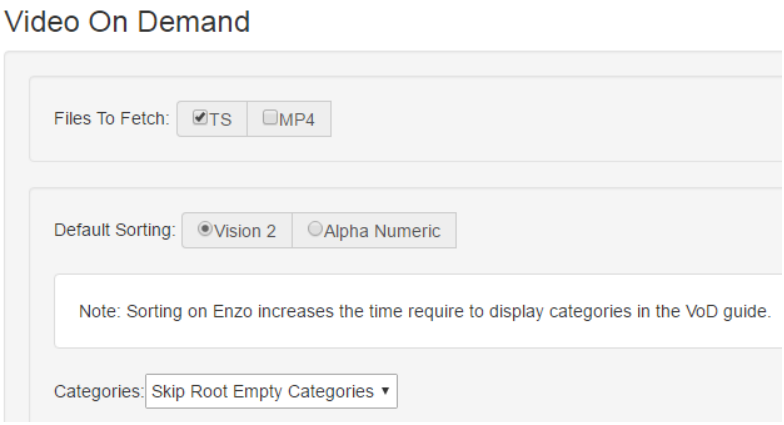


FIG. 132 WebApp - TV - User Interface Settings Screen

Files to Fetch

The Files to Fetch options default to TS (Transport Stream) only channels to be displayed, but administrators may choose MP4s over transport streams or select both check boxes.

NOTE: *Disabling both TS and MP4s will return nothing. MP3s are returned if any type is enabled.*

NOTE: *AMX recommends no more than 320 media files in any one category. When opening a file with more than 320 media files, users will get the following error message (FIG. 133). Click on the Search button to enter search parameters in the Search tool.*

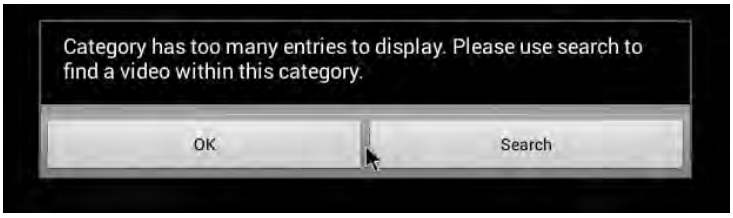


FIG. 133 Enzo TV App - Error Message

NOTE: *Enzo may display the wrong channel if the Vision 2 server has reorganized and updated its channel list. If this happens simply update the Enzo channel list by closing and reopening it or by relaunching the TV app to access the new channel lineup.*

Default Sorting

The Default Sorting option enables Administrators to select how the channels are displayed for the users. choose from the following:

- **Vision 2** - Leaves the sorting list up to the Vision 2 server and may be alphabetical or not.
- **Alpha Numeric** - sorting the channels alphabetically makes finding programs easier but increases time required to display channels.

Categories

The Categories option is used to reduce the clutter in the VOD channel guide by not showing the empty categories or empty root directories altogether. Use the following options:

- **Show All Categories** - Lists all file folders in the VOD channel Guide.
- **Skip Empty Categories** - Skips listing empty file folders in the VOD channel guide.
- **Skip Root Empty Directories** - Skips listing the root directories that have all empty file folders.

User Interface

At the bottom of the TV options are the User Interface Settings (FIG. 134) with setup options: *Navigation and Icon Visibility*.

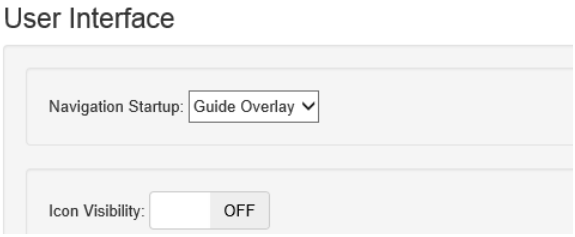


FIG. 134 WebApp - TV - User Interface Settings Screen

Navigation Startup

The Navigation Startup option defines how the TV app will appear when the users launch it. Selections are:

- *Guide Overlay* - Users view the channel guide upon resuming the TV app (FIG. 135 right), then select a channel to watch. Users can access the guide again by movement of the mouse providing a "Guide" icon at the top right corner of the screen. This excludes resuming or launching with TV.CHANNEL or TV.CONTROLLER.
- *Video* - Users see the programming from the last selected channel in the line up (FIG. 135 left) upon selection. Then they can access the channel guide by movement of the mouse providing a "Guide" icon at the top right corner of the screen.

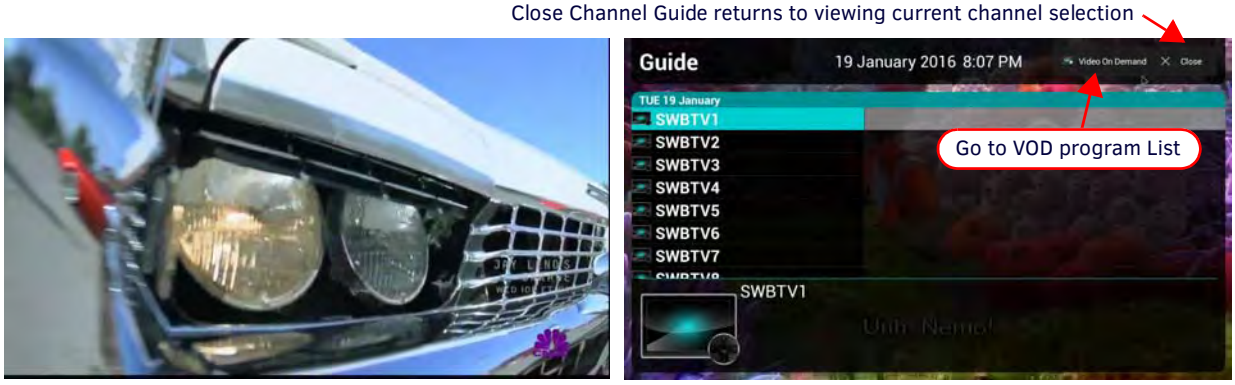


FIG. 135 Navigation Startup Options - Video (left) vs. Guide Overlay (right)

Changes made in the TV user interface configuration take effect immediately and can be viewed by the user when they leave the app (Esc on the keyboard) and reopen it.

Icon Visibility

The Icon Visibility options are ON or OFF.

- ON – users can see programmer defined icons in the channel guide (FIG. 136 right).
- OFF – this column is not present (FIG. 136 left).

Refer to the Enzo Programmers Guide for examples of Icon strings.

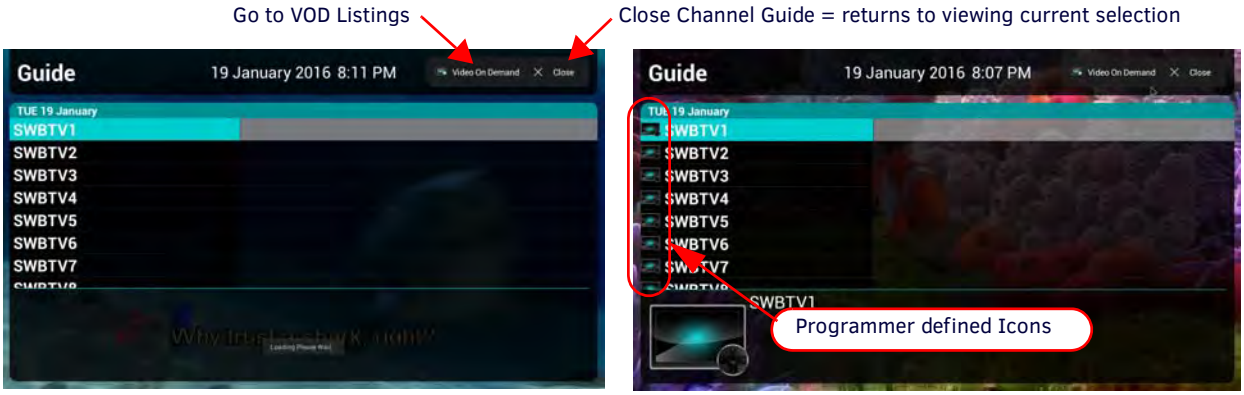


FIG. 136 Icon Visibility Options - OFF (left) vs. ON (right)

Updating Firmware

Overview

Upgrading firmware on the Enzo involves downloading the latest firmware files from www.amx.com and performing one of the following tasks:

- Copy the .kit file to a USB drive, insert the USB drive into the Enzo, and install the firmware
- Use the Web. Enzo will connect, display the latest versions of firmware, and allow download and updates.
- Use NetLinx Studio to transfer the files to the Enzo. The NetLinx Studio software application (available for free download from www.amx.com) provides the ability to transfer KIT firmware files to a NetLinx device such as the Enzo.

The following sections describe how to update the firmware on the Enzo using the available options.

- *Updating Firmware from USB* shown below
- *Updating the Firmware Through the Web* on page 70
- *Updating the Firmware Through NetLinx Studio* on page 72

Updating Firmware from USB

Download the Latest Firmware Files from www.amx.com

Visit the appropriate product page on www.amx.com for the latest firmware (*.kit) files for Enzo. Firmware file links are available along the right-side of the catalog page. Firmware files are bundled in a ZIP file, along with a Readme.TXT file that provides details on this firmware release. Perform the following steps to download the latest firmware files:

1. Accept the AMX Licensing Agreement.
2. Download the ZIP file and unzip the contents to a known location.

Installing Firmware onto Enzo

The firmware can easily be updated on the Enzo Meeting Presentation System by using a USB storage device containing the latest firmware .kit file downloaded from *www.amx.com*. Perform these steps to update the firmware on the Enzo Meeting Presentation System:

1. Copy the .kit file and all other associated files onto a USB storage device.
2. Connect the USB storage device to any of USB port located on the front or rear panel of the Enzo.

NOTE: *Once a USB drive is connected and Enzo mounts the drive, the files on it may be accessed. If a message stating "the USB drive is mounted" is not received, Enzo did not recognize the drive.*

3. On the Enzo main screen, press F12 to enter the settings screen and click on **Reset and Update** (see FIG. 137).

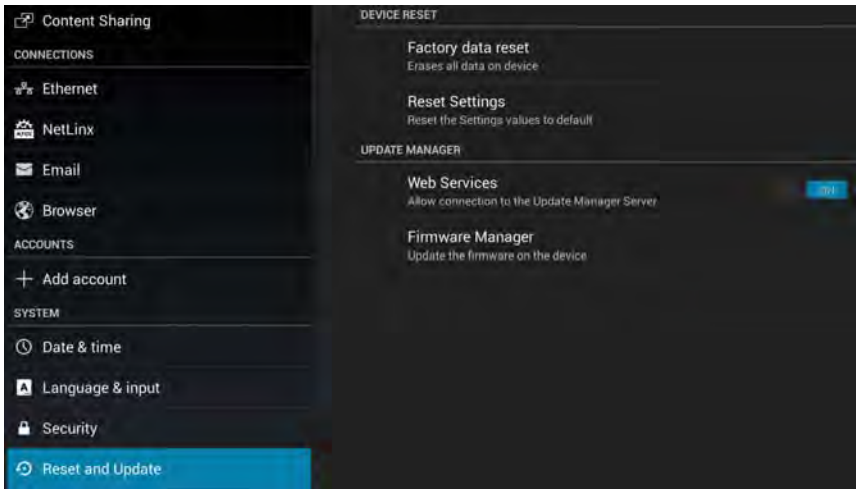


FIG. 137 Enzo System Settings Screen

4. From the available options, select **Firmware Manager**. The following window appears.

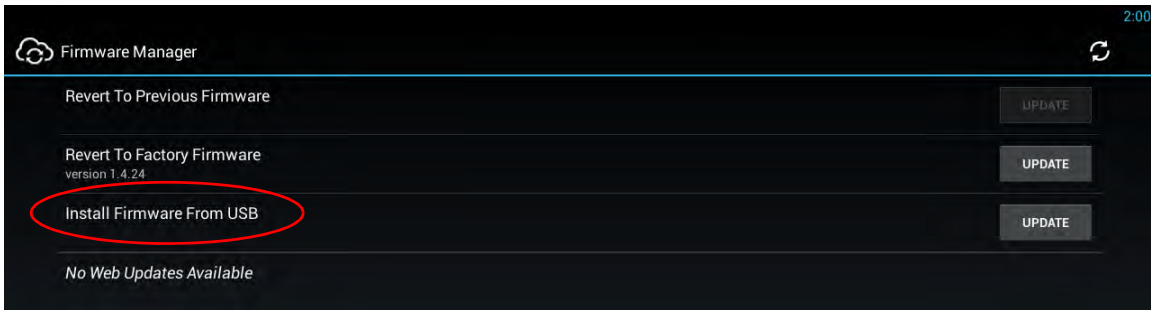


FIG. 138 Select Option Menu

5. Select **Install Firmware From USB**.
6. Select the .kit file from the list of files that appear on the USB drive (see FIG. 139).

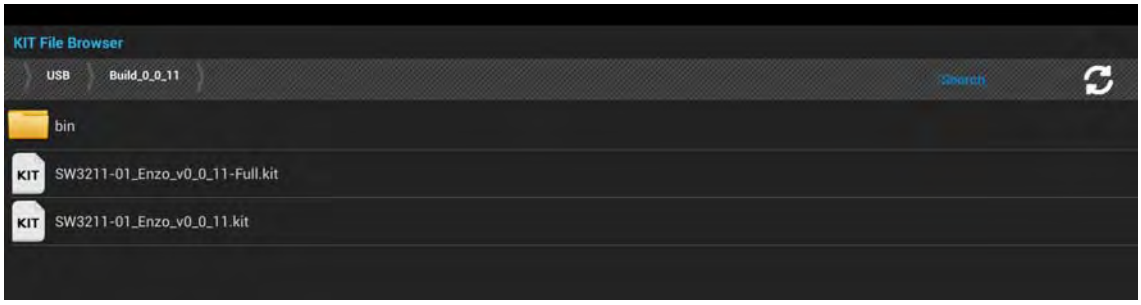


FIG. 139 KIT File Browser

7. Enter Yes for any confirmation screen and the system will load the firmware and reboot to complete the new install.

Updating the Firmware Through the Web

The firmware can easily be updated on the Enzo Meeting Presentation System by using the Web to obtain the latest firmware .kit file downloaded from *www.amx.com*. Perform these steps to update the firmware on the Enzo Meeting Presentation System using the Web:

1. On the Enzo main screen, press F12 to enter the settings screen and click on **Reset and Update** (see FIG. 140).

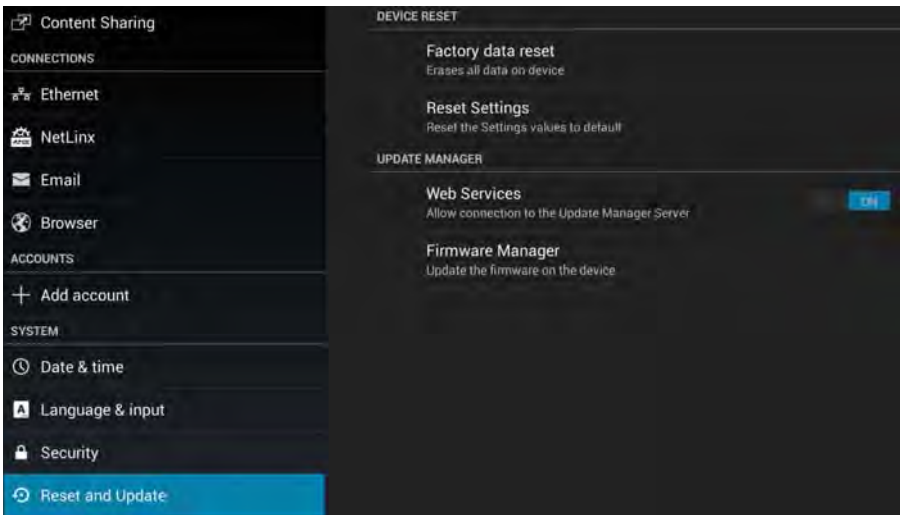


FIG. 140 Enzo Reset and Update Selection

2. From the available options, select **Firmware Manager**. The options shown in FIG. 141 appears.

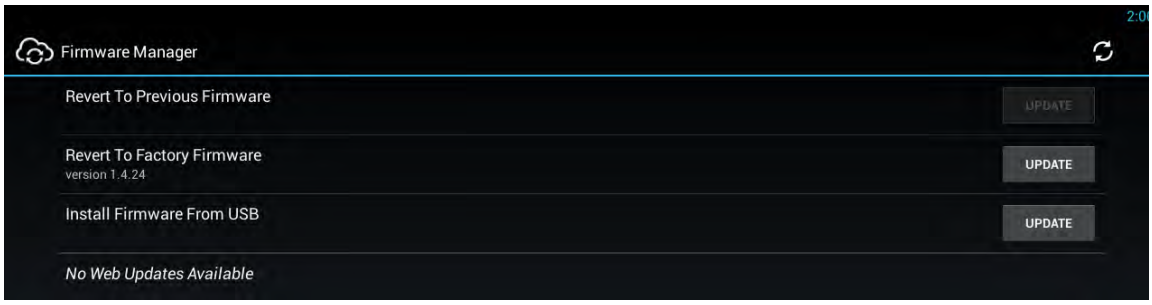


FIG. 141 Select Option Menu

3. Enzo will connect to the AMX web server and displays the latest firmware on the Web Update line. Select **Update** if newer versions are available on the web. A Read Me option will appear next to the Update button to view what changes are included in the firmware files. A download status screen appears.

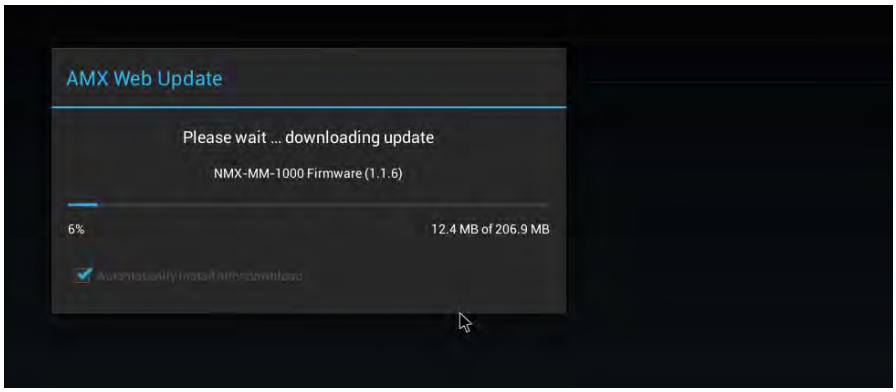


FIG. 142 Firmware Download Status

4. Once the firmware is downloaded the system copies it onto Enzo as shown in FIG. 143

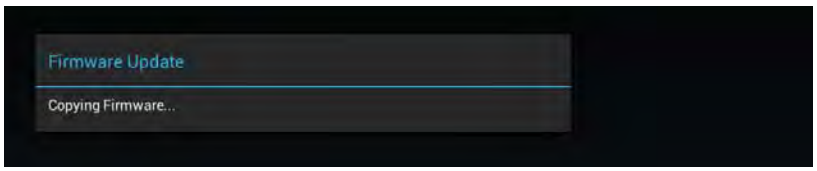


FIG. 143 Copying Firmware

5. Once the firmware is copied the system automatically reboots.

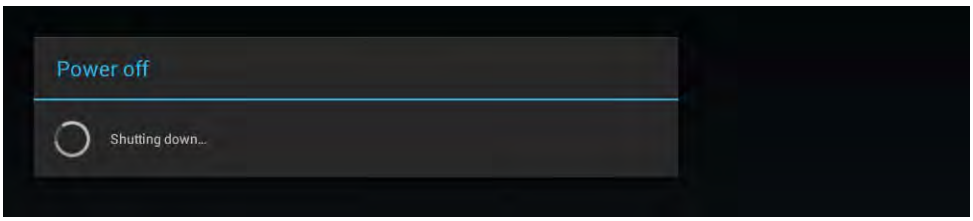


FIG. 144 System Reboot

6. When the system returns it installs the update, reboots, and initializes the new firmware. The whole process takes less than 5 minutes but may vary depending on connection speed.

Updating the Firmware Through NetLinx Studio

Use the Firmware Transfers options in the Tools menu to update the firmware on the Enzo. NetLinx Devices such as the Enzo use KIT files for firmware upgrades.

NOTE: *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. Firmware download links are provided in the relevant product page.*

- The Online Device Tree (Online Tree tab of the Workspace Window) displays information about each online device, including the current firmware version.
- Before attempting to upgrade the firmware, ensure the appropriate Kit file for Enzo is located.

Download the Latest Firmware Files from www.amx.com

Visit the appropriate product page on www.amx.com for the latest firmware (*.kit) files for Enzo. Firmware file links are available along the right-side of the catalog page. Firmware files are bundled in a ZIP file, along with a Readme.TXT file that provides details on this firmware release. Perform the following steps to download the latest firmware files:

1. Accept the AMX Licensing Agreement.
2. Download the ZIP file and unzip the contents to a known location.

Update NetLinx firmware:

3. Choose Tools > Firmware Transfers > Send to NetLinx Device to open the dialog box (FIG. 145).

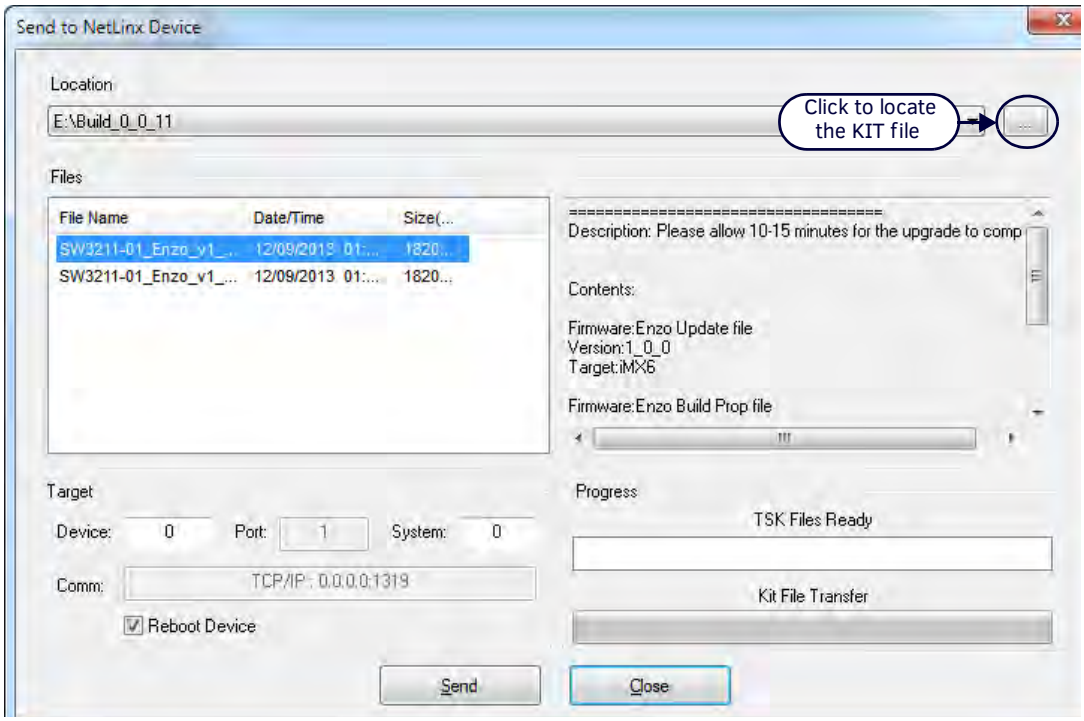


FIG. 145 Send to NetLinx Device Dialog Box (NetLinx Studio)

4. Click the Browse (...) button to navigate to the target directory in the Browse For Folder dialog box (FIG. 146).

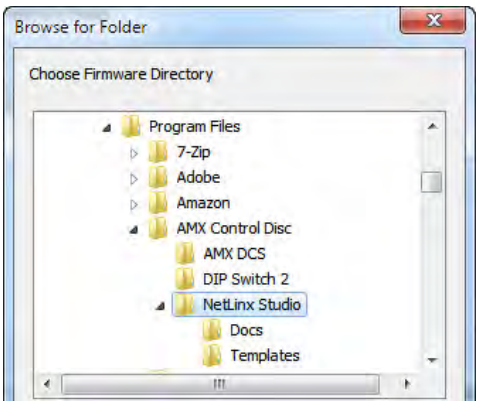


FIG. 146 Browse for Folder Dialog Box (NetLinx Studio)

- The selected directory path is displayed in the Send To NetLinx Device dialog (Location text box).

- Assuming that the specified target directory contains one or more KIT files, the KIT files in the selected directory are displayed in the Files list box, with the file's last modified date and time (FIG. 147).

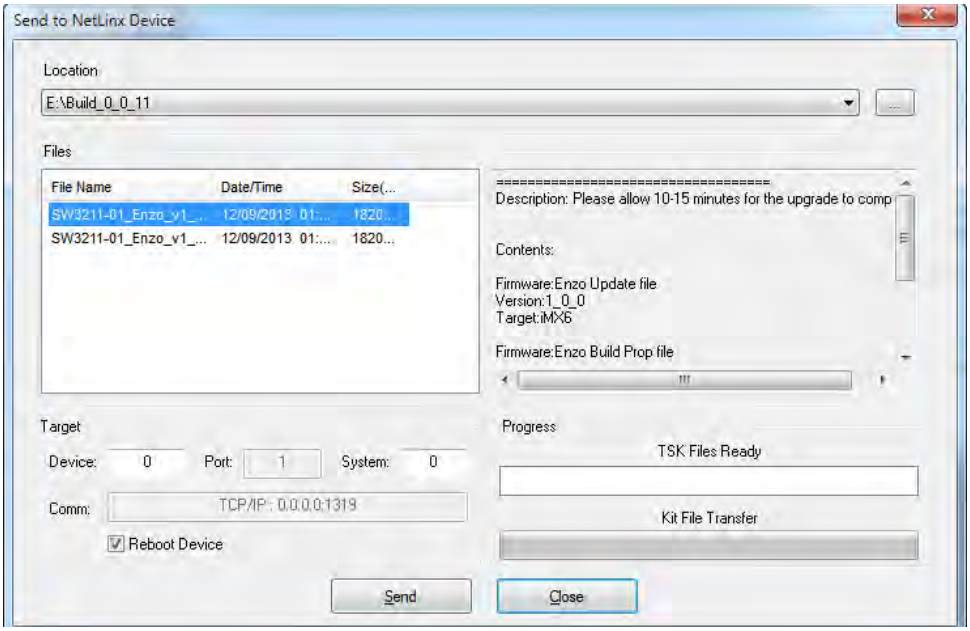


FIG. 147 Send to NetLinx Device Dialog Box (NetLinx Studio)

5. Select the appropriate *.KIT file from the Files list.
6. Enter the Device ID number of the Enzo in the Device text box and the System ID numbers for the Enzo in the System text box. This information can be located in the NetLinx settings in the System Settings. Refer to the Enzo Programming Guide available at http://www.amx.com for more information.
   - The device number of the NetLinx Master is 0.
   - Use the Online Device Tree to determine the device's assigned IDs, if it has been changed.
7. Review the File, Connection, Address, and Target Device information before sending.
8. Click the Send button. The progress of the transfer can be viewed in the Send to NetLinx Device dialog box.

NetLinx Studio transfers the files to the Enzo and then tells it to reboot. After it reboots, the Enzo actually goes through the upgrade process.

NOTE: *Upgrading the device firmware can take several minutes.*

WARNING: If for any reason the Kit file transfer should fail, continue to retry the transfer until it is successful. DO NOT reboot the Enzo, or change connections until the transfer is complete. Failure to complete this operation successfully may require a factory repair of the Enzo.

Additional Documentation

For additional information on using NetLinx Studio, refer to the NetLinx Studio online help and the Enzo Programmers Guide (available at www.amx.com).

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