Instruction Manual

NMX-MM-1000

Enzo™ Meeting Presentation System

Enzo

Latest Release: 9/18/2014

AMX DOMESTIC CHANNEL PARTNER and END CUSTOMER LIMITED WARRANTY, DISCLAIMER AND LICENSE

(Excerpt from CHANNEL PARTNER TERMS AND CONDITIONS Versions 11.17.2011 with updates for previous version 8.25.2010 [sections 6.1 (a), (b) and (f)])

Definitions

"End Customer" means an authorized end customer with direct in warranty privileges from AMX. Within this limited warranty, disclaimer and license document, "End Customer" shall have the same meaning as "Channel Partner" with the noted exceptions of Sections 6.5 through 6.9 which are not applicable or available to End Customer's directly from AMX. Offerings described in Sections 6.5 through 6.9 are available to End Customer only through their selected authorized AMX Channel Partner.

6. LIMITED WARRANTY; RETURN, REPAIR AND REPLACEMENT

6.1 AMX warrants the Products to be free of material defects in materials and workmanship under normal use for three (3) years from the Shipping Date (or such other period as may be specified below), subject to the following limitations and exceptions ("Limited Warranty"). For any Product, "Warranty Period" means the period during which the Limited Warranty is in effect, as set forth herein.

(a) LCD and LED panels are warranted for three (3) years from the Shipping Date, except for the display and touch overlay components, which are warranted for a period of one (1) year from the Shipping Date.

(b) Disk drive mechanisms, pan/tilt heads and external power supplies are warranted for a period of one (1) year from the Shipping Date.

(c) AMX lighting Products are warranted to switch on and off any load that is properly connected to our lighting Products, as long as the AMX lighting Products are under warranty. AMX also warrants the control of dimmable loads that are properly connected to our lighting Products. The dimming performance or quality thereof is not warranted, due to the random combinations of dimmers, lamps and ballasts or transformers.

(d) AMX software and firmware included in the Products is warranted for a period of ninety (90) days from the Shipping Date.

(e) Batteries and incandescent lamps are not covered under the Limited Warranty.

(f) The Warranty Period for AMX AutoPatch EPICA, Enova DGX, Modula, Modula Series 4, Modula Cat Pro Series and 8Y-3000 Product models will continue for the original installation until five (5) years after the issuance of a PDN with respect to termination of the applicable Product model. However, if the Product is moved from its original installation to a different installation, the Warranty Period will automatically become three (3) years from the Shipping Date and, if more than three (3) years have elapsed since the Shipping Date, the Warranty Period will automatically expire.

DLI-6293353v1

Note: *Refer to www.amx.com to view/download the latest complete AMX Warranty and Return Policies.*

Notices

Copyright Notice

Liability Notice

Lithium Batteries Notice

Switzerland requires the following notice for products equipped with lithium batteries. This notice is not applicable for all AMX equipment.

Upon shipment of the products to Switzerland, the requirements of the most up-to-date Swiss Ordinance Annex 2.15 of SR 814.81 will be met including provision of the necessary markings, documents, and annual reports relative to the disposal of the batteries to the Swiss Authorities.

Trademark Notices

Warnings and Cautions

This manual uses the following conventions and icons to draw attention to actions or conditions that could potentially cause problems with equipment or lead to personal risk:

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: *The icon to the left indicates text that warns readers against actions or conditions that could cause potential injury to themselves.*

Caution: *The icon to the left indicates text that cautions readers against actions that could cause potential injury to the product or the possibility of serious inconvenience.*

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 DXLink 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. These items should not be manufactured locally, since they are generally composed of highly resistive conductive materials to safely drain static charges, without increasing an electrocution risk in the event of an accident. ESD protective equipment can be obtained from 3M™, Desco®, Richmond Technology®, Plastic Systems®, and other such vendors.

US FCC Notice (Class A)

The United States Federal Communications Commission has specified that the following notice be brought to the attention of the users of this product.

Federal Communication Commission Radio Frequency Interference Statement:

> *"This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.*
>
> *If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the booklet, How to Identify and Resolve Radio-TV Interference Problems, prepared by the Federal Communications Commission to be helpful."*

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock N. 004-000-00345-4.

Use shielded cables. To comply with FCC Class A requirement, all external data interface cables and adapters must be shielded.

US FCC Notice (Class B)

Federal Communication Commission Radio Frequency Interference Statement:

This equipment complies 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Shielded cables must be used with this equipment to maintain compliance with FCC regulations.

Any changes or modifications to this product not explicitly approved by the manufacturer could void the user's authority to operate the equipment and any assurances of Safety or Performance, and could result in violation of Part 15 of the FCC Rules.

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.

This Class B digital apparatus complies with Canadian ICES-003.

FCC Radiation Exposure Statement for Wireless Models

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this equipment must be installed to provide a separation distance of at least eight inches (20 cm) from all persons. This equipment must not be operated in conjunction with any other antenna.

Table of Contents

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, USB drives, or Dropbox®. 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 functional capabilities.

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) • Dropbox (Dropbox documents only) • Screen sharing **Note:** *Email document sharing can be disabled.*
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
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, Acrobat Reader • Up to 4 Application Favorites on Home Screen
Screen Mirroring	• Technology: MirrorOp • Number of senders on screen simultaneously: 1 • 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 and 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.

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.

Rear Panel Components

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

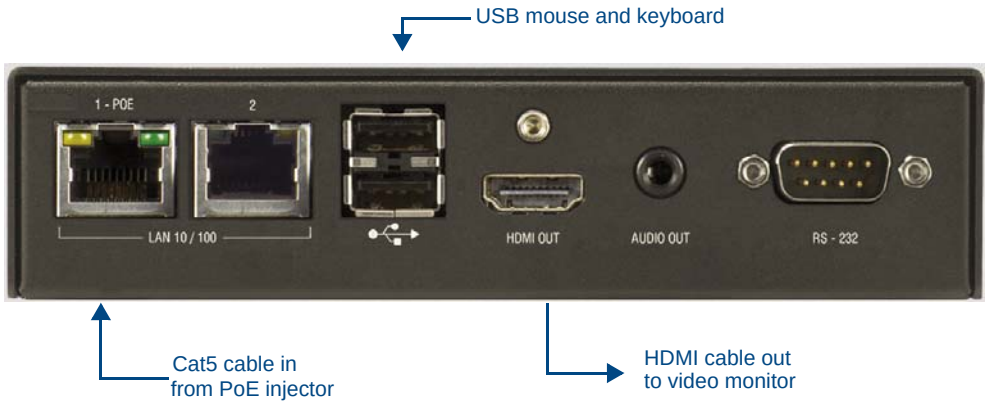


FIG. 2 NMX-MM-1000 (Rear Panel)

USB

The rear panel features two Type-A USB connectors for mouse and keyboard functionality and 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.

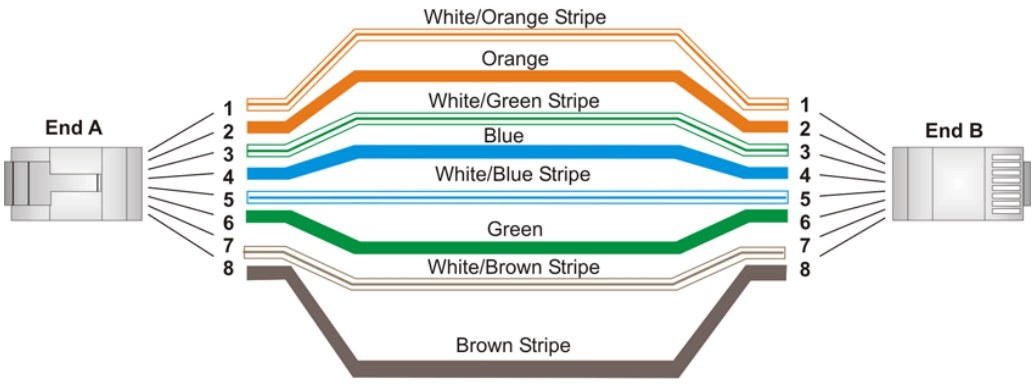


FIG. 3 RJ-45 Wiring Diagram

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

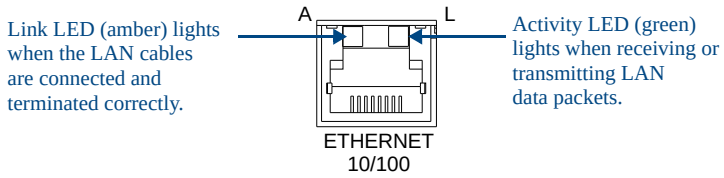


FIG. 4 LAN Connector / LEDs

HDMI OUT

The rear panel features one HDMI connector for video output.

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:

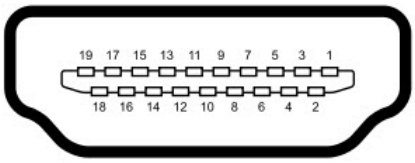


FIG. 5 HDMI Pin-outs

AUDIO OUT

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

RS-232

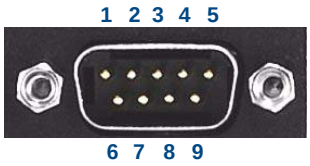
The rear panel features one 9-pin DB9 connector for RS-232 ports (FIG. 6). This port is not configured the same as AMX' Master Controllers and dopes not support 5,6 or 9 bit.

NOTE

Use of the RS-232 port is NOT supported in the current Enzo firmware release. A future release will enable use of this port to control displays.

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

- Baud rate: 150-115200
- Parity: None, Odd, Even, Mark, Space
- Data Bits: 7 or 8
- Stop Bits: 1 or 2
- Software handshaking with XON & XOFF: On or Off



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

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: –4º to 158º F (–20º to 70º 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

NMX-MM-1000 Specifications (Cont.)	
Memory:	• 2 GB RAM • 16 GB Flash memory (12 GB usable)
HDMI Out:	One HDMI connector for video output: • Output Connection: HDMI Type A Female • Output Signal Type Support: HDMI • Output Resolution: 720p, 1080p
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
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 XX W. Any USB peripheral that causes the total USB power consumption to exceed this amount will need to be powered with its own supply.*
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**)

Installation and Turn-up

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.

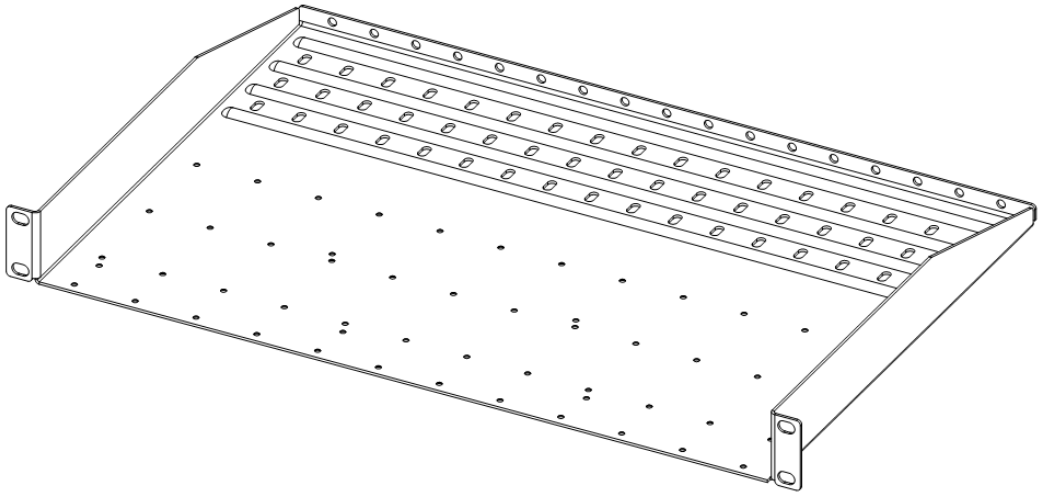


FIG. 7 NMX-VRK V-Style Rack Shelf

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. 8).

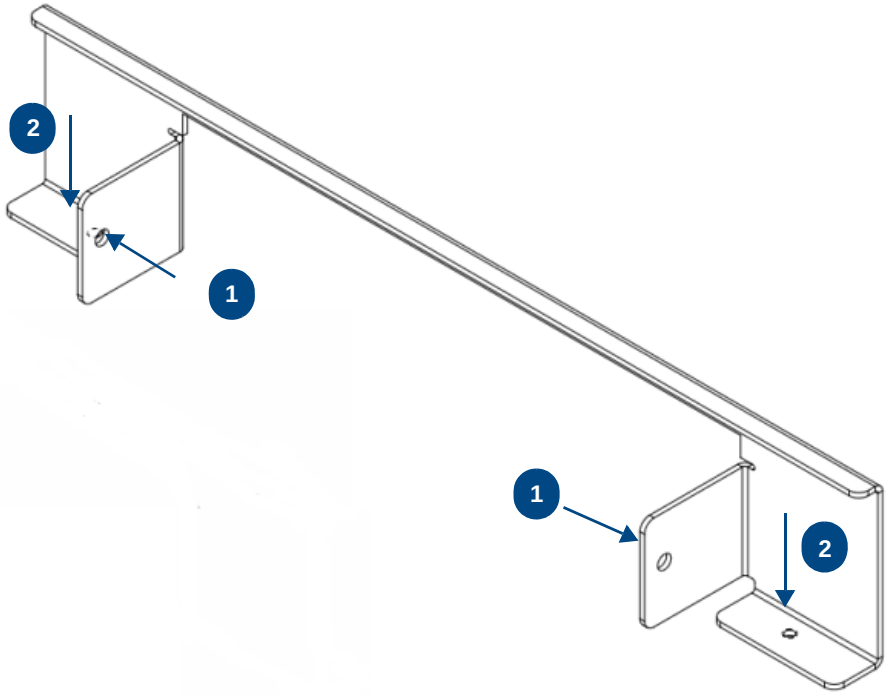


FIG. 8 NMX-MM-RKA Enzo Rack Mount Adapter

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. 9 and tighten. Brackets can either align flush with the top or with the bottom.

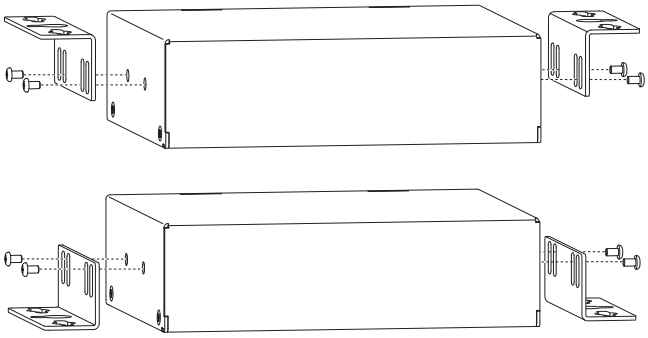


FIG. 9 Installing Surface Mount Brackets

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. 10.

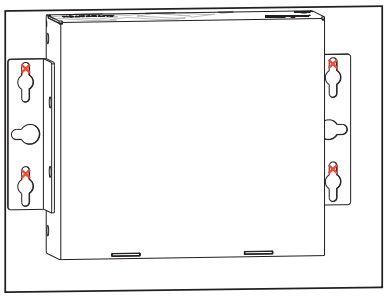


FIG. 10 Mark Screw Positions

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).*

2. 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.

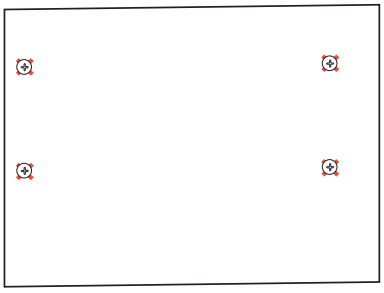


FIG. 11 Pilot Holes with Screws

3. Align the module with the center of the double key-hole slots over the screws and slide into place as indicated in FIG. 12.

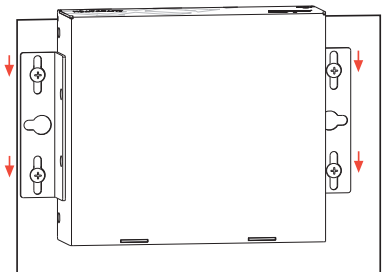


FIG. 12 Sliding Enzo onto Wall Mount Screws

4. Tighten the screws.

System Turn Up

This section describes the required steps to successfully power up the Enzo NMX-MM-1000. FIG. 13 provides references to the Enzo rear access ports that will have connections made to peripheral devices, monitors, and power.

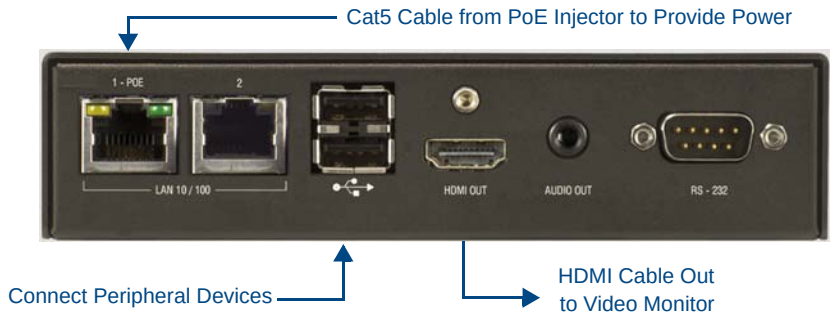


FIG. 13 NMX-MM-1000 (Rear Panel)

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

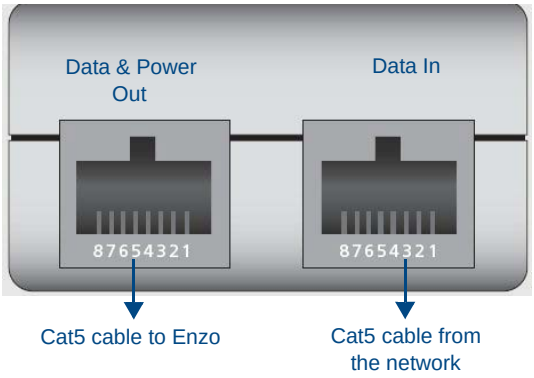


FIG. 14 PoE Injector Connection

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. 15).

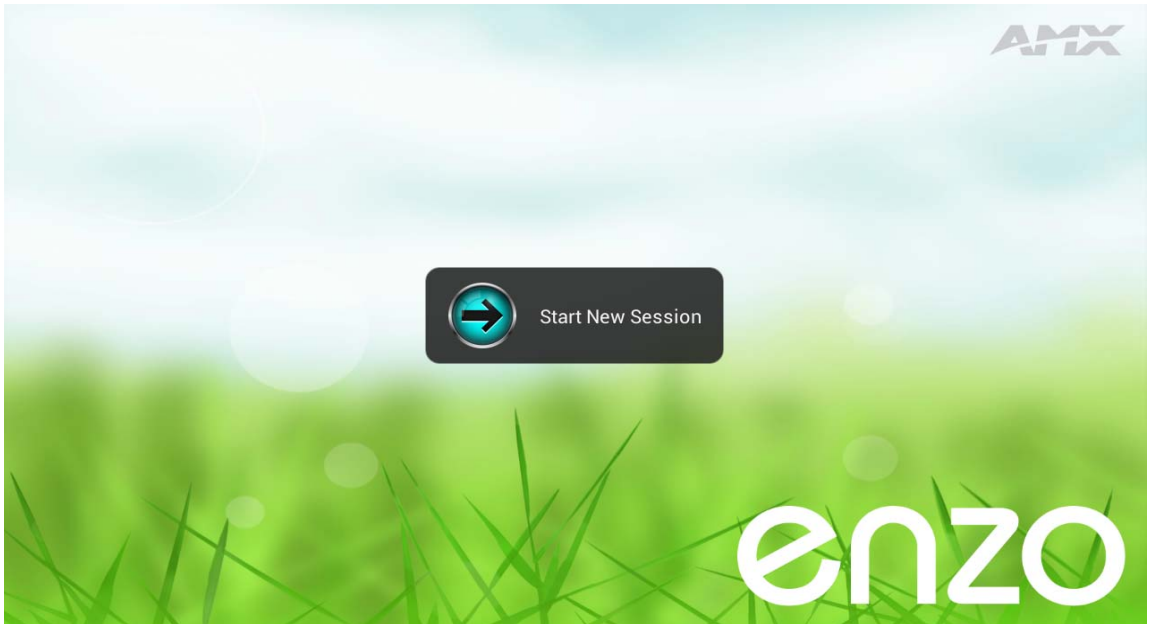


FIG. 15 Enzo Desktop

Locating the IP Address of the Device

On connection, a diagnostics screen can be accessed on which the IP address can be viewed, Ethernet switch status, etc. 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 *Enzo Interface* section on page 13:

1. On the Enzo opening screen, select **Start New Session**.
2. Press F12.
3. Select **System Settings**.
4. Select **Device Info**. The IP address of the Enzo unit appears in the Device area (see FIG. 16).

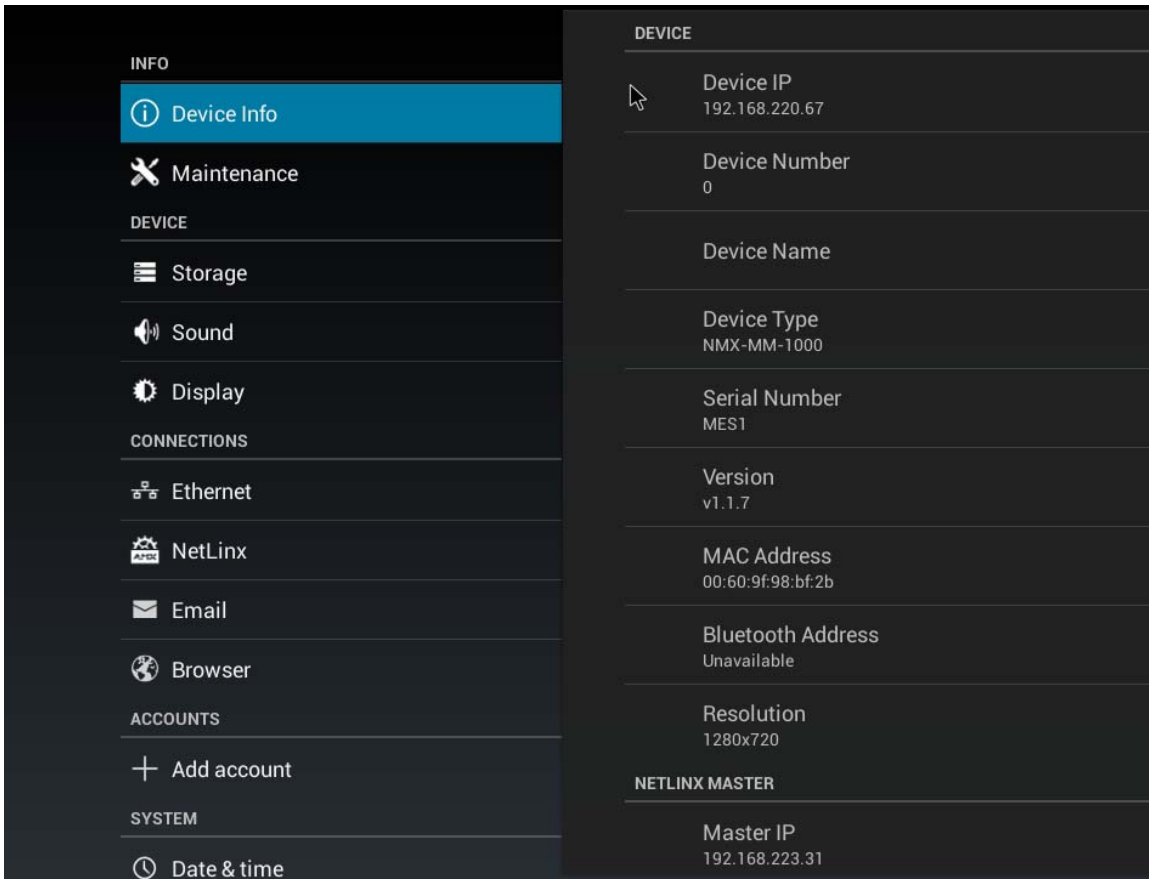


FIG. 16 System Settings - Device Info Screen

Enzo Interface

Overview

This chapter provides details on how to navigate and use the Enzo interface to access the documents and web pages.

FIG. 17 displays the Enzo Start New Session screen. This is the screen that appears when the Enzo is booted up for the first time or after exiting a previous session. Simply select **Start New Session** to begin using Enzo.

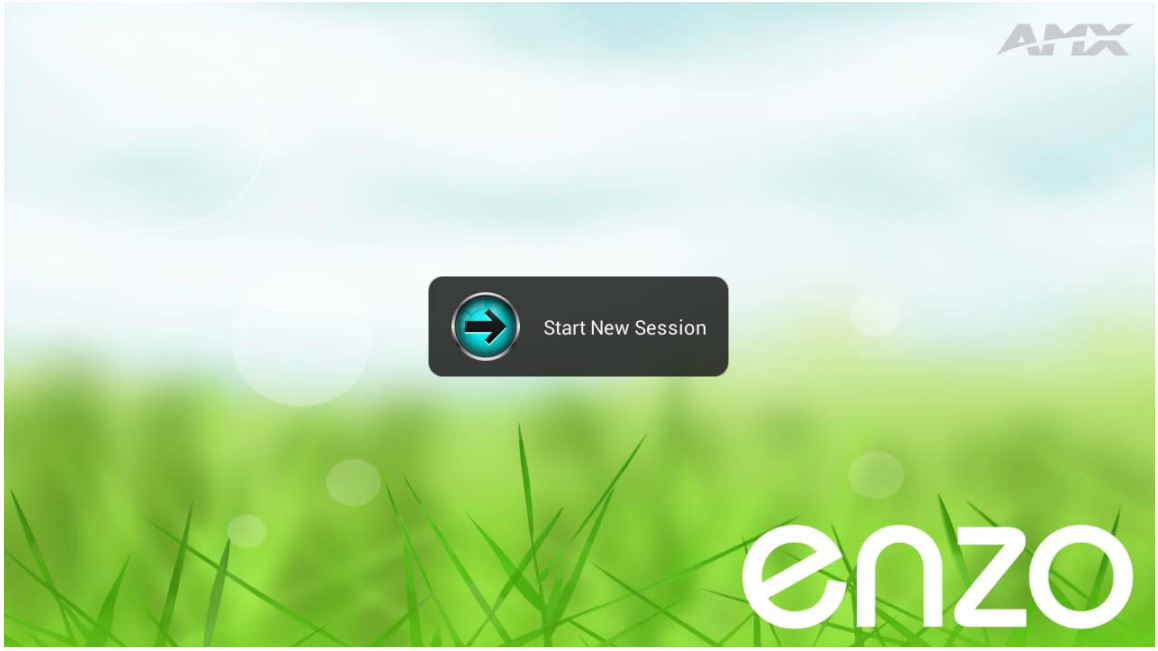


FIG. 17 Enzo Start New Session Screen

FIG. 18 displays the Enzo main screen with the left hand navigation bar.

FIG. 18 Enzo Main Screen

Navigating the Enzo Interface

On the left-side of the main screen are the Icons that can be selected to access documents or the Enzo web browser. The larger desktop area of the screen displays any recently-used applications or documents that have been opened in this session. (These documents are purged from memory when the session is closed.) The desktop area is blank when starting a new session. FIG. 19 displays the Enzo main screen with documents on the desktop.

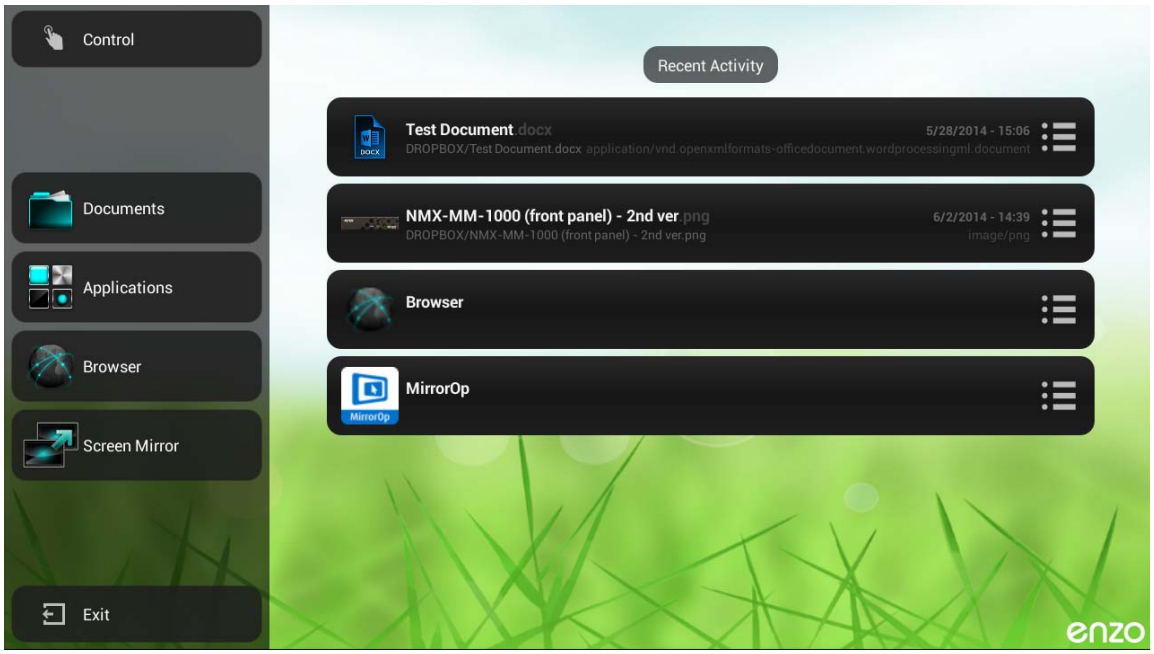


FIG. 19 Enzo Main Screen with Recent Documents

The Enzo interface can be navigated by using a USB keyboard and mouse. If no mouse is available, the arrow keys on the keyboard may be used to navigate through the options on each page.

Keyboard Hotkeys

The following table defines the hotkeys on a keyboard while navigating the Enzo application.

Keyboard Hotkeys		
Hotkey	**Description**	**System-Wide**
HOME	This key will return session to the Enzo main home activity.	✓
ESCAPE	This key invoke the BACK operation.	✓
ARROW UP	Navigate focus up through the menu selections.	✓
ARROW DOWN	Navigate focus down through the menu selections.	✓
ARROW LEFT	Navigate focus to the left.	✓
ARROW RIGHT	Navigate focus to the right.	✓
ENTER	Select the current UI element in focus.	✓
F1	Same as "MENU"	
F2	Display control activity. This will display the AMX Virtual Keypad (if enabled).	
F12	Display Enzo application settings.	

On-Screen Keyboard

Enzo features an on-screen keyboard for use with the web browser, e-mail program, or any other applications which may require alphanumeric input. A mouse or other pointer device may be used to navigate the on-screen keyboard. Although the on-screen keyboard appears often on the interface, a peripheral keyboard connected to one of Enzo's USB ports may be used.

NOTE

The on-screen keyboard will not appear if a physical keyboard is set as the default keyboard input. See the Keyboard & Input Methods options in the Language & Input section on page 54 *for more information about setting up a keyboard.*

FIG. 20 displays the on-screen keyboard.

FIG. 20 On-screen Keyboard

The on-screen keyboard features the following special functions:

- The Go key serves the same function as the Enter key on a standard keyboard.
- The up arrows on either side of the third row of keys serve as Shift keys. Click the Shift key once to switch the keyboard to CAPS; double-click to switch to ALL CAPS.
- Change the configuration settings for the keyboard by clicking the Input Options button (see FIG.). See the *Language & Input* section on page 54 for information about the available settings.
- Switch to the numeric keyboard (see FIG. 21) by clicking the numeric button (?123) on the on-screen keyboard.

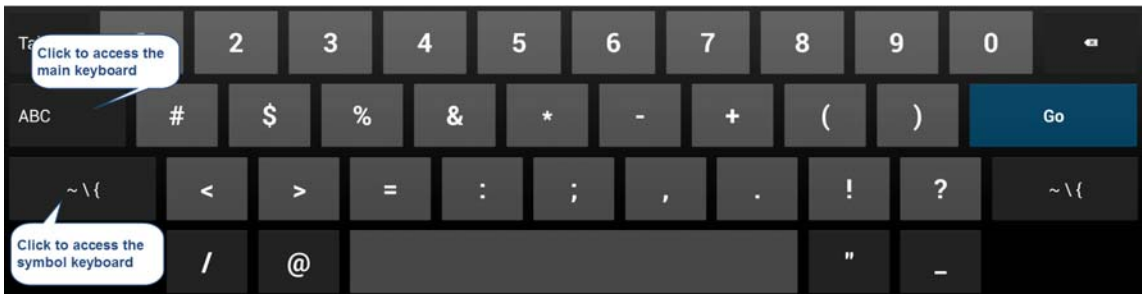


FIG. 21 Numeric Keyboard

The numeric keyboard features the following special functions:

- Switch to the main on-screen keyboard by clicking the ABC button.
- Switch to the symbol keyboard (FIG. 22) by clicking the symbol button (see FIG. l).

FIG. 22 Symbol Keyboard

10-Key Pad

Also available for on-screen input is a standard 10-key pad for numeric input (see FIG. 23). The 10-key pad is only accessible with certain input settings.

FIG. 23 10-key pad

Documents

Enzo supports the following types of files:

- Office Documents (.doc, .docx, .xls, .xlsx, .ppt, .pptx, .pdf, .rtf, .txt, .pps, .ppsx)
- Images (.png, .jpg, .bmp, .gif)
- Video (.mp4 with H.264 video and AAC audio)

One of the following methods may be used when accessing documents:

- Dropbox®
- Local Downloads
- USB (Mass Storage Device)

NOTE

If any of these options are not displayed, they may not be enabled in the device settings. See the Apps section on page 44 *for more information. When clicking the Documents Icon, a fast click will open the first option (Dropbox). Clicking for a full second will open the Options menu showing Dropbox, Local Downloads, and USB Mass Storage selections.*

Dropbox

Dropbox is the easiest option for accessing documents as it does not require bringing a storage device to the meeting space. It provides easy access to the documents by synchronizing folders across devices and allowing access to all files within the Enzo folder from any device being used. Using Dropbox requires an account with Dropbox. Sign up for a Dropbox account at *www.amx.com/enzo*. (Click **Resources** to access the account setup options.) As an option, an account may also be created when accessing Dropbox through Enzo.

Logging on to Dropbox through Enzo

On the Dropbox screen, log on using a valid email address and password for a Dropbox account, or sign in by scanning a QR code with a mobile device. The QR code is available for ten minutes once the Dropbox screen is accessed. If the QR code expires, the page must be reloaded to receive a new code.

Perform these steps to login and access Dropbox:

1. On the main screen, select **Documents**. If Dropbox is not selected by default, select **Change Source**, then select **Dropbox**.

2. Dropbox may be accessed using either of the following methods (see FIG. 24):
   - Select **Sign In** and enter a valid Dropbox user name and password to log on.
   - Use a mobile device to scan the QR code provided on the monitor. Once the QR code appears on the Sign In screen, Enzo provides ten minutes to scan the code with a mobile device before the code expires. If the QR code expires, reload the Enzo page for a new code.

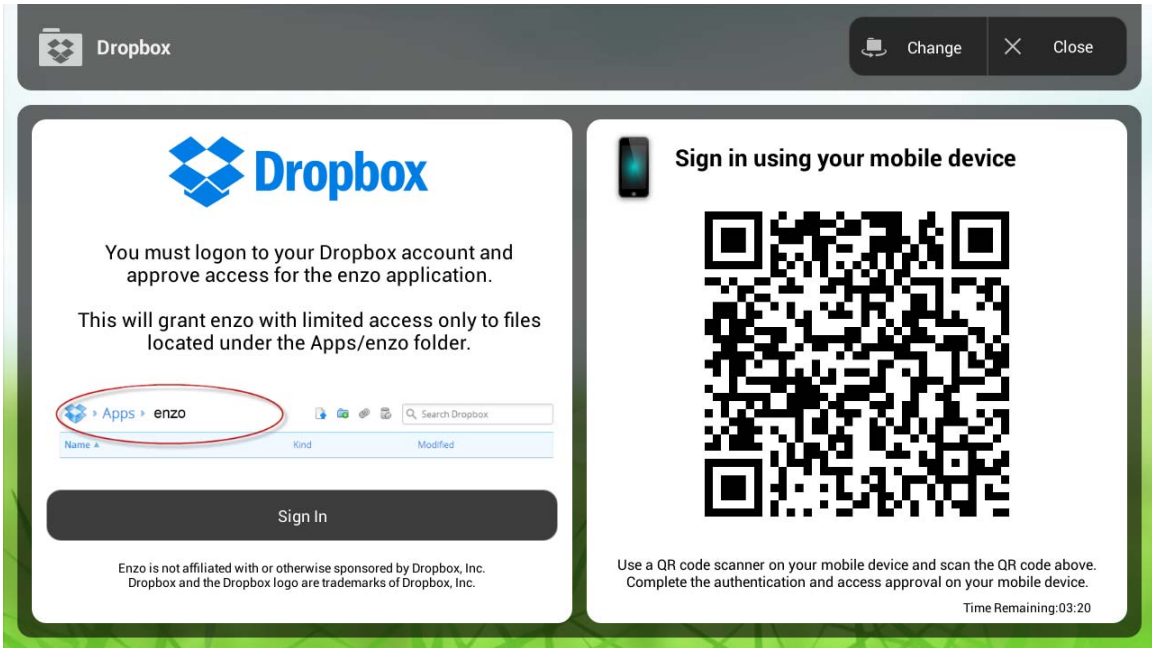


FIG. 24 Dropbox Sign In Screen

FIG. 25 Expired QR Code

3. Enter a Dropbox email address and password that was used when the Dropbox account was created. (As an option, Enzo may be used to create an account.)
4. If Enzo wants to create a folder in Dropbox, select **Allow**. When Allow is selected, a new folder named Enzo is created in the Dropbox folder. This folder is accessible from any device used to access Dropbox. When a file is placed in the Enzo folder in Dropbox, it is immediately accessible from the Enzo Meeting Presentation System.

Using Dropbox

Once signed in to Dropbox, the list of files previously loaded into the Dropbox account appear (FIG. 26). Any file in the list may be opened by simply clicking on it. For instructions on using PDF viewers installed on Enzo, go to

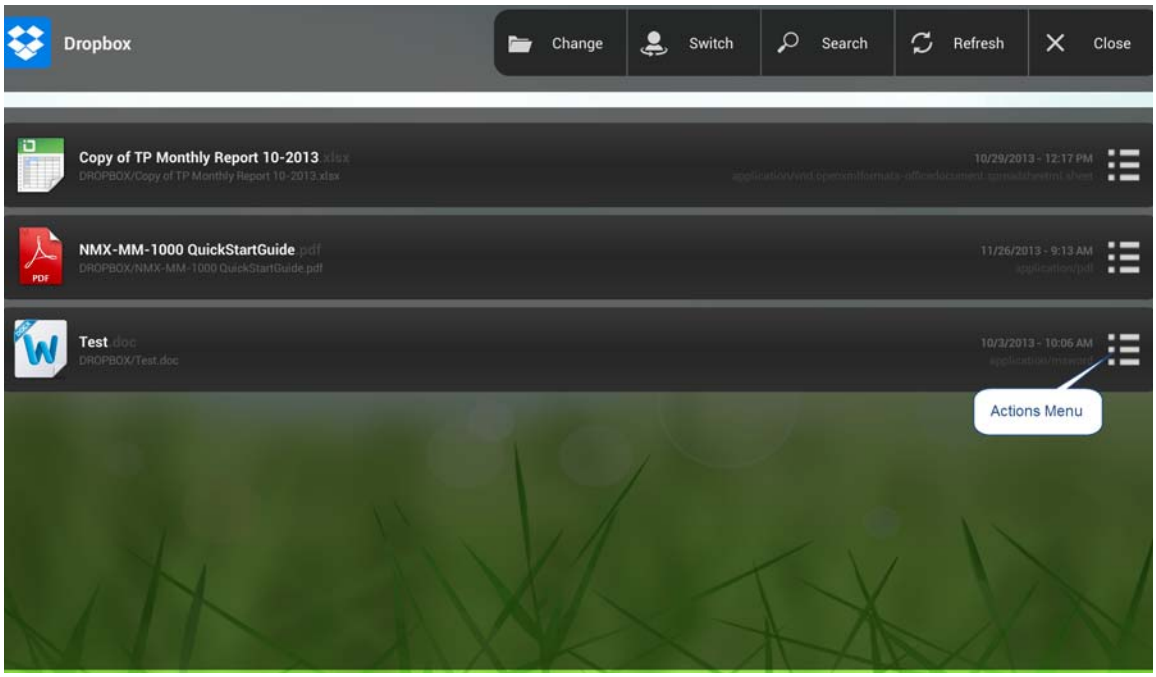


FIG. 26 Dropbox - List of Files

The following options are available on the Dropbox screen:

Dropbox Options	
Change	Use this option to change to a different content source.
Switch	Use this option to switch to a different user. ***Note:*** *Clicking the Switch button logs off the current user and returns to the Dropbox Sign In screen (*FIG. I*).*
Search	Use this option to search through the file list for a specific word or phrase. Any matches appear in the list of files. Click Clear Search Results to return to the full list of files. The search is not case-sensitive. Wild card characters such as '*' and '?' are not supported.
Refresh	Use this option to refresh the list of files and view any files that may have been added to the list or updated from another location since it was first accessed on this screen.
Close	Click to close Dropbox and return to the main screen.

Additional actions may be accessed by clicking the Actions menu for a file (see FIG. 26). The following table lists the options in the Select Action menu:

Select Action Options	
Open	Opens the selected file.
Share	Makes the document accessible via the Internet to anyone with access to a unique URL created by Enzo. Along with the URL, Enzo creates a QR code for immediate access through a mobile device. ***Note:*** *This option creates a public URL that links directly to a document in Dropbox. Anyone who accesses this URL can access the file until the public link to the file is removed. The public link may be removed by logging into the account at www.dropbox.com.*
Email	Enables sending an email to select recipients with the file attached to the message.
File Information	Provides information about the file such as size and type. This information is view-only.

Sharing Dropbox Files

Any files loaded into Dropbox can be made accessible on the Internet to anyone with access to a unique URL created by Enzo. Along with the URL, Enzo creates a QR code for immediate access through a mobile device. Perform these steps to share a Dropbox file:

1. Using Enzo, sign in to Dropbox and access the file list. See the *Logging on to Dropbox through Enzo* section on page 16 for more information.
2. Click the Actions menu for the file to share (see FIG. 26). The Select Action menu opens (FIG. 27).

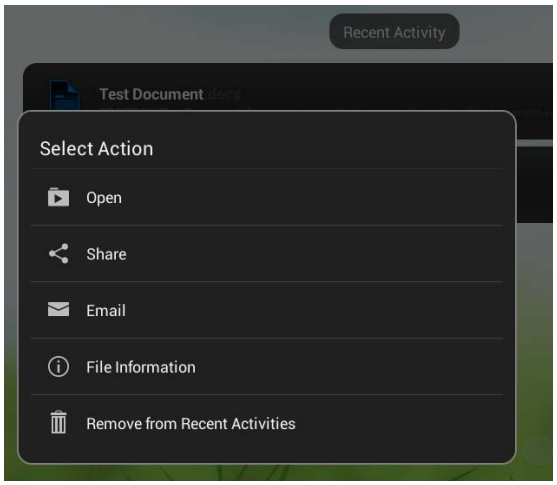


FIG. 27 Select Action Menu

3. Select **Share**.
4. A warning about sharing the selected content will be generated. Click **Yes** to proceed. The URL and QR code appears (FIG. 28).

FIG. 28 URL and QR Code

Accessing the URL or QR code opens the link in a Web browser, providing options to download the file, adding it to Dropbox, or e-mailing the link to a list of recipients. If accessing the link through Enzo and opting to download the file, the file will be available in the Local Downloads option under Documents on the Enzo main screen.

Emailing Dropbox Files

Any files loaded into Dropbox can be emailed to recipients on the Internet. Perform these steps to email a Dropbox file:

1. Using Enzo, click on Document and sign in to Dropbox to access the file list. See the *Logging on to Dropbox through Enzo* section on page 16 for more information.
2. Click the right side Actions menu for the file to email (see FIG. 29). The Select Action menu opens (FIG. 30).

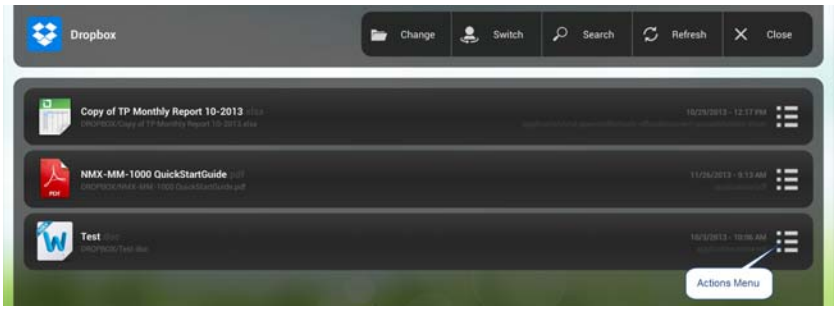


FIG. 29 File Actions Menu

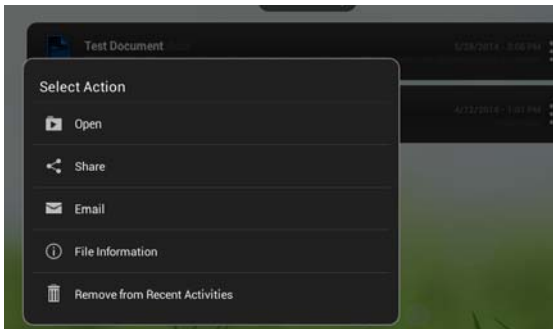


FIG. 30 Select Action Menu

3. Select **Email**. The following screen opens up:

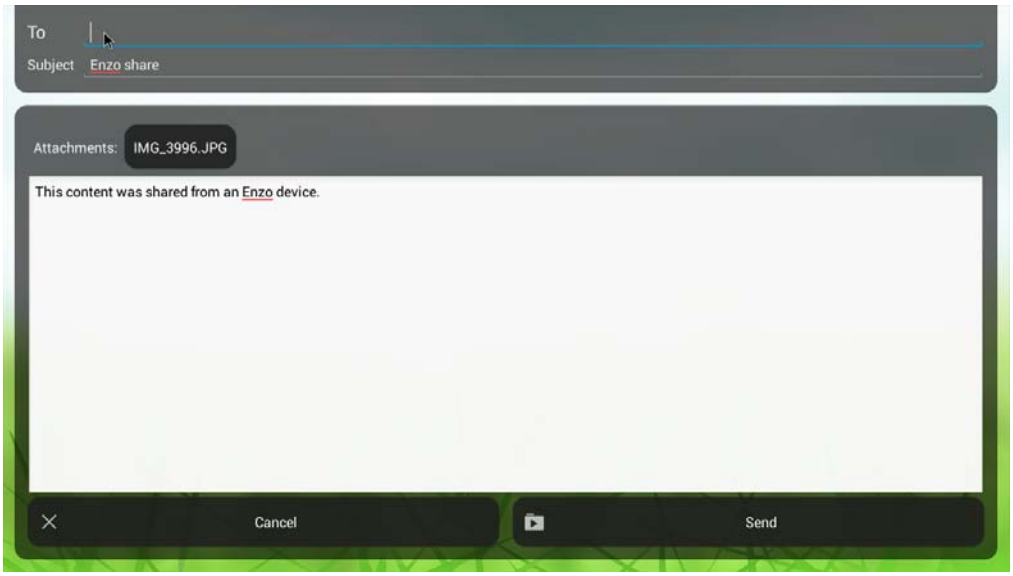


FIG. 31 Emailing a Document From Enzo

4. Enter email address(es) as needed at the top of the window.
5. Default text appears in the body of the message but users may add or take away as needed. To change default message text, refer to the *Email* section on page 46.
6. Click on the send button on the bottom right to send the file.

Local Downloads

The Local Downloads option stores all files downloaded from the Web during the session for quick access. Users can right click on a file located on the Web and save right to Local Downloads on Enzo. All files downloaded during the session are purged when the session is exited. FIG. 32 displays the Local Downloads screen.

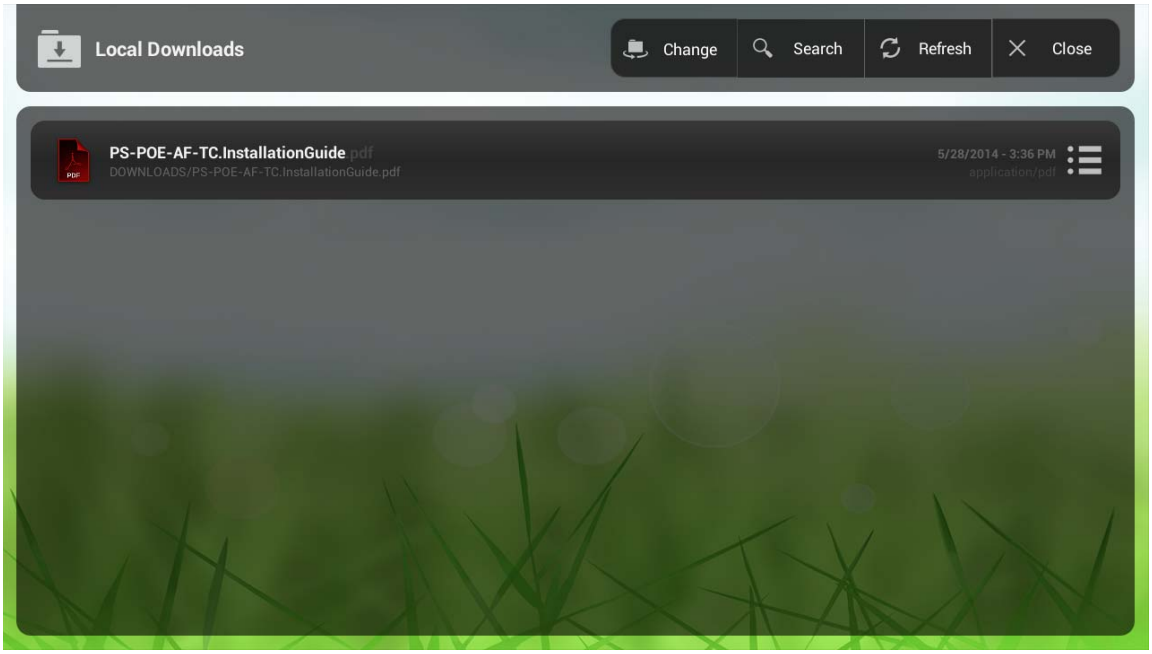


FIG. 32 Local Downloads - List of Files

PDF Viewer

Once PDF documents are available in the Local Downloads folder, they can be viewed by clicking on them. A Complete Action window appears with two Adobe viewer apps to choose from:

- **Adobe Reader** - This Adobe Reader app is designed for tablets that use finger swiping techniques to scroll through pages. This requires using the slider bar at the bottom of the window or using a mouse to grab the pages and pull or push them off the page to get to the next page view. Another option is using the keyboard arrows to scroll line by line though the document. Neither the scroll wheel nor keyboard Page Up/Page Down will cycle through pages.
- **APV RDF Viewer Pro** - This viewer enables users to scroll though the PDF document using mouse scroll wheels when equipped, Up/Down arrows, Page Up/Page Down, and screen grab technique using the mouse to click and hold to push/pull the pages off the screen.

Select a viewer and click on Just once to try it, and try the other viewer to make a decision on which viewer is preferred. Next time a PDF document is selected for viewing, select Always to always open the document using that viewer for the live session.

USB (Mass Storage Device)

Files may be loaded into Enzo from a USB drive by connecting the USB drive to one of the USB ports on the Enzo Meeting Presentation System. Access the USB through the Documents Icon on the left panel of the main screen. Before removing the USB storage device, use the Eject option shown in the top panel of FIG. 33.

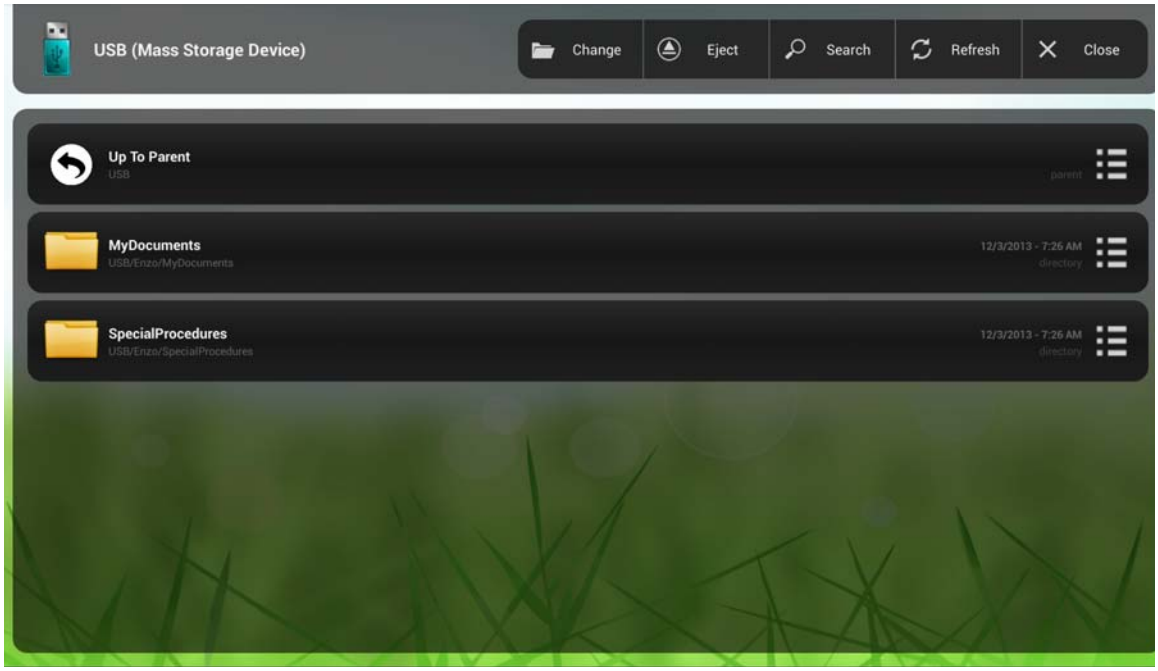


FIG. 33 USB device - List of Files

The following options are available on the USB screen:

USB Options	
Change	Use this option to change to a different content source.
Eject	Use this option to unmount the USB device.
Search	Use this option to search through the file list for a specific word or phrase. Any matches appear in the list of files. Click Clear Search Results to return to the full list of files. The search is not case-sensitive. Wild card characters such as '*' and '?' are not supported.
Refresh	Use this option to refresh the list of files and view any files that may have been added to the list since it was first accessed on this screen.
Close	Click to exit the USB screen and return to the main screen.

Enzo Applications

Overview

Enzo allows adding third-party web browser-based applications for use through the Enzo interface. Applications may be added by using the Add an App tool in the Enzo settings menu. To add an application, the URL of the application must be known when adding it to the available list of apps. Selecting the application from the list opens the URL in the Enzo interface (not the Web browser.) Navigation through the page is similar to accessing the same page through the Web browser.

NOTE

If disabling the Applications option or if no apps are added to the Applications list, the Applications button does not appear on the Enzo main screen.

Adding an Application to the Enzo Interface

Adding an application to the Enzo interface requires knowing the URL of the application. Perform the following steps to add an application to the Enzo Meeting Presentation System:

1. Press F12.
2. Select **Applications**. The Password window appears.
3. Type the password (**1988**). The Applications options appear on the screen.
4. Select **Add an App**. The Application dialog box opens (FIG. 34).

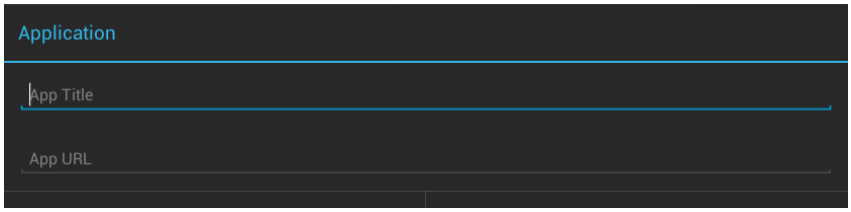


FIG. 34 Application Dialog Box

5. Enter the name of the application in the **App Title** text field.
6. Enter the web address of the application in the **App URL** text field.
7. 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.

Browser

Enzo features a web browser (FIG. 35) used to view standard web content. The web browser works with the same functionality as a standard web browser. It has typical features like tabbed browsing, bookmarks, and search functions. See the *Web Browser Settings* section on page 24 for information about changing browser settings.

NOTE

The web browser provided with Enzo cannot be configured for Internet access via a proxy server.

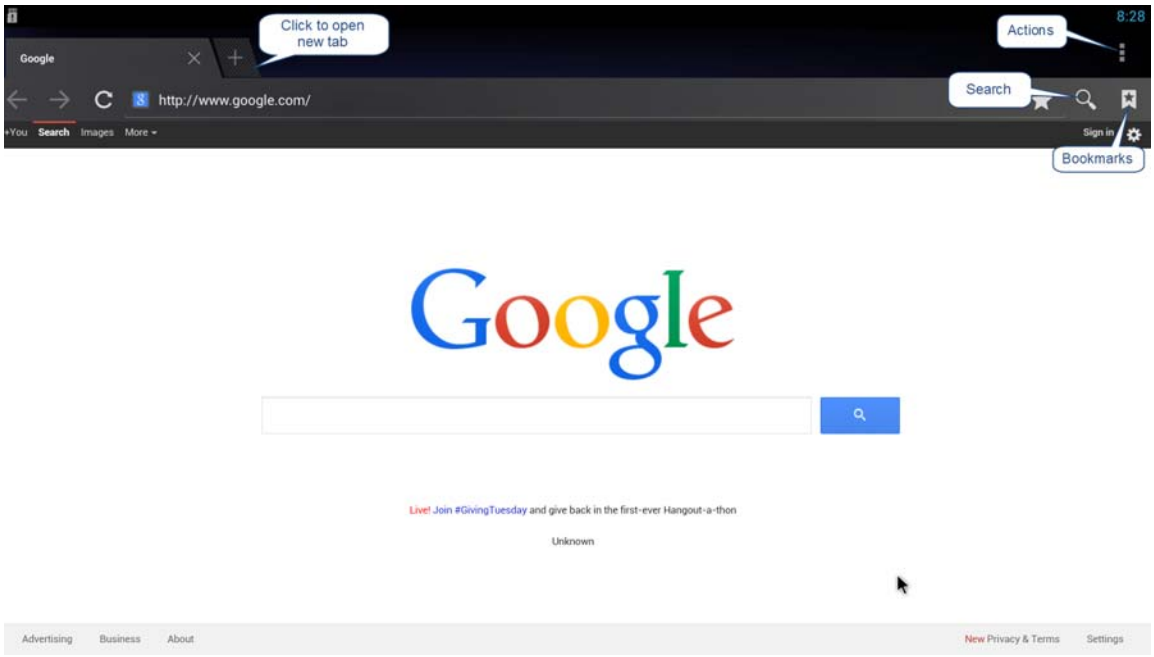


FIG. 35 Web Browser

More browsing options may be accessed by clicking the Actions button in the upper-right corner of the web browser.

Web Browser Settings

Click the Actions button to access the web browser settings and select Settings from the menu that appears. The available options allow making adjustments to the web browser's security and accessibility, as well as more advanced settings.

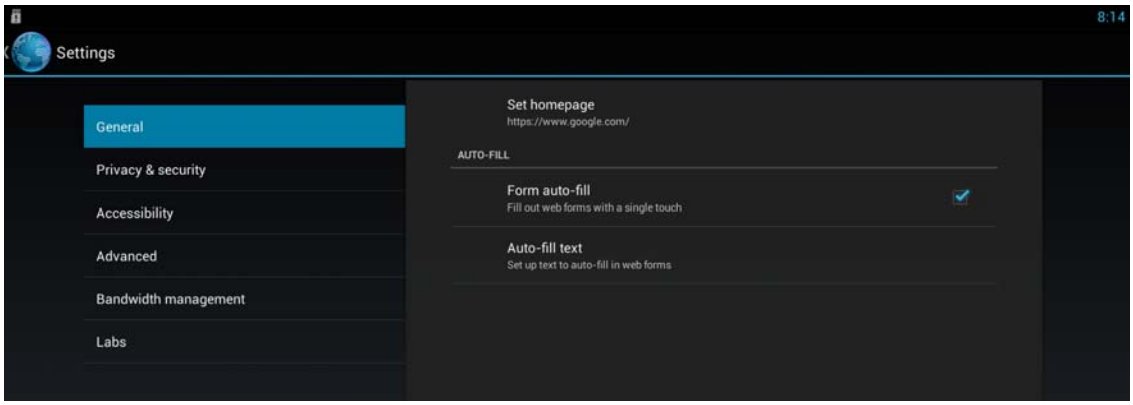


FIG. 36 Web Browser Settings

The following sections describe the Web Browser settings.

General

Use the General tab of the Web Browser Settings screen (shown in FIG. 37) to set the homepage and auto fill form data.

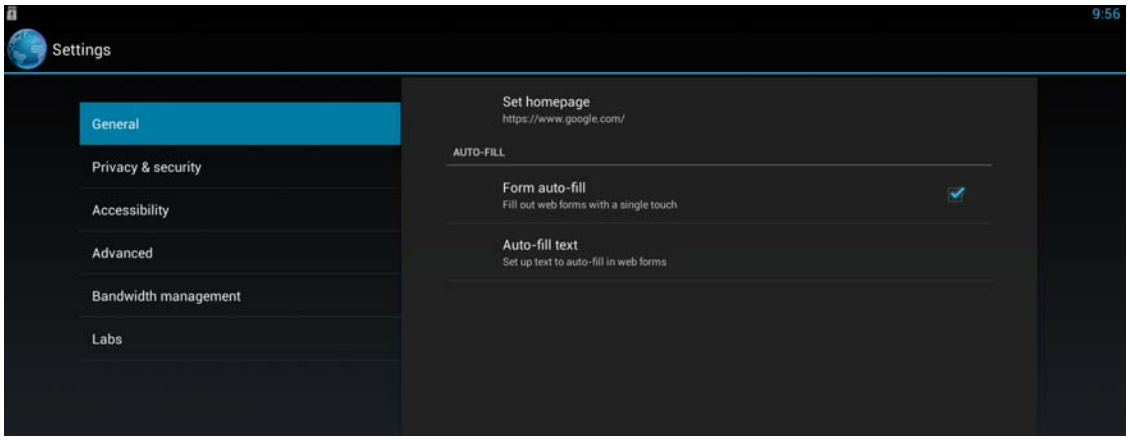


FIG. 37 Web Browser Settings - General Tab

The following table lists the options on the General tab:

General Options	
Set Homepage	Select this option to change the default web page that appears when opening the web browser. Selecting this option opens a dialog box and activates the on-screen keyboard. The default home page is *http://www.google.com*. Choose from Current page, Blank page, Default page, Most Visited Sites, or Other. Choose Other to enter a new URL for the default web page.
Form Auto-Fill	This option allows indicating whether to fill out web forms using text that provided with the Auto-Fill Text option. This option is enabled by default.
Auto-Fill Text	This option opens a series of text fields to enter personal information that will auto-fill in web forms. This information is only kept during the current session and is purged when session is exited.

Privacy & Security

Use the Privacy & Security tab of the Web Browser Settings screen (shown in FIG. 38) to set standard web browser options dealing with passwords, form data, history, etc.

NOTE

All data is purged from the Enzo whenever session is exited. All data such as form and location data are only remembered during this active session.

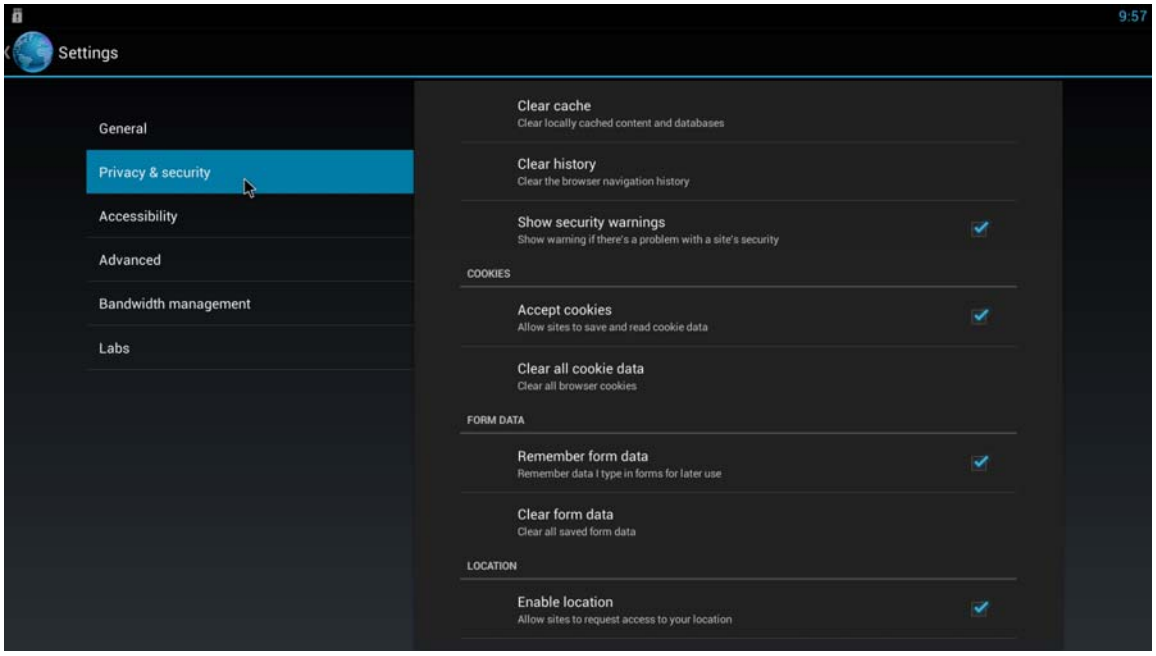


FIG. 38 Web Browser Settings - Privacy & Security Tab

The following table lists the options on the Privacy & Security tab:

Privacy & Security Options	
Clear Cache	This option clears the locally cached content and databases.
Clear History	This option clears the browser navigation history.
Show Security Warnings	This option indicates whether to view a warning if there is a problem with a Web site's security. This option is enabled by default.
Accept Cookies	This option indicates whether to allow sites to save and read cookie data. This option is enabled by default.
Clear All Cookie Data	This option clears all browser cookies.
Remember Form Data	This option indicates whether to remember data typed in forms for later use. This option is enabled by default.
Clear Form Data	This option clears all saved form data.
Enable Location	This option indicates whether to allow Web sites to request access to your location. This option is enabled by default.
Clear Location Access	This option clears location access for all Web sites.
Remember Passwords	This option indicates whether to save user names and passwords for Web sites. This option is enabled by default.
Clear Passwords	This option clears all saved passwords.

Accessibility

Use the Accessibility tab of the Web Browser Settings (shown in FIG. 39) to set preferences on the way web pages are displayed (i.e., text size, contrast, etc.).

NOTE

All data is purged from the Enzo whenever session is exited. All data such as form and location data are only remembered during this active session.

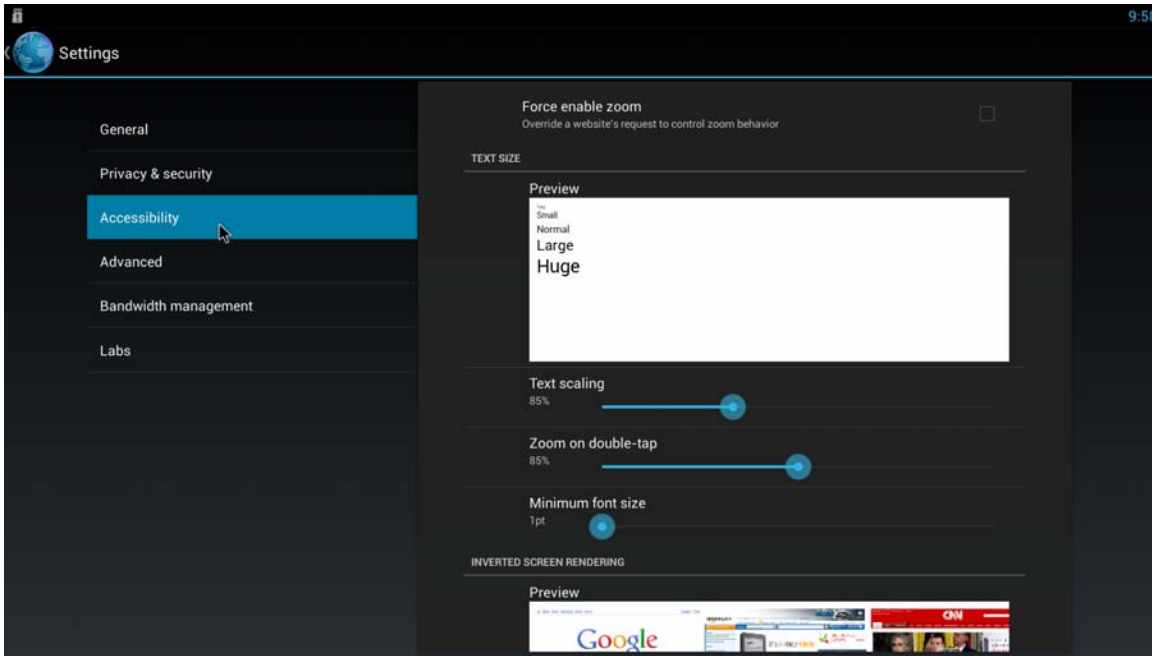


FIG. 39 Web Browser settings - Accessibility Tab

The following table lists the options on the Accessibility tab:

Accessibility Options	
Force Enable Zoom	This option indicates whether the web browser overrides a Web site's request to control zoom behavior.
Text Scaling	Use the slider to change the size of the text as it appears on Web sites. The size selected can be viewed in the Text Size Preview pane.
Zoom on Double-Tap	Use the slider to change the amount of zoom on a Web site when the page is double-clicked.
Minimum Font Size	Use the slider to change the minimum font size for text as it appears on Web sites. The size selected can be viewed in the Text Size Preview pane.
Inverted Rendering	This option indicates whether to invert the color on Web sites. With inverted rendering, black becomes white and vice versa.
Contrast	Use the slider to change the amount of contrast on Web sites. The size selected can be viewed in the Inverted Screen Rendering Preview pane. This option is only available when Inverted Rendering is enabled.

Advanced

Use the Advanced tab of the Web Browser Settings (shown in FIG. 40) to change the web browser behavior such as how it handles opening new pages, pop-ups, etc.

NOTE

All data is purged from the Enzo whenever session is exited. All data such as form and location data are only remembered during this active session.

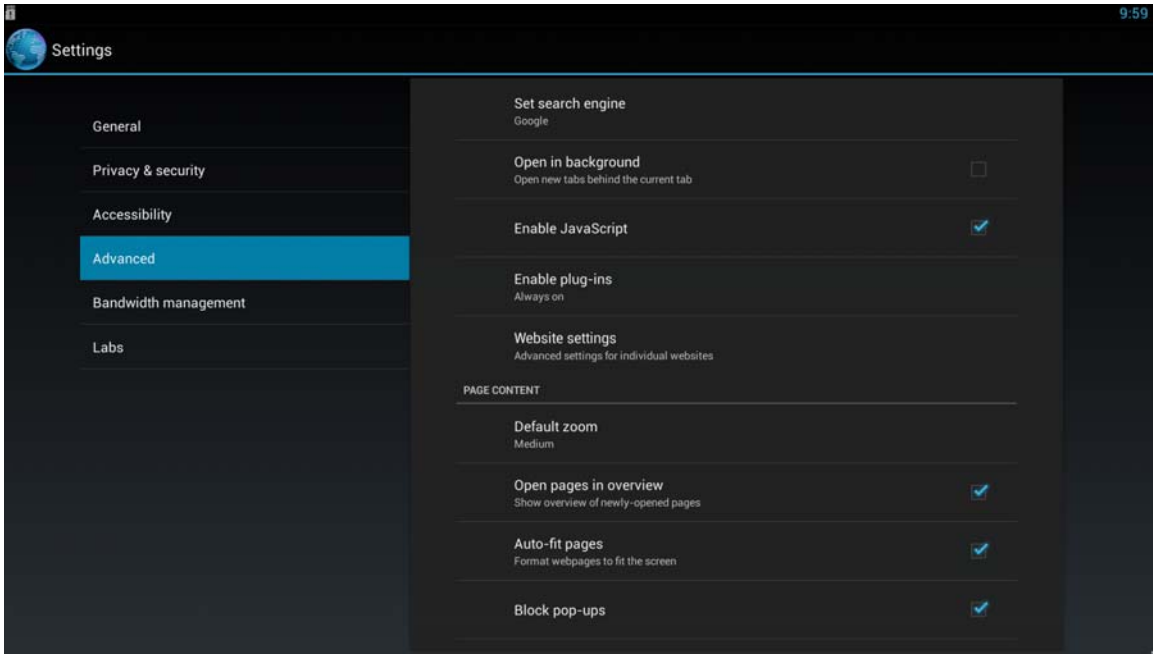


FIG. 40 Web Browser Settings - Advanced Tab

The following table lists the options on the Advanced tab:

Advanced Options	
Set Search Engine	This option sets a default search engine for the Web browser. Choose from Google, Yahoo!, or Bing. The default setting is Google.
Open in Background	This option indicates whether to open new tabs behind the current tab.
Enable Javascript	This option indicates whether to enable Javascript. This option is enabled by default.
Enable Plug-ins	This option determines when plug-ins are enabled. Choose from Always on, On demand, or Off. The default setting is Always on.
Website Settings	This option changes settings for individual websites. For example, Location Services for Google can be activated but kept turned off for all other sites.
Default Zoom	This option sets the zoom for viewing Web sites. Choose from Far, Medium, or Close. The default setting is Medium.
Open Pages in Overview	This option indicates whether to show an overview of newly-opened Web pages. This option is enabled by default.
Auto-Fit Pages	This option indicates whether to format Web pages to fit the screen. This option is enabled by default.
Block Pop-Ups	This option indicates whether to block all pop-up pages that appear on Web sites. This option is enabled by default.
Text Encoding	This option set the text encoding for all Web sites. Choose the setting from a list that opens when this option is selected.
Reset to Default	This option restores all Web Browser options to their original default settings.

Bandwidth Management

Use the Bandwidth Management tab of the Web Browser Settings to change the way the web browser handles pre-loading links, images and pages to enable saving bandwidth for faster browsing.

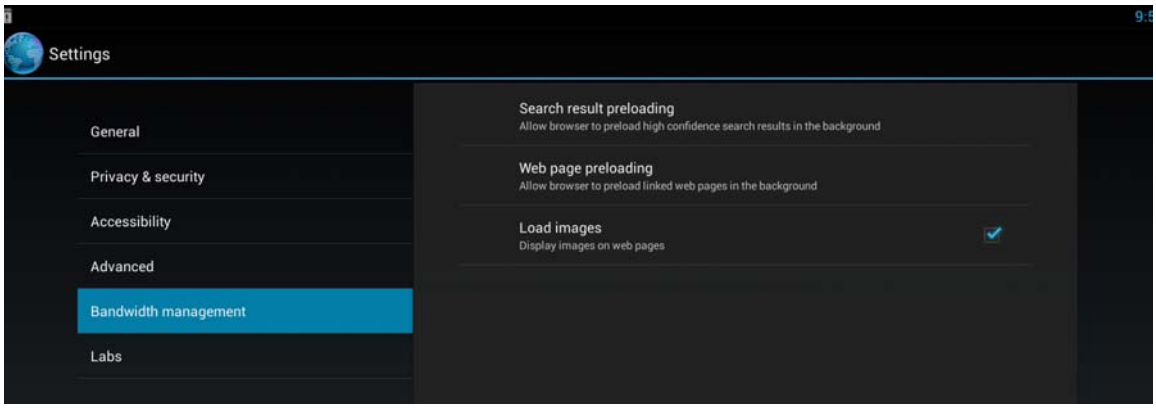


FIG. 41 Web Browser Settings - Bandwidth Management Tab

The following table lists the options on the Bandwidth Management tab:

NOTE

All data is purged from the Enzo whenever session is exited. All selections are only remembered during this active session.

Bandwidth Management Options	
Search Result Preloading	This option chooses when the Web browser pre-loads high confidence search results in the background. Choose from Never, Only on Wi-Fi, or Always. The default setting is Only on Wi-Fi.
Web Page Preloading	This option chooses when the Web browser pre-loads linked Web pages in the background. Choose from Never, Only on Wi-Fi, or Always. The default setting is Only on Wi-Fi.
Load Images	This option indicates whether to display all images on Websites. This option is enabled by default.

Labs

Use the Labs tab of the Web Browser Settings to set whether to hide the toolbars and buttons for a larger browser display. Toolbars may still be accessed during the browsing session by clicking on the left or right edge of the screen.

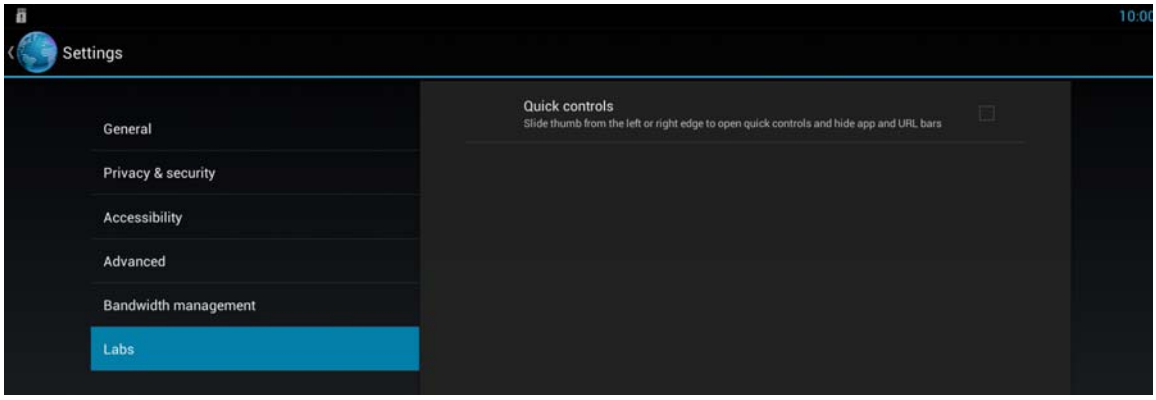


FIG. 42 Web Browser Settings - Labs Tab

The following table lists the options on the Labs tab:

Labs Options	
Quick Controls	This option indicates whether to turn on quick controls. This option returns to unselected once the session has been exited and session data purged. When this option is checked, toolbars and buttons are hidden and the Web browser space appears much larger. Toolbars and buttons can still be accessed by clicking and holding any mouse button on the left or right side of the screen to bring up a menu of Icons. Sub selections are available once the mouse is dragged over one of the Icons.

When Lab Controls are enabled, navigation can be aided using the browser pop up menus accessible when clicking and holding a mouse button on either edge of the screen (FIG. 43).

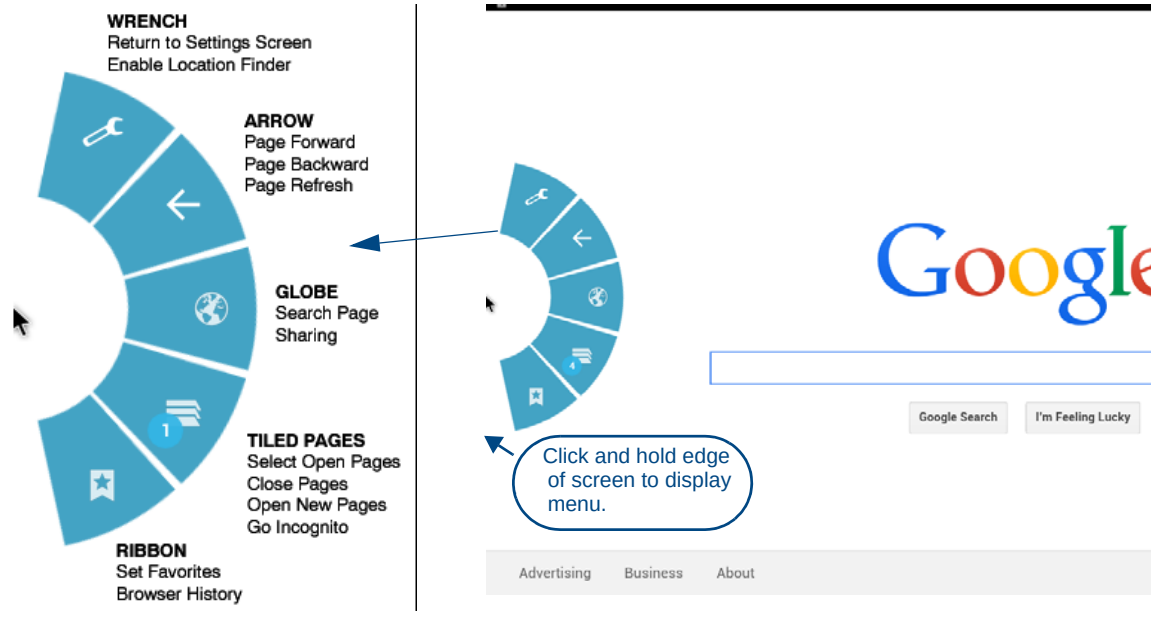
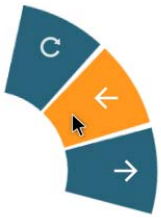


FIG. 43 Browser Toolbar Pop-up Menu

Holding down the mouse button and dragging over one of the Icons in the pop-up tool bar, a sub menu of the selected Icon becomes visible offering more options for the user. The table below defines the functions of these sub Icon menus:

Icon	Function
	Wrench - Opens the browser settings screen where this functionality was first enabled by checking the Quick Controls check box. Cell Phone - Enables or disables the ability of the browser to determine your location using the IP address.
	Circled Arrow - Refreshes web page Left Arrow - Go back to last web page viewed Right Arrow - Advance to next web page.
	Magnifying Glass - Brings up an option to search for user defined text within the web page being viewed. Connect the Dots - Enables the user to share the web page via a selected application. Globe - Temporarily enables top tool bar to advance or return to other web pages, or search for a new web site using the address bar.
	X (Delete) - Closes the web page currently displayed. + Spy= Incognito - Enabling this option keeps web pages being viewed from appearing in the browser history, search history, and also disables Cookie traces. Downloads and bookmarks will be preserved, however. Plus Sign - Opens up a new web page. Tiled Pages - Indicates how many web pages are open and enables the user to switch between them through selection of the tiled view to the right of the Icons.
	Star - Enables user to Bookmark the web page being viewed. Clock - Enables user to view web page history and select a previously viewed page. An outlined star appears at the end of each web page viewed that enables the user to bookmark that web page by clicking on the star. Once added to bookmarks, the star is filled in solid white. Bookmark Ribbon - Brings up suggested and bookmarked pages to choose from for faster browsing.

Screen Mirroring

Enzo comes equipped with the MirrorOp app to provide screen mirroring. Screen mirroring enables users to effortlessly show their presentations, photos, movies and more from their laptops, phones and tablets onto conference room displays via WiFi. Users either launch MirrorOp loaded on their device or insert a USB memory stick to wirelessly connect to Enzo and present their material. Up to 32 simultaneous connections may be made to Enzo's MirrorOp app but only the last user to connect is displayed enabling simple transitions between presenters.

FIG. 44 Screen Mirroring from a Tablet

In order to use the screen mirroring capabilities of Enzo, users must either use a pre-loaded memory stick to launch MirrorOp referred to as "Plug and Show" or download MirrorOp Sender or MirrorOp Presenter applications to a laptop, tablet or smart phone.

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 could leave confidential documents available for the next MirrorOp presenter.

Plug and Show

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.

NOTE

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

Plug and Show System Requirements

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

Preloading a Plug and Show Memory Stick - Administrator

As an administrator, you want to provide a preloaded USB memory stick to each conference room equipped with Enzo that will provide fast screen mirroring capabilities for your workers. A link is provided on 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.

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

MirrorOp Presenter

MirrorOp Presenter enables displaying documents, pictures, camera live feeds, browser data and presentations onto the room screen over WiFi from iOS and Android devices.

MirrorOp's built in browser enables displaying web pages onto room displays and live camera sharing non-electronic documents and printed material, live feeds or even 3D objects. Presenter includes an annotation tool that enables presenters to highlight, write and draw ideas over the material with the touch of a finger in various colors.

MirrorOp Sender for Mac/Windows

MirrorOp Sender equips users to easily share pictures, movies, games, documents or presentations from Windows and Mac devices over WiFi onto TVs or displays using Enzo. Sender provides a true mirroring of the device's operating systems. Any program, game. or document functionality on the device will be viewable on Enzo's screen.

MirrorOp Sender for Galaxy

MirrorOp Sender for Galaxy equips users to easily share pictures, movies, games, documents or presentations from Galaxy devices over WiFi onto TVs or displays using Enzo. Sender provides a true mirroring of the Galaxy's operating systems. Any program, game. or document functionality on the device will be viewable on Enzo's screen.

Where to Get MirrorOp

AMX provides links to trial versions of MirrorOp for Windows and Mac applications at www.amx.com/mirrorop/. These trial versions can be downloaded using the "Try Now" button so Enzo users do not have to buy the MirrorOp Sender license. For Galaxy users, there is a Galaxy specific Sender link provided on this web page.

Another way to access the MirrorOp software for electronic devices is to select the Screen Mirror Icon to bring up a QR code that will take you directly to the download page. The following procedure describes the steps necessary to use MirrorOp with Enzo.

Using MirrorOp

1. Use one of the following methods to begin presenting:
   - *Plug and Show* - for laptops, desktops, or MAC PCs with USB ports using a preloaded memory stick
   - *Installing MirrorOp on Your Device* - for smart phones, tablets, laptops, desktops, or MAC PCs

Plug and Show

1. Using a memory stick a system administrator should have prepared for the meeting space, insert it into your device and open the PNS Token folder to display two MirrorOp files (one is a folder, one is a .app extension).
2. Two methods exist depending on your operating system and are as follows:
   - Windows - Open the MirrorOp folder and look for the MirrorOp.exe file and double click to launch (FIG. 45).

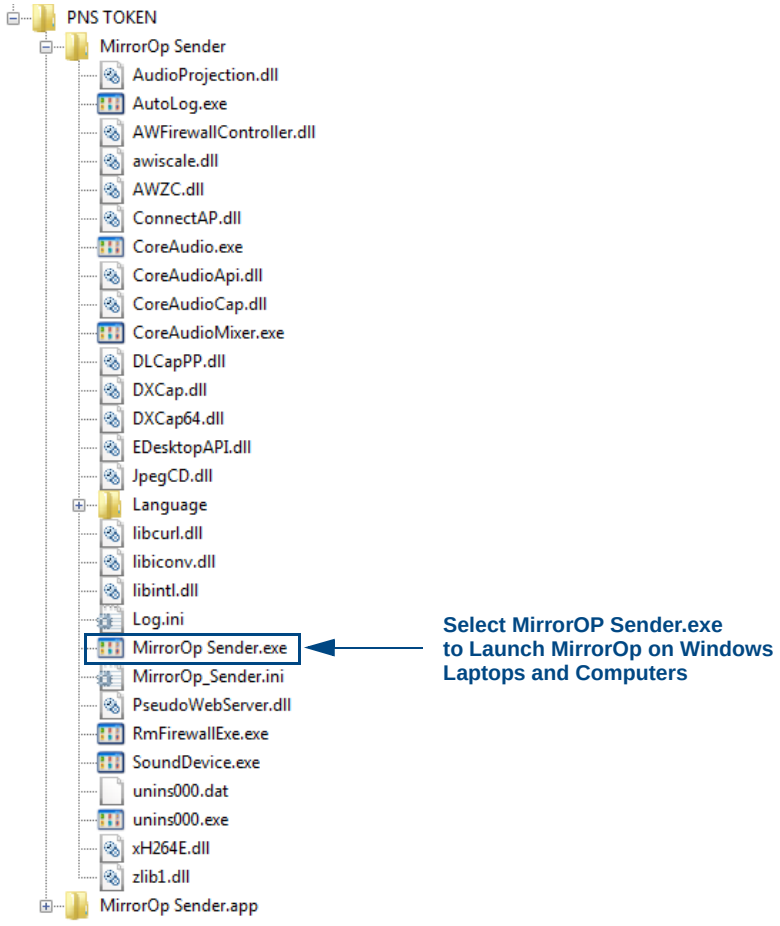


FIG. 45 MirrorOp Sender File for Windows Devices -Plug and Show

- Macintosh - Mac systems will recognize the MirrorOp Sender.app and launch MirrorOp when it is selected.

NOTE

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

FIG. 46 MirrorOp Sender File for Macintosh Devices - Plug and Show

Installing MirrorOp on Your Device

1. Select the Screen Mirror Icon on the left panel of the Enzo main screen.

FIG. 47 Enzo Home Screen - Screen Mirror

2. The following screen appears displaying the IP address and Passcode required to connect to Enzo from the MirrorOp app on your device.

FIG. 48 MirrorOp IP Address and Passcode

3. Scan the QR code to go to the AMX website to access the appropriate version of MirrorOp to install on your device. The following web page appears.

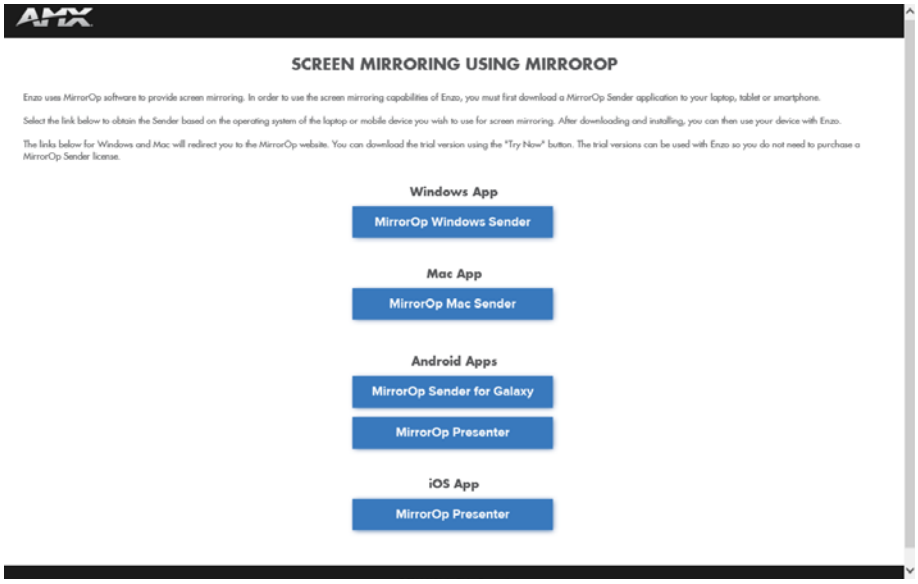


FIG. 49 AMX MirrorOp Web Page

4. Select the appropriate version as follows:
   - Windows App

     - ***MirrorOp Windows Sender***: for all devices equipped with Windows operating systems (Laptops, Computers). Sender provides a total mirroring of the device and its programs.
   - Mac App

     - ***MirrorOp Mac Sender***: for all devices equipped with Macintosh operating systems (Laptops, Computers). Sender provides a total mirroring of the device and its programs.
   - Android Apps

     - ***MirrorOp Sender for Galaxy***: a Galaxy specific app for all Samsung Galaxy devices. Sender provides a total mirroring of the Galaxy device and its programs.

     - ***MirrorOp Presenter:*** for all Android devices, Presenter shares pictures, camera live feeds and presentations
   - iOS App

     - ***MirrorOp Presenter:*** for all iOS devices, Presenter shares pictures, camera live feeds and presentations on iPhones and iPads.
5. Load the MirrorOp app onto the device.

Connecting to Enzo with MirrorOp

Launch MirrorOp from your device (installed locally) or USB (Plug and Show). Next, go to the specific section below for screen capture examples for connecting to Enzo.

Windows section on pages 36

Macintosh section on pages 36

Android section on pages 37

iOS section on pages 38

Windows

1. Launch the MirrorOp Sender from your Windows device. The following screen appears.

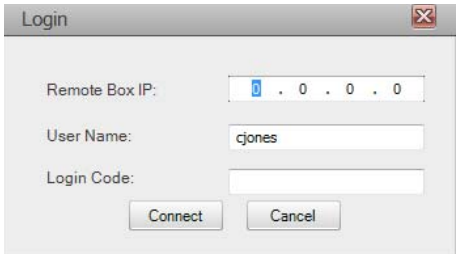


FIG. 50 MirrorOp Sender for Windows - Login

2. Type in the Enzo IP address displayed on the main screen (FIG. 48) into the Remote Box IP line shown in FIG. 50.
3. Next, type in the code displayed on the Enzo screen into the Login Code line and select Connect.
4. Once connected to Enzo in MirrorOp, the play button is displayed on a tool bar as shown in FIG. 51. Press it to begin presenting material.

FIG. 51 MirrorOp Sender for Windows - Play Button

NOTE

Up to 32 devices may connect to Enzo's MirrorOp app simultaneously but only the last user to connect is displayed enabling simple transitions between presenters.

5. The device's desktop or other programs that are open are now being displayed on the Enzo screen. The play button changes into a stop button as shown in FIG. 52. The display can be halted at any time by selecting the square button and another user can select their play button to become the sender.

FIG. 52 MirrorOp Sender for Windows - Stop Button

Macintosh

1. Launch MirrorOp from your Mac controlled device. the Quick Connect screen appears as shown in FIG. 53.

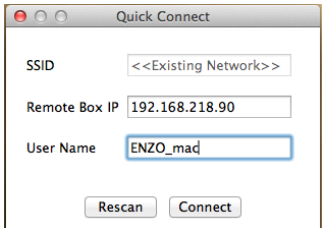


FIG. 53 MirrorOp Sender for Mac - Login

2. Type in the IP address of the Enzo unit (displayed on the Enzo screen and select ***Connect***.

3. The following window appears asking for the Login Code. Use the Code displayed on the Enzo screen and select ***Connect***.

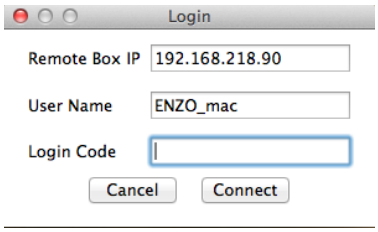


FIG. 54 MirrorOp Sender for Mac - Login Code

4. The device is now mirrored onto the Enzo screen and is ready for presentations.

NOTE

Multiple devices may connect to Enzo's MirrorOp app simultaneously but only the last user to connect is displayed enabling simple transitions between presenters.

Android

1. Once the MirrorOp App is launched a screen similar to the one shown in FIG. 55 appears. Select a receiver from the list that reflects the IP address of the Enzo display.

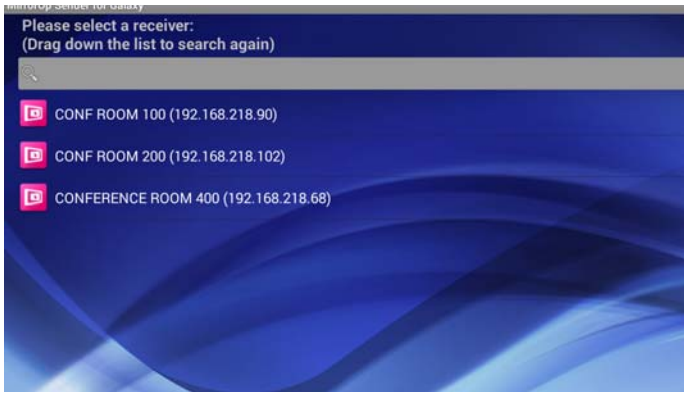


FIG. 55 MirrorOp Sender for Galaxy, Receiver List

2. The following screen appears requesting a Login Code. Type in the four digit code shown on the Enzo main screen using the virtual keypad shown in FIG. 56.

FIG. 56 MirrorOp Sender for Galaxy, Login

3. The Galaxy screen for MirrorOp resembles the one shown below. Click the Play button to start displaying on Enzo.

FIG. 57 MirrorOp Sender for Galaxy, Play Button

4. The device screen is now mirrored on Enzo's screen. FIG. 58 shows a Galaxy desktop displayed.

FIG. 58 MirrorOp Sender for Galaxy, Device Desktop

NOTE

Up to 32 devices may connect to Enzo's MirrorOp app simultaneously but only the last user to connect is displayed enabling simple transitions between presenters.

iOS

1. Launching MirrorOp on an iOS device should bring up a screen similar to the one below. Click on the WiFi icon in the top right corner identified in FIG. 59.

NOTE

The WiFi symbol center turns green when connected to a network.

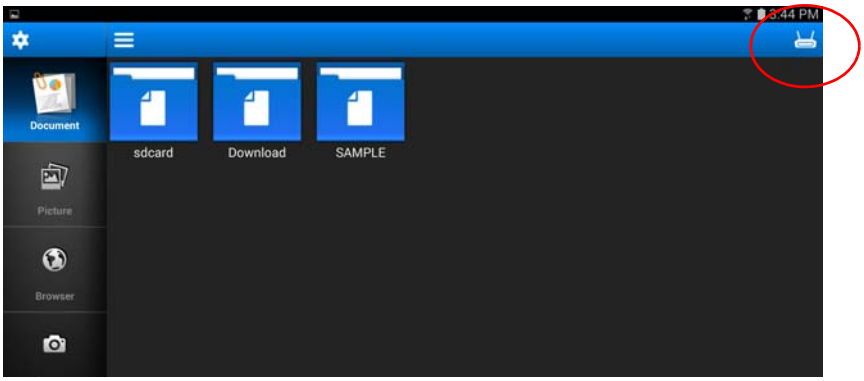


FIG. 59 MirrorOp Presenter Homepage - WiFi Icon

2. This brings up a list of available WiFi receiver sources. Click on the available receiver that has an IP address matching the one projected on the Enzo screen.

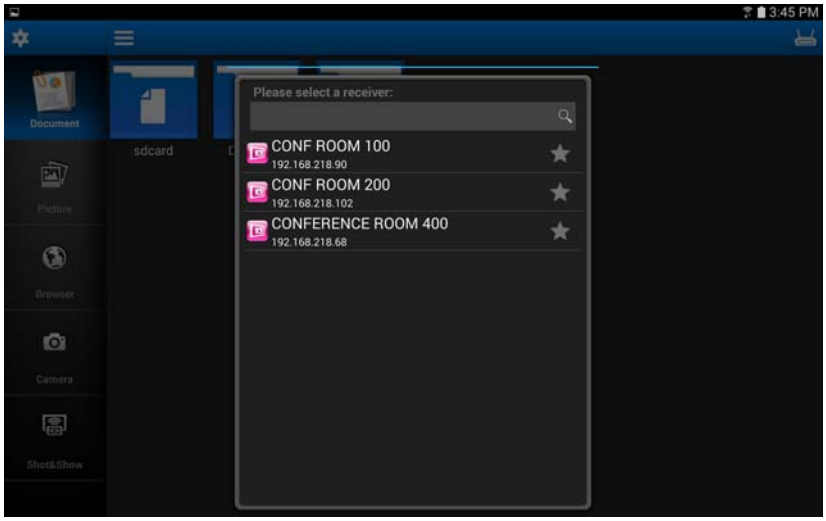


FIG. 60 MirrorOp Receiver List

3. Enter the passcode displayed on the Enzo screen into the Login Code line shown in FIG. 61 and select Login.

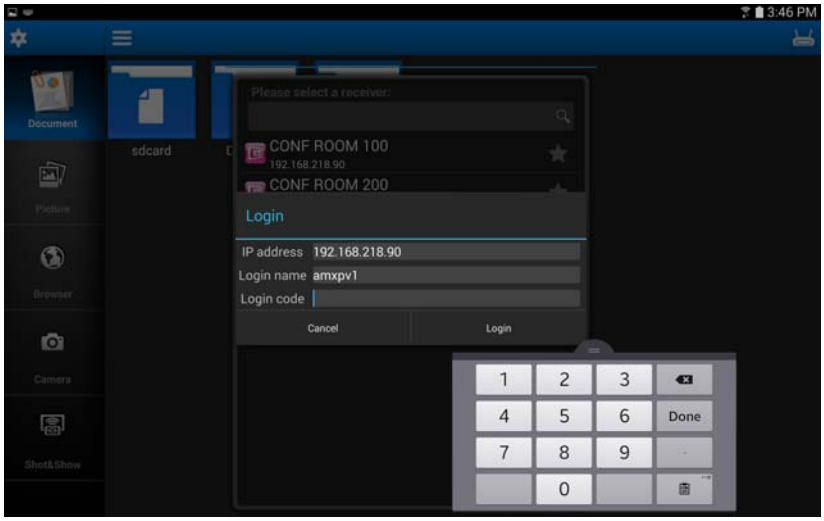


FIG. 61 MirrorOp Receiver Login

4. The center of the WiFi symbol will turn green once the unit it connected as shown in FIG. 62.

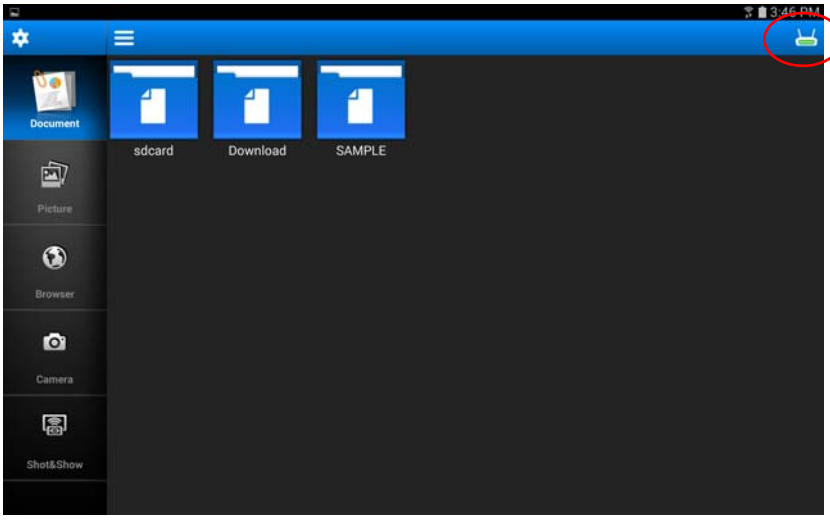


FIG. 62 MirrorOp Connected to Receiver

5. Now the user can select Document, pictures, web browser or camera functions to display on the larger display through Enzo. Once your presentation is loaded, select the play arrow at the bottom center of the screen to display it.

NOTE

Up to 32 devices may connect to Enzo's MirrorOp app simultaneously but only the last user to connect is displayed enabling simple transitions between presenters.

Enzo Configuration

Overview

This chapter provides details on the configuration settings for the Enzo interface. Configuration 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. 63).
- Press the Home key, then Left Arrow key followed by the F1 key to access the Settings menu (FIG. 64).
- A long click on the Enzo icon in the bottom right corner of the main screen opens the Settings window directly (FIG. 63)

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**.

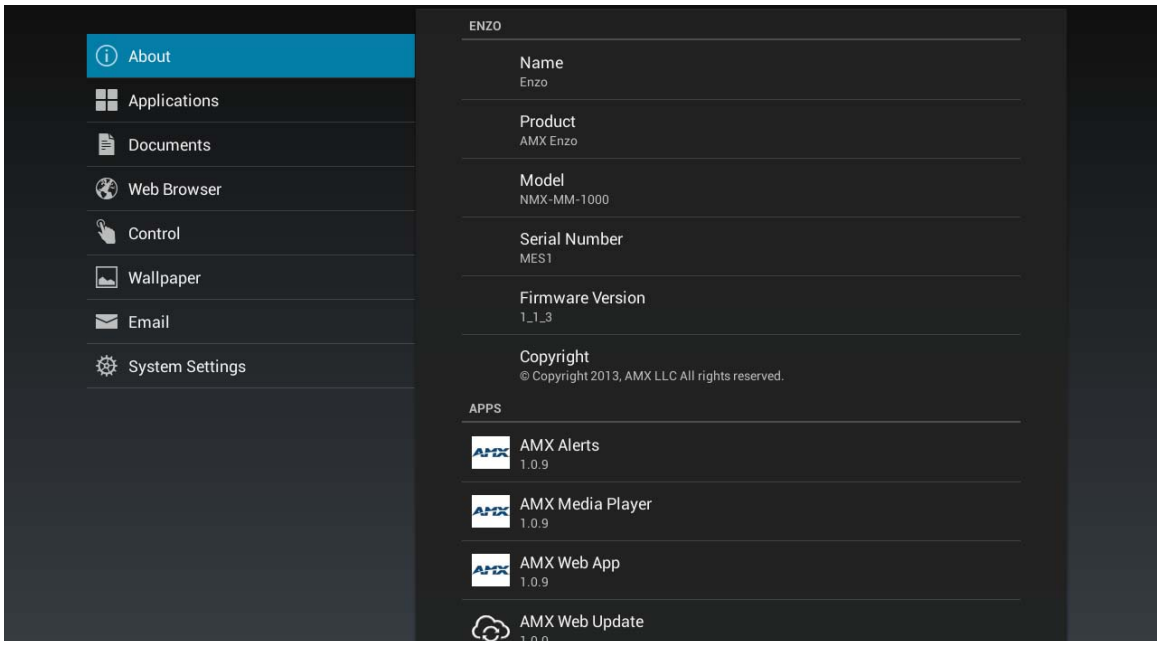


FIG. 63 Settings Screen

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.

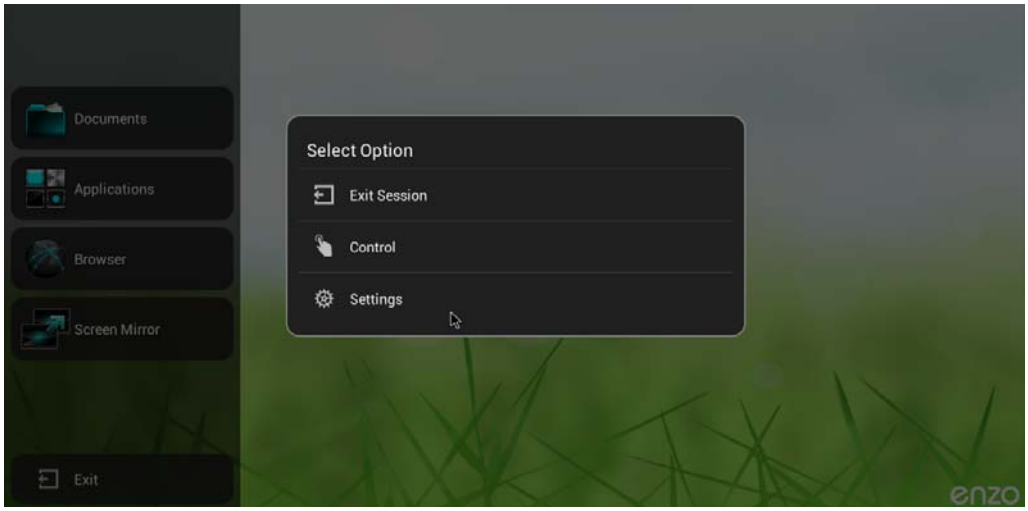


FIG. 64 Enzo Main Screen - Select Option Menu

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.

Applications

The Applications option allows adding and activating third-party web browser-based applications on the Enzo. If this option is disabled or if apps are not added to the Applications list, the Applications button does not appear on the Enzo main screen. Other Applications heading are covered in the table below. More detailed information including screen grabs follows if needed.

Applications Options	
Applications	Use this option to toggle the Applications option. If this option is disabled, the Applications button does not appear on the Enzo main screen.
APP FAVORITES	Use the App Favorites to set the sequence of the APP Icons on the main Enzo screen. Favorite 1 will appear at the top of the App list while Favorite 4 appears at the bottom.
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 that enables the user 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. Refer to *About* heading below.
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.
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.

App Favorites

Selecting Favorite 1 will open a window displaying available apps to choose from. Refer to FIG. 65.

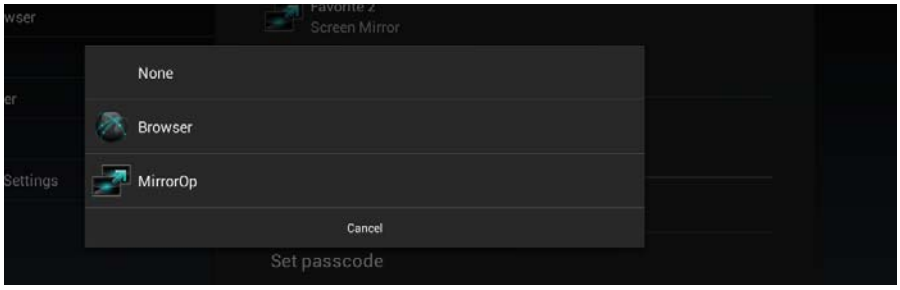


FIG. 65 App Favorites Selection

Selecting an app will assign it to the Favorites 1 spot. Repeat for Favorites 2-4 to assign other most used apps as desired. The order of the apps is reflected in the Enzo main screen app order from top to bottom. See FIG. 66.

FIG. 66 Enzo Favorite Apps

Screen Mirror

Enzo supports MirrorOp to provide seamless operation and display of a remote PC, smart phone or Tablet device for meeting presentations. Some applications require a passcode to create a connection between the device and Enzo's MirrorOp App. To enable a passcode, click the check box shown under Settings - Applications menu in FIG. 67. The passcode is enabled by default.

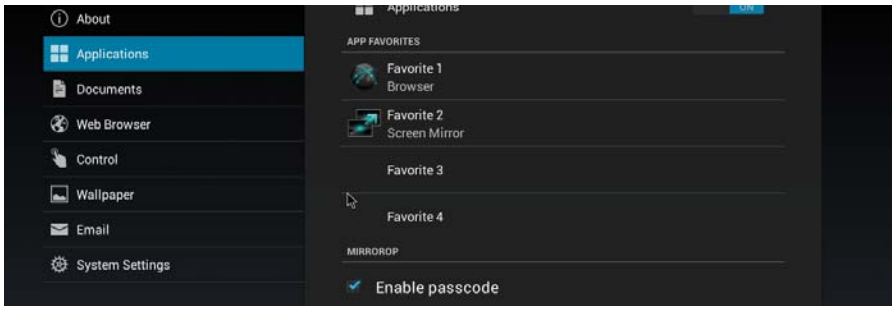


FIG. 67 Enable MirrorOp Passcode

The following window appears. Select OK to have the system randomly create a passcode used to link MirrorOp apps to Enzo. If a static passcode is desired, uncheck the box and enter a 4 digit numerical passcode..

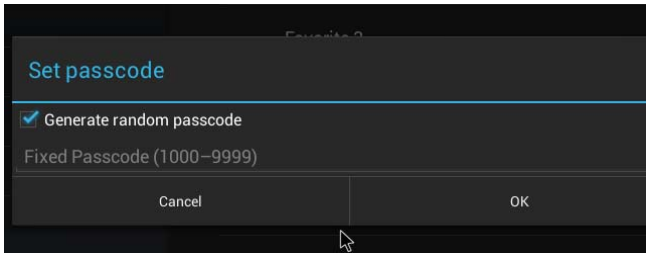


FIG. 68 Set Passcode

Once the passcode is set, restart the Enzo session to apply the changes. Launch the Screen Mirror App from the Enzo main screen. The IP address, SSID and Code (Passcode) are listed similar to FIG. 69. Enter this data into the MirrorOp Presenter device to enable connection between the two.

FIG. 69 MirrorOp IP Address and Passcode

Multiple devices may connect to Enzo's MirrorOp App but only the last one to connect is displayed. This enables simple transitions between presenters. More operational details on MirrorOp are provided in *Screen Mirroring* on page 32.

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 documents available for the next MirrorOp presenter.

Apps

Clicking on any of the loaded apps displayed fills the check box with a check mark and makes the app accessible from the Applications menu on the Enzo main screen. Refer to FIG. 70.

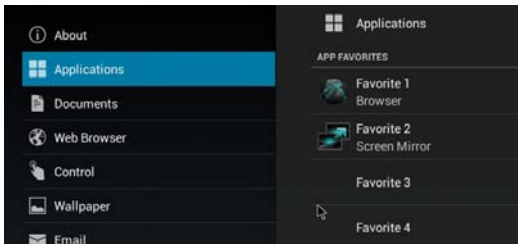


FIG. 70 Checking Apps in Settings

The app is now accessible from the Applications menu on the Enzo main screen. Refer to FIG. 71.

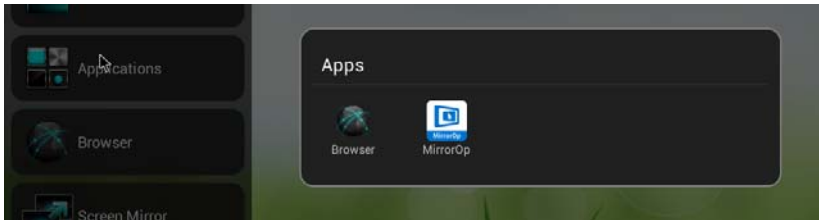


FIG. 71 Enzo Main Screen Applications Icon

WebApps

Add an app - Used to add a new application to the APPS list above. When selected, the window in FIG. 72 appears. To add the application, a title and direct URL link must be supplied.

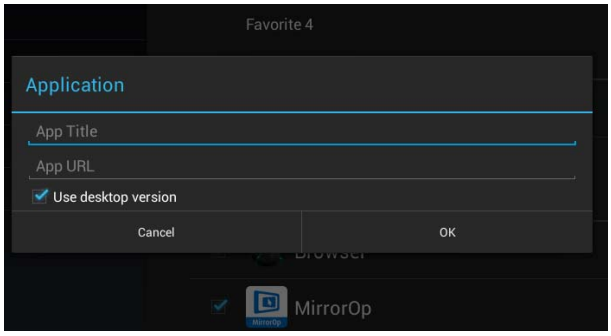


FIG. 72 WebApps Applications

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.

Documents Options	
Documents	Use this option to toggle the Documents option. If this option is disabled, the Documents button does not appear on the Enzo main screen. This option is enabled by default.
Dropbox®	Select this option to toggle whether the Dropbox option is available. This option is enabled by default.
Local Downloads	Select this option to toggle whether the Local Downloads option is available. This option is enabled by default.
USB (Mass Storage Device)	Select this option to toggle whether the USB option is available. This option is enabled by default.

Web Browser

The Web Browser option allows web browser activation on the main screen and set its default home page.

Web Browser Options	
Web Browser	Use this option to toggle the Web Browser option. If this option is disabled, the Web Browser button does not appear on the Enzo main screen.
Home page	Select this option to change the default web page that appears when opening the web browser. The default home page is *http://www.google.com*.

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 **Settings**.
3. Select **Wallpaper**. The current wallpaper and a graphical list of available images appears (FIG. 73). 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.

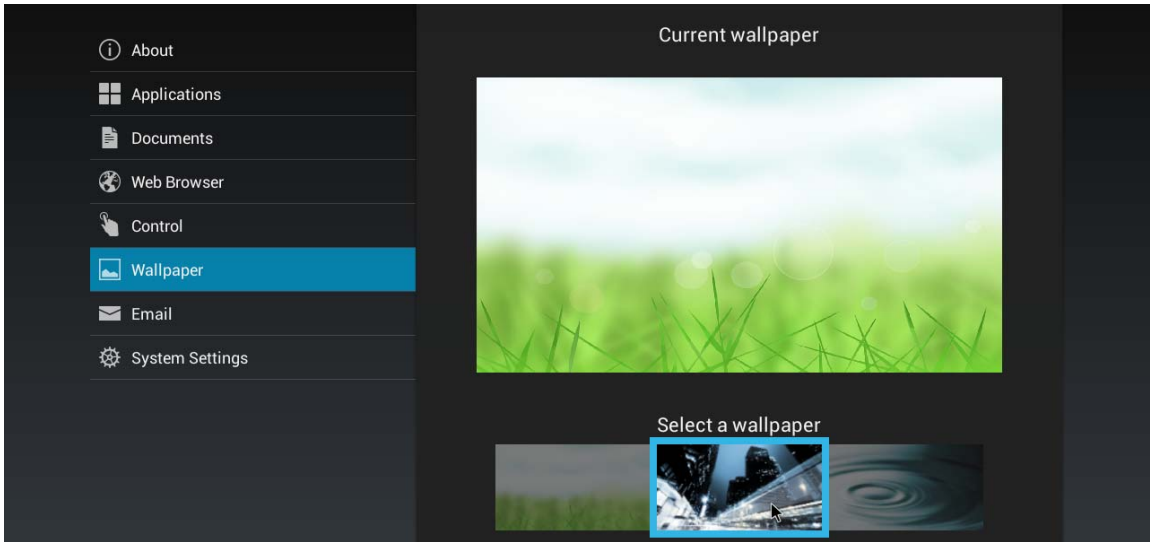


FIG. 73 Wallpaper Screen

4. 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.

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.

System Settings

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 55 for information on changing the password and other security settings.

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, and font size for the outgoing video.
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.
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.
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.
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.

System Settings Options (Cont.)	
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.
Diagnostics	The Diagnostics area displays the temperature of the Enzo Meeting Presentation System and provides an option to view a log file.

Device Info

The Device Info screen (FIG. 74) 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.

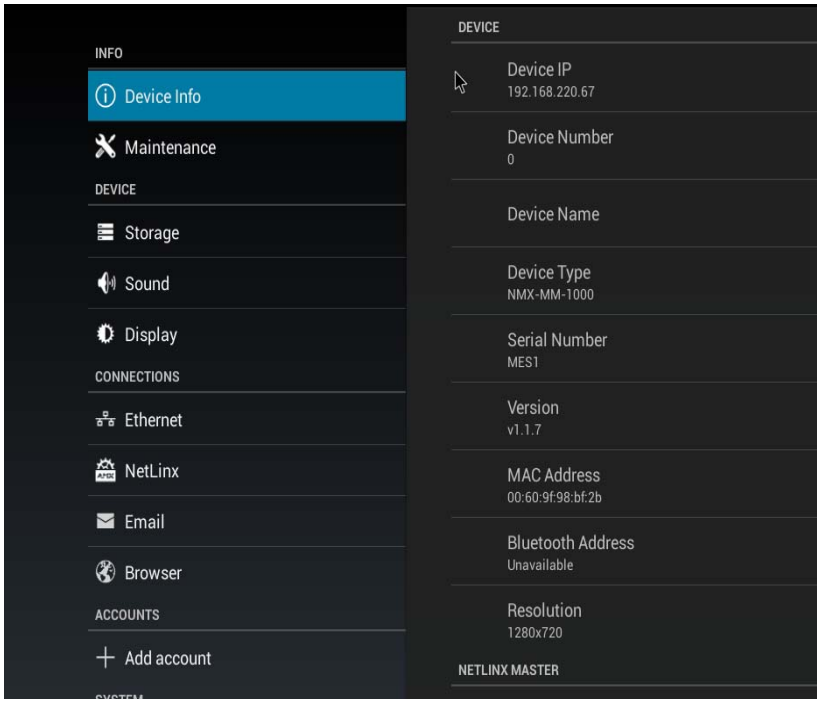


FIG. 74 Device Info Screen

Maintenance

The Maintenance screen (FIG. 75) provides the option to reboot the device.

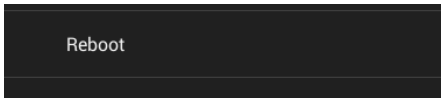


FIG. 75 Maintenance Screen

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. From the Select Option menu, select **Settings**.
3. Select **System Settings**.
4. Select **Maintenance**.
5. Select **Reboot**.
6. Select **OK** on the verification screen.

Storage

The Storage screen (FIG. 76) 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. 76 Storage Screen

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

Sound

The Sound screen (FIG. 77) provides options to select the outgoing audio port and set the volume levels and system sounds for the Enzo.

FIG. 77 Sound Screen

The following table lists the options on the 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.
Default Notification Sound	This option opens the Default Notification Sound menu to select a sound from a list of options. To change the notification sounds, select a sound and click OK. New selections immediately take effect.
Audio	This option enables choosing an audio device for playing system sounds.

Display

The Display screen (FIG. 78) provides options to set the resolution, timeout length, and font size for the Enzo.

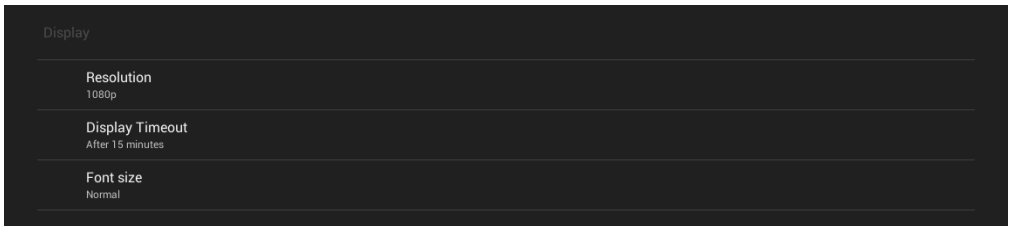


FIG. 78 Display Screen

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 Auto.
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.
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 Auto 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. From the Select Option area, select **Settings**.
3. Select **System Settings**.
4. In the Info section, select **Display**.
5. Enter the security password in the text box that appears, and select **OK**. The default password is **1988**.
6. Select **Resolution**, and select the resolution desired from the list that appears. The new resolution takes effect after rebooting the Enzo.

Ethernet

The Ethernet screen (FIG. 79) displays the network information for the Enzo. Select any listed network option and change it using the on-screen keyboard or keypad.

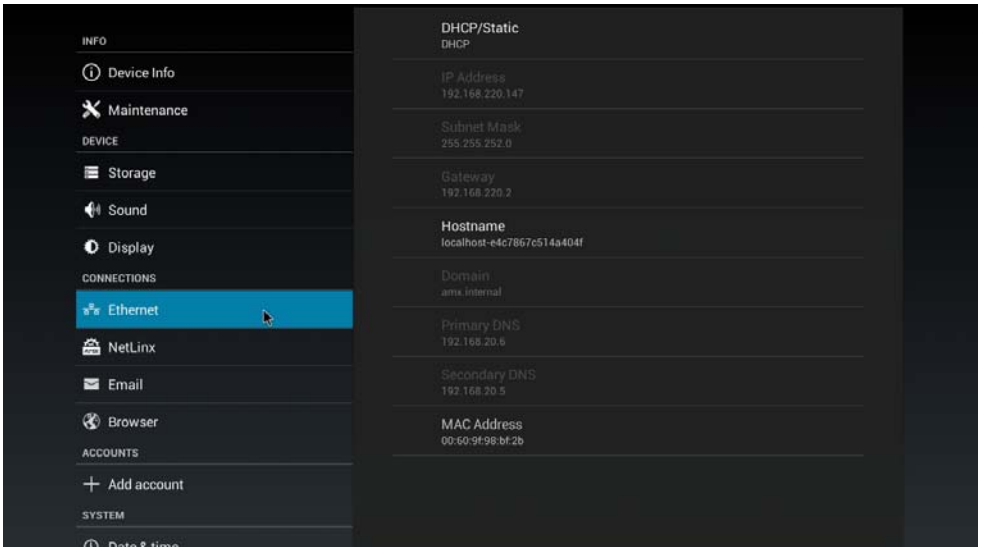


FIG. 79 Ethernet Screen

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. 80) displays the network information for the connected NetLinx Master.

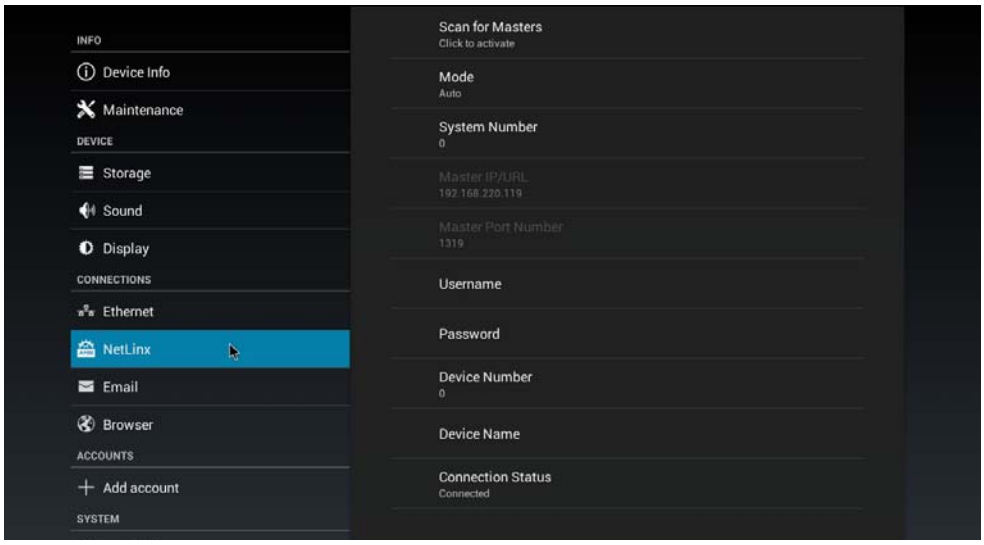


FIG. 80 NetLinx Screen

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.

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.

Email

The Email screen (FIG. 81) lists a set of email server options for sending e-mail through Enzo.

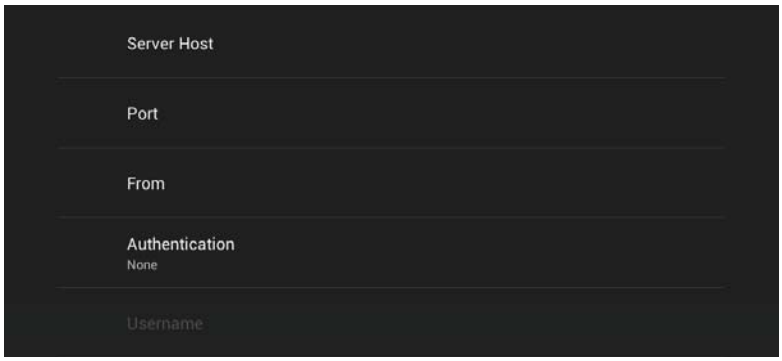


FIG. 81 Email Screen

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.

Date & Time

The Date & Time screen (FIG. 82) 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.

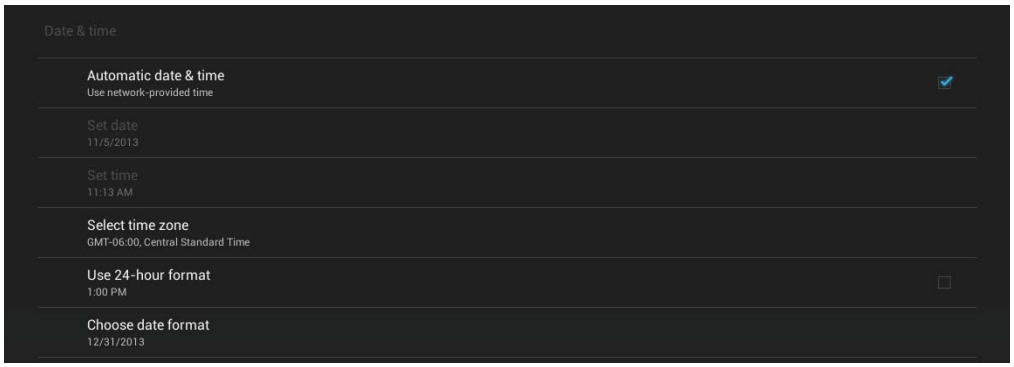


FIG. 82 Date & Time Screen

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

Date & Time Options	
Automatic Date & Time	This option enables indicating whether Enzo automatically retrieves the current date and time from the local network.
Set Date	This option 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	This option 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.
Select Time Zone	This option opens the Select Time Zone menu to select a new time zone. The default setting is GMT.
Use 24-hour Format	This option indicates whether Enzo is to use a 12-hour or 24-hour clock. Checking the box selects a 24-hour clock.
Choose Date Format	This option 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. In the Select Option area, select **Settings**.
3. On the Settings screen, select **System Settings**.
4. In the System section, select **Date & Time**.
5. Enter the security password in the text box that appears, and select **OK**. The default password is **1988**.
6. Check that the current date and time is correct on the device.
7. Select **Select time zone** and select the proper time zone from the provided list.

Language & Input

The Language & Input screen (FIG. 83) 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.

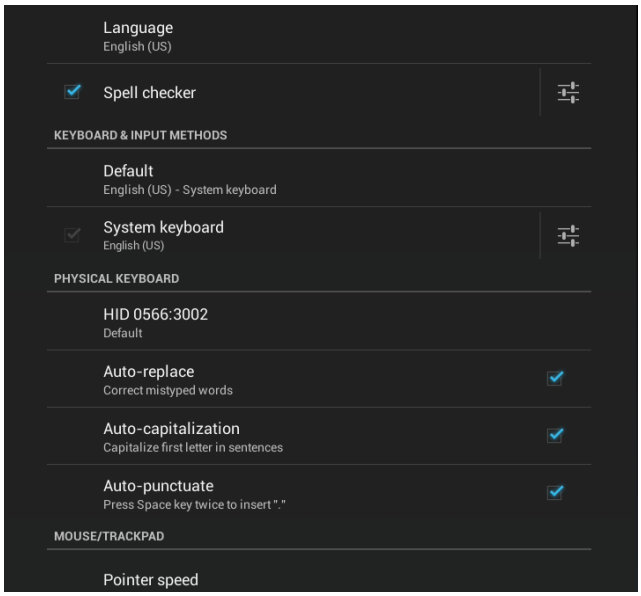


FIG. 83 Language & Input Screen

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 Layout	This option sets the keyboard layout from several different layouts in a variety of languages. Select more than one keyboard layout and switch between the selected layouts by pressing Ctrl-spacebar. 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 automatically capitalizes the first letter in each sentence, if enabled. 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.

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:

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	This option allows installations of Apps from unknown sources after acknowledging a warning screen.
Credential Storage	
Trusted credentials	
Install from storage	
Clear credentials	

Reset and Update

The Reset and Update screen (FIG. 84) list a set of options to reset the Enzo Meeting Presentation System to its factory settings or update the firmware.

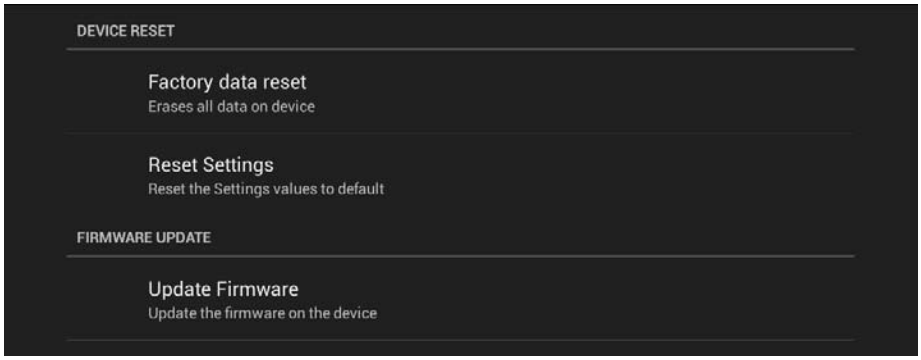


FIG. 84 Reset and Update Screen

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

Reset and Update Options	
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.
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 59 for full instructions on upgrading firmware.

Diagnostics

The Diagnostics screen (FIG. 85) 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 *AMX Shell* section on page 78 for more information.

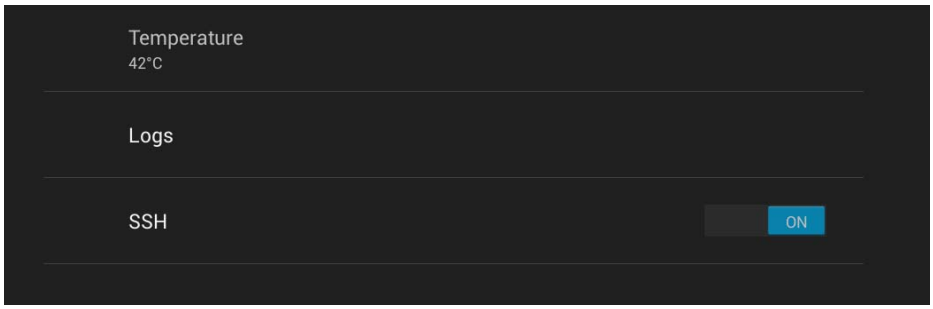


FIG. 85 Diagnostics Screen

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 apps or services.

Web Browser, Dropbox, other Cloud Services

Port	Description	Inbound	Outbound	Can be disabled?
80	HTTP communication for: Web Browser, Dropbox		√	√ (If Dropbox access and Web Browser are disabled.)
443	HTTPS communication for: Web Browser, Dropbox		√	√ (If Dropbox access and Web Browser are disabled.)

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.)

SSH

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

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*
- *Updating the Firmware Through the Web*
- *Updating the Firmware Through NetLinx Studio*

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:

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

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.

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

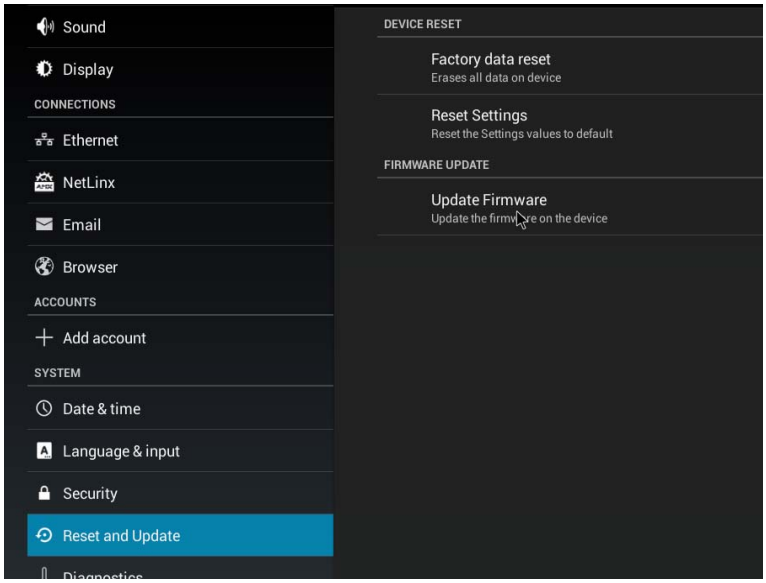


FIG. 1 Enzo System Settings Screen

6. From the available options, select **Update Firmware**. The following window appears.

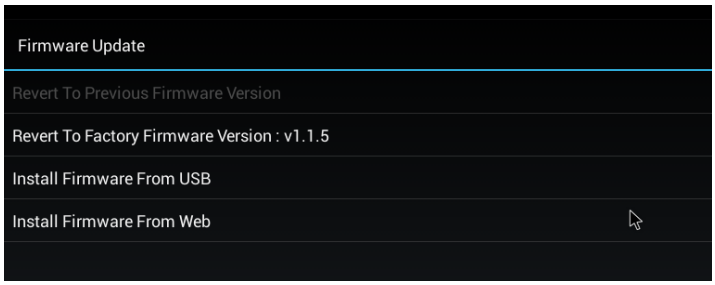


FIG. 2 Select Option Menu

7. Select **Install Firmware From USB**.
8. Select the .kit file from the list of files that appear on the USB drive (see FIG. 3).

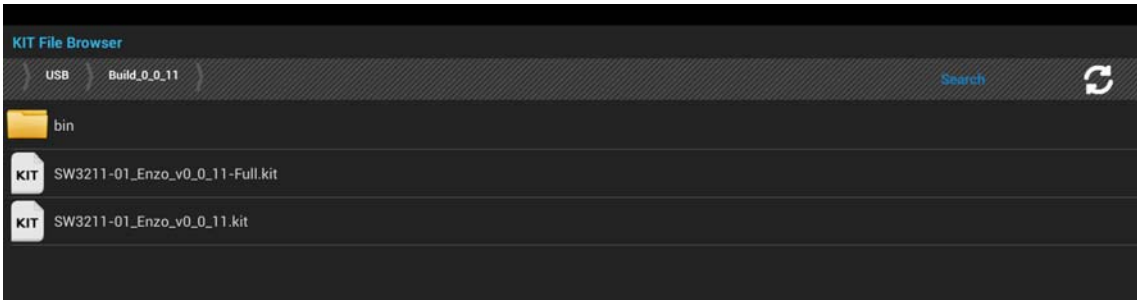


FIG. 3 KIT File Browser

9. 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. 4).

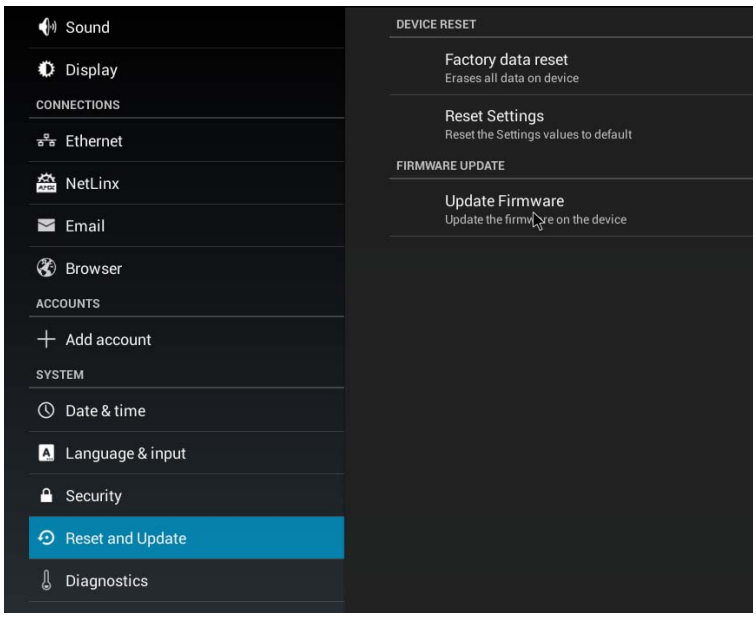


FIG. 4 Enzo System Settings Screen

2. From the available options, select **Update Firmware**. The following window appears.

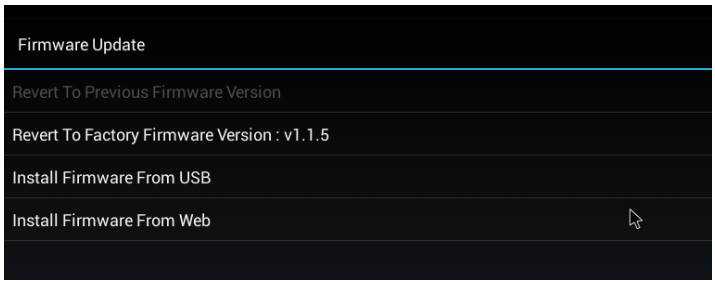


FIG. 5 Select Option Menu

3. Select **Install Firmware From Web**.
4. Enzo will connect to the AMX web server and search the latest firmware and the following window appears.

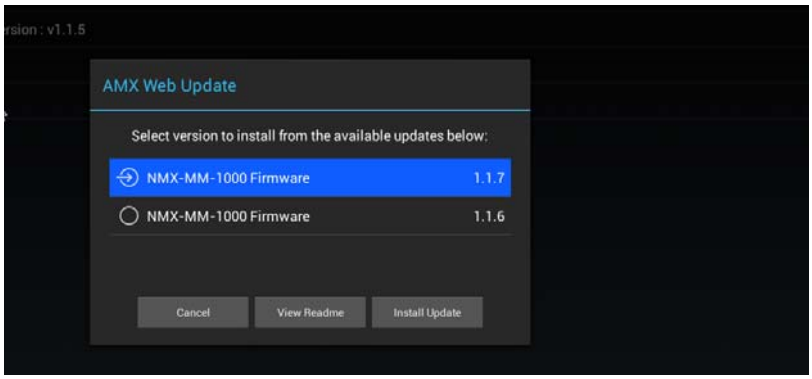


FIG. 6 AMX Web Update Menu

5. Select a software version desired from the list and click on **Install Update**. A download status screen appears.

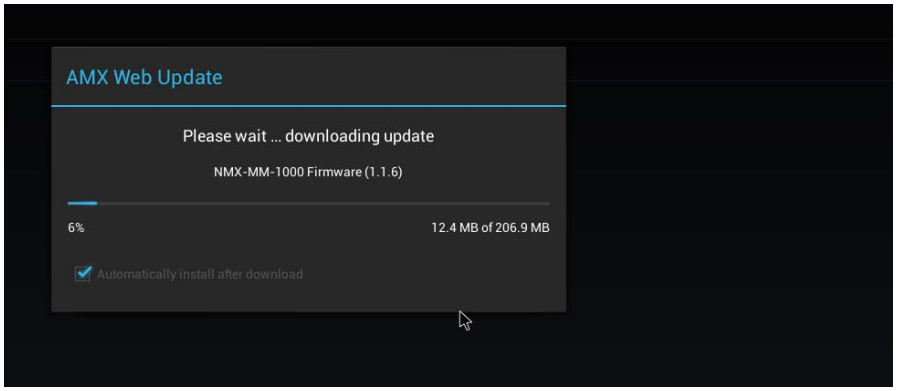


FIG. 7 Firmware Download Status

6. Once the firmware is downloaded the system copies it onto Enzo as shown in FIG. 8

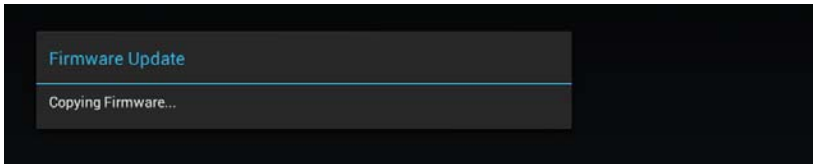


FIG. 8 Copying Firmware

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

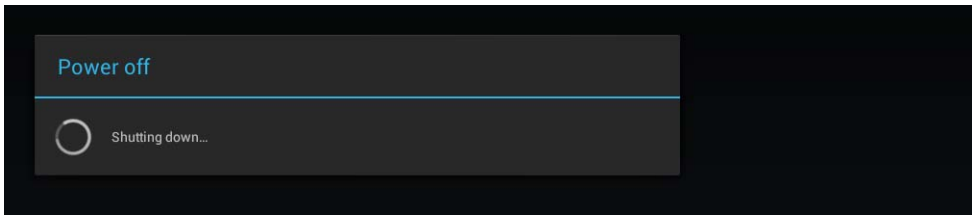


FIG. 9 System Reboot

8. 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 according to 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. 10).

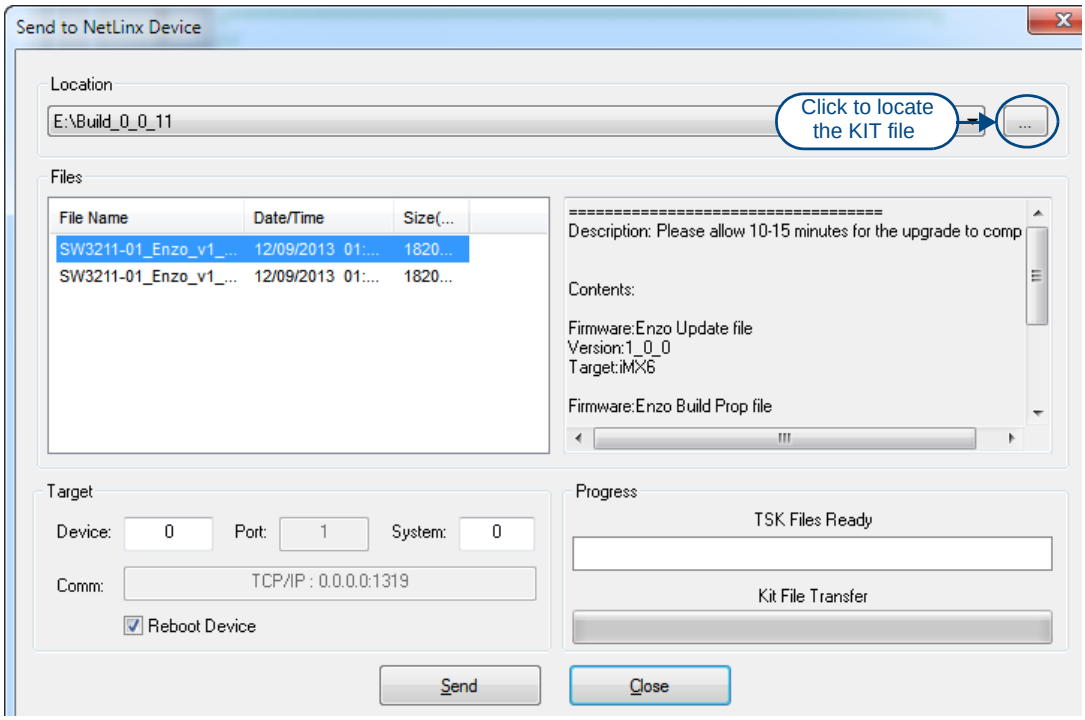


FIG. 10 Send to NetLinx Device Dialog Box (NetLinx Studio)

4. Click the Browse (...) button to navigate to the target directory in the Browse For Folder dialog box (FIG. 11).

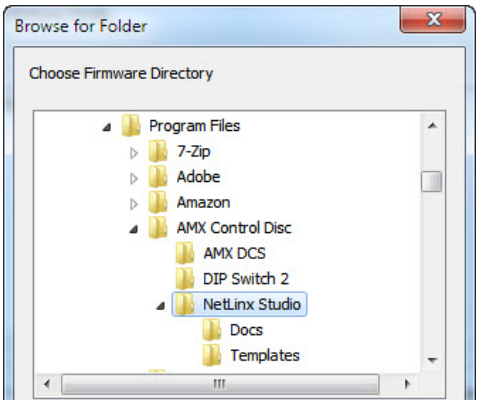


FIG. 11 Browse for Folder Dialog Box (NetLinx Studio)

- 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. 12).

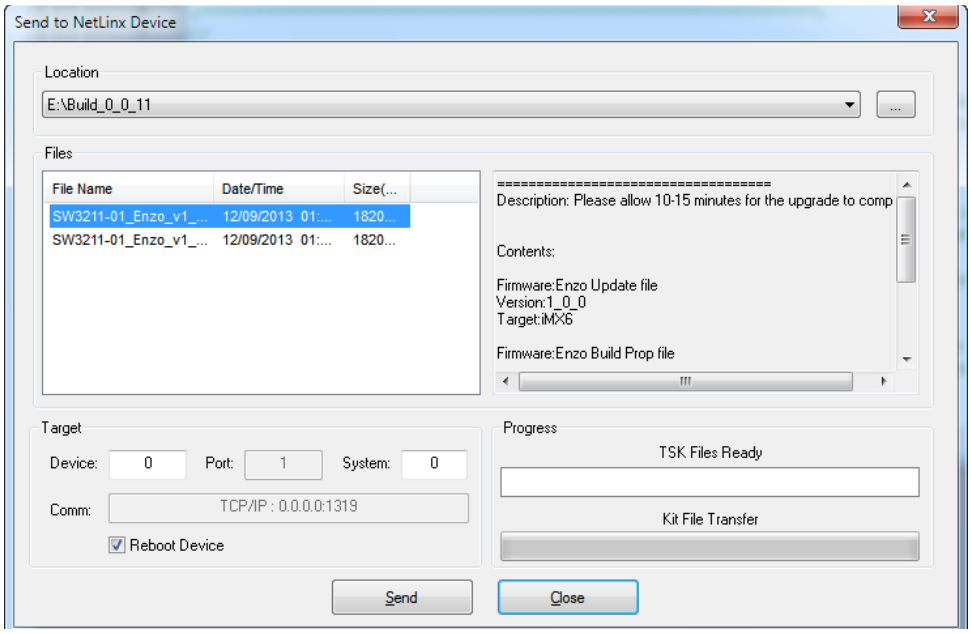


FIG. 12 Send to NetLinx Device Dialog Box (NetLinx Studio)

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. See the *NetLinx* section on page 51 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.

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 Operation/Reference Guide (available at www.amx.com).

Programming

Overview

This chapter defines all programming commands available for the NMX-MM-1000 Enzo Meeting Presentation System.

SEND_COMMANDS

The commands listed in the following sections are for the Enzo only. For generic NetLinx commands, see the *NetLinx Integrated Controllers WebConsole and Programming Guide* available at *www.amx.com*.

- The commands derive their input/output port addressing from the target D:P:S.
- Input and Output functional distinctions are disambiguated from the overlapped port numbers by combining them with the command name.

The following table lists the channels for the Enzo:

Channels

Channel	Name	Description
1	Play	Issues a PLAY command to the active app. Actual results will be app specific.
2	Stop	Issues a STOP command to the active app. Actual results will be app specific.
3	Pause	Issues a PAUSE command to the active app. Actual results will be app specific.
4	Next	Issues a NEXT command to the active app. Actual results will be app specific.
5	Previous	Issues a PREVIOUS command to the active app. Actual results will be app specific.
6	Fast Forward	Issues a FAST FORWARD command to the active app. Actual results will be app specific.
7	Rewind	Issues a REWIND command to the active app. Actual results will be app specific.
24	Volume Up	Ramps the volume up on the attached display.
25	Volume Down	Ramps the volume down on the attached display.
26	Mute Cycle	Cycles the volume mute on the attached display.

NetLinx Commands

The following list of commands may all be executed using the NetLinx SEND_COMMAND command.

NetLinx Commands	

ALERT
Displays an alert message.
	Of the arguments to pass with this command, only message is required. All other arguments are optional.
	Syntax:
	`SEND_COMMAND <DEV>, "'ALERT-<message>'"`
	`SEND_COMMAND <DEV>, "'ALERT-<message>,<type>'"`
	`SEND_COMMAND <DEV>, "'ALERT-<message>,<type>,<title>'"`
	`SEND_COMMAND <DEV>, "'ALERT-<message>,<type>,<title>, <modal>'"`
	`SEND_COMMAND <DEV>, "'ALERT-<message>,<type>,<title>, <modal>,<timeout>'"`
	Variables:
	message = The message to send
	type = The type of alert. Accepted values are 'information', 'warning', 'question', 'security', and 'critical'.
	title = The title of the alert
	modal = The modal status for the alert (true or false)
	timeout = The timeout in seconds for the alert message
	Example:
	`SEND_COMMAND 10005:1:0, "'ALERT-Exit Building Now, critical,, true'"`

ALERT.CLOSE Closes active alert message.	Syntax: `SEND_COMMAND <DEV>, "'ALERT.CLOSE'"`

APP.LAUNCH
Launches supported applications included with Enzo.
	Syntax:
	`SEND_COMMAND <DEV>, "'APP.LAUNCH-<application>'"`
	MIRROROP and BROWSER are currently the only supported applications.
	Example:
	`SEND_COMMAND 10005:1:0, "'APP.LAUNCH-MIRROROP'"`
	Response:
	None.

BACK Issues the BACK command to the operating system.	Syntax: `SEND_COMMAND <DEV>, "'BACK'"`
BLANK Displays the blanking screen.	Syntax: `SEND_COMMAND <DEV>, "'BLANK'"`
BLANK.CLOSE Close the active blanking activity display.	Syntax: `SEND_COMMAND <DEV>, "'BLANK.CLOSE'"`
BLANK.LOGO Displays the blanking screen with the animated AMX logo.	Syntax: `SEND_COMMAND <DEV>, "'BLANK.LOGO'"`
BROWSER Opens a web browser starting at the default page.	Syntax: `SEND_COMMAND <DEV>, "'BROWSER'"`

NetLinx Commands (Cont.)	

CONTENT.ACTION.EMAIL
E-mail the selected item/file as an attachment to a list of recipient e-mail addresses.
	Syntax:
	`SEND_COMMAND <DEV>,"'CONTENT.ACTION.EMAIL-<item-key>,<email-to>,<subject>,<message>`
	Variables:
	item-key = The desired item path to email. (Required)
	email-to = Email (TO) address list. (semicolon delimited) (Required)
	subject (optional) = Email subject text. (Optional)
	message (optional) =Email message/body text. (Optional)
	Examples:
	`SEND_COMMAND 10005:0:1,"'CONTENT.ACTION.EMAIL-/folder/sub-folder/content-item.xxx,user@domain.com'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.ACTION.EMAIL-/folder/sub-folder/content-item.xxx,user1@domain.com;user2@domain.com'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.ACTION.EMAIL-/folder/sub-folder/content-item.xxx,user@domain.com,subject'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.ACTION.EMAIL-/folder/sub-folder/content-item.xxx,user@domain.com,subject,message'"`
	Response:
	`CONTENT.ACTION.EMAIL.SUCCESS-<item-path>`
	Note: *If any error is encountered while trying to email the content item, the following error event notification will be broadcast.*
	`CONTENT.ACTION.EMAIL.ERROR-<error-message>,<item-path>`

CONTENT.ACTION.OPEN
Open the selected item/file using the default viewing application.
	Syntax:
	`SEND_COMMAND <DEV>, "'CONTENT.ACTION.OPEN-<item-path>'"`
	Variable:
	item-path = The desired item path to open
	Example:
	`SEND_COMMAND 10005:0:1,"'CONTENT.ACTION.OPEN-/folder/sub-folder/content-item.xxx'"`
	Response:
	`CONTENT.ACTION.OPEN.SUCCESS-<item-path>`
	Note: *If any error is encountered while trying to open the content item, the following error event notification will be broadcast.*
	`CONTENT.ACTION.OPEN.ERROR-<error-message>,<item-path>`

CONTENT.ACTION.SHARE
Share the selected item/file if the content source supports sharing.
	Syntax:
	`SEND_COMMAND <DEV>, "'CONTENT.ACTION.SHARE-<item-key>'"`
	Variable:
	item-key = The desired item path to share
	Example:
	`SEND_COMMAND 10005:0:1,"'CONTENT.ACTION.SHARE-/folder/sub-folder/content-item.xxx'"`
	Response:
	`CONTENT.ACTION.SHARE.SUCCESS-<item-path>`
	Note: *If any error is encountered while trying to share the content item, the following error event notification will be broadcast.*
	`CONTENT.ACTION.SHARE.ERROR-<error-message>,<item-path>`

NetLinx Commands (Cont.)	

?CONTENT.ITEM
Retrieve the details of a specific content item available in the current content cursor path and source.
	Syntax:
	`SEND_COMMAND <DEV>, "'?CONTENT.ITEM-<item-path>'"`
	Variable:
	item-path = The desired item to query.
	Example:
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEM-/folder/sub-folder/content-item.xxx'"`
	Response:
	`CONTENT.ITEM-<source-id>,<item-path>,<item-name>,<item-type>,<item-size>,<item-last-modified>,<item-read-only>`
	Note: *If any error is encountered while trying to query the content item, the following error event notification will be broadcast.*
	`CONTENT.ITEM.ERROR-<error-message>,<item-path>`

?CONTENT.ITEMS
Retrieve the listing of content items available via the current content cursor path and source.
	Syntax:
	`SEND_COMMAND <DEV>, "'?CONTENT.ITEMS-(<start-index>), (<records-count>),(<exclude-special-items:true|false>)"`
	Variables:
	start-index (optional) = The starting record to return in the results response. If not provided, the result set will start with the first index. (The index is one-based; not zero-based.) If the starting index is greater than the total available records, then no records will be returned in the response.
	records-count (optional) = The number of records to return in the results response. If not provided, the result set will include all records to the end of the result set. (If the requested record count is greater than the total available records remaining, then only the available records to the end of the listing will be returned in the response.)
	exclude-special-items (optional)= Instruct the item records returned to include (value = 'false') or exclude (value = 'true') special UI only items such as <Clear Search Results> and <Up To Parent> items in the result set. If this argument is not provided, the results items will include the special items.
	Examples:
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS-4'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS-10,30'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS'-10,30,true"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS'-,,true"`
	Response:
	`CONTENT.ITEMS.RECORD.COUNT-<relative-records-count>,<absolute-records-count>`
	Note: *If the number of content item (records) is greater than zero, then the responses will include the following command event for each content item record.*
	`CONTENT.ITEMS.RECORD-<relative-record-index>,<absolute-record-index>,<source-id>,<item-path>,<item-name>,<item-type>,<item-size>,<item-last-modified>,<item-read-only>`
	Note: *If any error is encountered while trying to query the list of content items, the following error event notification will be broadcast.*
	`CONTENT.ITEMS.ERROR-<error-message>`

NetLinx Commands (Cont.)	

?CONTENT.ITEMS.COUNT
Retrieve the total number of records available in the current content listing.
	Syntax:
	`SEND_COMMAND <DEV>,"'?CONTENT.ITEMS.COUNT-<exclude-special-items:true|false>'"`
	Variable:
	exclude-special-items (optional) = Instruct the item records returned to include (value = 'false') or exclude (value = 'true') special UI only items such as <Clear Search Results> and <Up To Parent> items in the result set. If this argument is not provided, the results items will include the special items.
	Examples:
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS.COUNT'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS.COUNT-true'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.ITEMS.COUNT-false'"`
	Response:
	`CONTENT.ITEMS.COUNT-<records-count>`
	Note: If any error is encountered while trying to query the total record count from the content items, the following error event notification will be broadcast.
	`CONTENT.ITEMS.COUNT.ERROR-<error-message>`

?CONTENT.PATH
Retrieve the current working path in the content cursor for the current selected content source.
	Syntax:
	`SEND_COMMAND <DEV>,"'?CONTENT.PATH'"`
	Example:
	`SEND_COMMAND 10005:0:1,"'?CONTENT.PATH'"`
	Response:
	A confirmation event will be returned including the current source and content cursor path.
	`CONTENT.PATH-<source-id>,<path>`
	Note: *If the requested path is not found or any other error is encountered while trying to assign the content cursor path, the following error event notification will be broadcast.*
	`CONTENT.PATH.ERROR-<error-message>,<current-path>`

CONTENT.PATH
Assign/select a working path in the content cursor for the current selected content source.
	Syntax:
	`SEND_COMMAND <DEV>, "'CONTENT.PATH-<path>'"`
	Variable:
	path (optional) = The desired path to assign to the content cursor. If omitted or empty, the root path will be applied for the content source.
	The value of "{ROOT}" can be specified to select the root path for the current content cursor source.
	The value of "{UP}" can be specified to select the parent path for the current content cursor path.
	The value of "{REFRESH}" can be specified to refresh last known path for the current content cursor path
	The value of "{SEARCH.CLEAR}" can be specified to select the last known path for the current content cursor path thus clearing the search result listing.
	Examples:
	`SEND_COMMAND 10005:0:1,"'CONTENT.PATH'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.PATH-{ROOT}'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.PATH-{UP}'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.PATH-{REFRESH}'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.PATH-{SEARCH.CLEAR}'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.PATH-/folder-name/sub-folder'"`
	Response:
	A confirmation event will be returned including the current source and content cursor path.
	`CONTENT.PATH-<source-id>,<path>`
	Note: *If the requested path is not found or any other error is encountered while trying to assign the content cursor path, the following error event notification will be broadcast.*
	`CONTENT.PATH.ERROR-<error-message>,<requested-path>`

NetLinx Commands (Cont.)	

CONTENT.SEARCH
Retrieve the listing of content items available via the current content source that match the requested search term.
	The records matching the search criteria will be available in the content listing records. Use the "?CONTENT.ITEMS" command to query the item records after the search listing is available.
	Syntax:
	`SEND_COMMAND <DEV>, "'CONTENT.SEARCH-<search-term>'"`
	Variable:
	search-term = The search term/expression used in the source content lookup
	Examples:
	`SEND_COMMAND 10005:0:1,"'CONTENT.SEARCH-budget'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.SEARCH-annual'"`
	Response:
	`CONTENT.SEARCH.RESULT-<search-term>,<search-results-count>`
	Note: *If any error is encountered while trying to query the total record count from the content items, the following error event notification will be broadcast.*
	`CONTENT.SEARCH.ERROR-<error-message>,<search-term>`

CONTENT.SEARCH. CLEAR
Clear the search query result item listing and switch back to the last known content path listing.
	Syntax:
	`SEND_COMMAND <DEV>,"'CONTENT.SEARCH.CLEAR'"`
	Examples:
	`SEND_COMMAND 10005:0:1,"'?CONTENT.SEARCH.CLEAR-budget'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.SEARCH.CLEAR-annual'"`
	Response:
	A confirmation event will be returned including the current source and content cursor path.
	`CONTENT.PATH-<source-id>,<path>`
	Note: *If the requested path is not found or any other error is encountered while trying to assign the content cursor path, the following error event notification will be broadcast.*
	`CONTENT.PATH.ERROR-<error-message>,<current-path>`

?CONTENT.SOURCE
Retrieve detailed properties of a content source.
	If an explicit content source ID is not provided in the request command, the current selected source on the content cursor is used.
	Syntax:
	`SEND_COMMAND <DEV>, "'?CONTENT.SOURCE-<source-id>'"`
	Variable:
	source-id = The content source from which to query properties (optional)
	Examples:
	`SEND_COMMAND 10005:0:1,"'?CONTENT.SOURCE'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.SOURCE-usb'"`
	Response:
	`CONTENT.SOURCE-<source-id>,`
	`<source-name>,`
	`<source-root-path>,`
	`<source-is-ready:true|false>`
	Note: *If the requested source is not found or if another error occurs, then the following error event notification will be broadcast.*
	`CONTENT.SOURCE.ERROR-<error-message>,<requested-source-id>`

NetLinx Commands (Cont.)	

CONTENT.SOURCE
Assign/select a content source to the content cursor.
	This source will be assigned as the current content source on the content cursor for future queries.
	Syntax:
	`SEND_COMMAND <DEV>, "'?CONTENT.SOURCE-<source-id>'"`
	Variable:
	source-id = The content source to assign.
	Example:
	`SEND_COMMAND 10005:0:1, "'CONTENT.SOURCE-usb'"`
	Response:
	A confirmation event will be returned including the detailed properties of the newly assigned content source.
	`CONTENT.SOURCE.CHANGED-<source-id>, <source-name>, <source-root-path>, <source-is-ready:true|false>`
	Note: *If the requested path is not found or any other error is encountered while trying to assign the content cursor path, the following error event notification will be broadcast.*
	`CONTENT.SOURCE.ERROR-<error-message>,<requested-source-id>`

CONTENT.SOURCE. EJECT
Ejects a detachable content source.
	If an explicit content source ID is not provided in the request command, the current selected source on the content cursor is used.
	Syntax:
	`SEND_COMMAND <DEV>,"'CONTENT.SOURCE.EJECT-<source-id>'"`
	Variables:
	source-id = The content source to eject (optional)
	Examples:
	`SEND_COMMAND 10005:0:1,"'CONTENT.SOURCE.EJECT'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.SOURCE.EJECT-usb'"`
	Responses:
	`CONTENT.SOURCE.EJECTED-<source-id>`
	Note: *If the requested source is not found or if another error occurs, then the following error event notification will be broadcast.*
	`CONTENT.SOURCE.EJECT.ERROR-<error-message>,<requested-source-id>`
	Note: If the affected source was the current selected source, then the `CONTENT.SOURCE` event may also be broadcast.

CONTENT.SOURCE. LOGOUT
Log off the current content source.
	If an explicit content source ID is not provided in the request command, the current selected source on the content cursor is used.
	Syntax:
	`SEND_COMMAND <DEV>, "'CONTENT.SOURCE.LOGOUT-<source-id>'"`
	Variables:
	source-id = The content source to log out (optional)
	Examples:
	`SEND_COMMAND 10005:0:1,"'CONTENT.SOURCE.LOGOUT'"`
	`SEND_COMMAND 10005:0:1,"'CONTENT.SOURCE.LOGOUT-dropbox'"`
	Responses:
	`CONTENT.SOURCE.LOGOUT-<source-id>`
	Note: *If the requested source is not found or if another error occurs, then the following error event notification will be broadcast.*
	`CONTENT.SOURCE.LOGOUT.ERROR-<error-message>,<requested-source-id>`
	Note: If the affected source was the current selected source, then the `CONTENT.SOURCE` event may also be broadcast.

NetLinx Commands (Cont.)	

?CONTENT.SOURCES
Retrieve a listing of enabled content sources.
	Syntax:
	`SEND_COMMAND <DEV>,"'CONTENT.SOURCES-<start-index>,<records-count>'"`
	Variables:
	start-index (optional) = The starting record to return in the results response. If not provided, the result set will start with the first index. (index is one-based; not zero-based) If the starting index is greater than the total available records, then no records will be returned in the response.
	records-count (optional) = The number of records to return in the results response. If not provided, the result set will include all records to the end of the result set. (If the requested record count is greater than the total available records remaining, then only the available records to the end of the listing will be returned in the response.)
	Examples:
	`SEND_COMMAND 10005:0:1,"'?CONTENT.SOURCES'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.SOURCES-2'"`
	`SEND_COMMAND 10005:0:1,"'?CONTENT.SOURCES-2,5'"`
	Responses:
	`CONTENT.SOURCES.RECORD.COUNT-<relative-records-count>,<absolute-records-count>`
	Note: *If the number of content sources (records) is greater than zero, then the responses will include the following command event for each source record.*
	`CONTENT.SOURCES.RECORD-<relative-record-index>,`
	`<absolute-record-index>,`
	`<source-id>,`
	`<source-name>,`
	`<source-root-path>,`
	`<source-is-ready:true|false>`
	Note: *If any error is encountered while trying to query the list of content sources, the following error event notification will be broadcast.*
	`CONTENT.SOURCES.ERROR-<error-message>`

?CONTENT.SOURCES.COUNT
Retrieve number of available content source records.
	Query for the total number of content source records available.
	Syntax:
	`SEND_COMMAND <DEV>, "'?CONTENT.SOURCES.COUNT'"`
	Responses:
	`CONTENT.SOURCES.COUNT-<total-records-available>`
	Note: *If any error is encountered while trying to query the total record count from the content sources, the following error event notification will be broadcast.*
	`CONTENT.SOURCES.COUNT.ERROR-<error-message>`

DOWN Issues an ARROW-DOWN keystroke to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'DOWN'"`
ENTER Issues a ENTER keystroke to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'ENTER'"`
EXIT Ends the current session.	Syntax: `SEND_COMMAND <DEV>, "'EXIT'"`
FFWD Issues a FAST FORWARD command to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'FFWD'"`
HOME Issues the HOME command to the operating system.	Syntax: `SEND_COMMAND <DEV>, "'HOME'"`

NetLinx Commands (Cont.)	

KEY
Issues a series of keystrokes to the active app.
	Syntax:
	`SEND_COMMAND <DEV>, "'KEY-<string>'"`
	Variable:
	string = The string of keystrokes to send.
	Example:
	`SEND_COMMAND 10005:1:0, "'KEY-Hello, World'"`

LEFT Issues an ARROW-LEFT keystroke to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'LEFT'"`
NEXT Issues a NEXT command to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'NEXT'"`
PAGE.DOWN Issues a PAGE DOWN keystroke to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'PAGE.DOWN'"`
PAGE.UP Issues a PAGE UP keystroke to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'PAGE.UP'"`

?PASSCODE
Retrieve the current session passcode.
	Syntax:
	`SEND_COMMAND <DEV>, "'?PASSCODE'"`
	Example:
	`SEND_COMMAND 10005:1:0,"'?PASSCODE'"`
	Response:
	`No Session active: PASSCODE-NONE`
	`Session active no passcode set: PASSCODE-OPEN`
	`Session active passcode set: PASSCODE-<passcode>, PASSCODE-1234`

PAUSE Issues a PAUSE command to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'PAUSE'"`
PLAY Issues a PLAY command to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'PLAY'"`
PREVIOUS Issues a PREVIOUS command to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'PREVIOUS'"`

QR
Displays a QR code on the video output.
	Syntax:
	`SEND_COMMAND <DEV>, "'QR-<url>'"`
	`SEND_COMMAND <DEV>, "'QR-<url>,<title>'"`
	`SEND_COMMAND <DEV>, "'QR-<url>,<title>,<link>'"`
	Variables:
	url = The actual URL to display as a QR code
	title = A title to display for the QR code. This argument is optional.
	link = true or false. Display a text version of the URL.
	Example:
	`SEND_COMMAND 10005:1:0,"'QR-http://www.amx.com,,true'"`
	Shows a QR code for the AMX website without a title but with a text version of the URL.

QR.CLOSE Closes an active QR code.	Syntax: `SEND_COMMAND <DEV>, "'QR.CLOSE'"`
REWIND Issues a REWIND command to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'REWIND'"`

NetLinx Commands (Cont.)	
RIGHT Issues an ARROW-LEFT keystroke to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'RIGHT'"`
START Starts a new session	Syntax: `SEND_COMMAND <DEV>, "'START'"`
STOP Issues a STOP command to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'STOP'"`
UP Issues an ARROW-UP keystroke to the active app.	Actual results will be app-specific. Syntax: `SEND_COMMAND <DEV>, "'UP'"`

WEB
Opens a web page.
	Syntax:
	`SEND_COMMAND <DEV>, "'WEB-<url>,<title>'"`
	`SEND_COMMAND <DEV>, "'WEB-<url>,<title>,<mobile: true|false>'"`
	Variables:
	url = The URL to display
	title = The title of the display. This argument is optional.
	mobile = true|false: 'True' will request the URL to load the mobile version of the web page. 'False' will request the URL to load the desktop version of the web page.
	(Note: If this option is omitted, it defaults to 'false' thus resulting in a 'desktop' version of the requested URL.)
	Example:
	`SEND_COMMAND 10005:1:0,"'WEB-http://www.amx.com,AMX'"`

WEB.CLOSE Closes an open web page.	Syntax: `SEND_COMMAND <DEV>, "'WEB.CLOSE'"`

Response Commands

The following table lists the responses that are returned as COMMANDS in response to the commands above:

Response Commands	

CONTENT.PATH	This command is delivered to the NetLinx program anytime the current content path on the API cursor is changed.
	Content path changes include the following events:
	• The content path is changed/updated via the content API commands. (CONTENT.PATH-<path>)
	• A content source change occurs:
	  ◦ The content source is changed/updated via the content API commands. (CONTENT.SOURCE-<source-id>)
	  ◦ A removable content source is attached or removed.
	  ◦ An authenticated content source is authenticated/unauthenticated.
	Syntax:
	`CONTENT.PATH-<source-id>,<path>`

CONTENT.SOURCE. CHANGED	This command is delivered to the NetLinx program anytime the content source used in the API cursor is changed.
	Content source changes include the following events:
	• The content source is changed/updated via the content API commands. (CONTENT.SOURCE-<source-id>)
	• A removable content source is attached or removed.
	• An authenticated content source is authenticated/unauthenticated.
	Syntax:
	`CONTENT.COMPLETE-<source-id>`
	`-<source-name>`
	`-<source-root-path>`
	`-<source-is-ready:true|false>`

Enzo Keypad

The Enzo keypad provides a simple web-based user interface for NetLinx control systems which can be used to control Enzo. The Enzo keypad can be programmed and the settings uploaded to a NetLinx Master using AMX's NetLinx Studio application. The Enzo keypad works in an identical fashion to a physical keypad. FIG. 13 displays an example of the Enzo keypad.

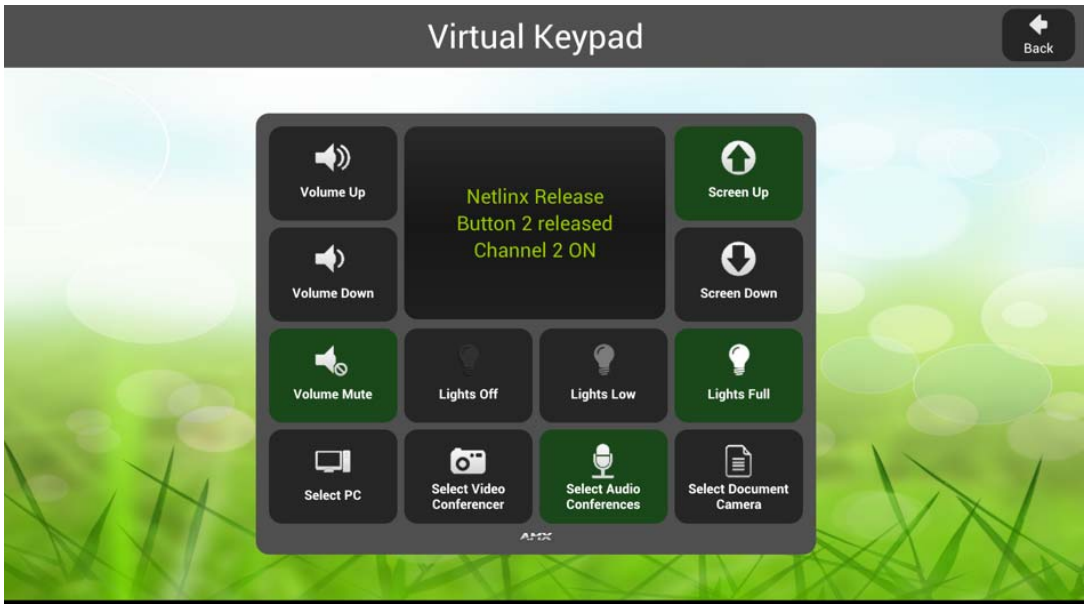


FIG. 13 Enzo Keypad (example)

Installing the Enzo Keypad onto a NetLinx Master

A source code example for the Enzo keypad is available for download at www.amx.com. The example code is stored in a .zip file. The .zip file contains two files:

- EnzoKeypad.axi - An .axi file is an include file that is included in the compiling process without having to reside in the Master Code file itself. Include files are effectively linked to the Source Code file, and must be called in the Master Source Code.
- EnzoKeypadExample.axs - The source code file containing code that is sent to the NetLinx Master.

The example code serves as a starting point for creating a virtual keypad. The code can be customized to implement functionality for button events, line text feedback, and button label text.

Perform these steps to install the Enzo keypad onto a NetLinx Master.

NOTE

Before starting, verify that the latest version of NetLinx Studio 3 (available via free download at www.amx.com) is installed.

1. Add the EnzoKeypadExample.axs file to the workspace in NetLinx Studio. Right-click the Source folder in the Workspace bar of NetLinx Studio, select **Add Existing Source File**, and browse for the .axs file to add it to the workspace.
2. Add the EnzoKeypad.axi file to the workspace in NetLinx Studio. Right-click the Include folder in the Workspace bar of NetLinx Studio, select **Add Existing Include File**, and browse for the .axi file to add it to the workspace.
3. In the application workspace, add the custom code to implement functionality for button events, line text feedback, and button label text. This includes constant definitions, variable definitions (for ramping), module definitions, data events, and button events.
4. Ensure the virtual device definition for the Enzo Keypad has a unique device number, as there may be other previously-defined virtual devices.
5. Click the **Build Active System** button to build the system and ensure all code compiles without errors.
6. Select the NetLinx Master to which to transfer the code.
7. Click **Send** to transfer the code to the NetLinx Master.

Appendix A - AMX Shell Commands

AMX Shell

AMX Shell is a Java implementation of a command shell that can be implemented to expose remote access and management to the Enzo device. To access AMX Shell, the Enzo device must have Secure Shell (SSH) enabled. See the *Diagnostics* section on page 56 for more information.

NOTE

For Windows systems, AMX Shell requires a terminal client that supports SSH connections, such as PuTTY, TeraTerm, or Indigo Terminal Emulator.

Default Connection Settings and Access Credentials

To connect to the Enzo device, the IP address of the device is needed. See the *Locating the IP Address of the Device* section on page 12 for more information.

The following table lists the default connection settings and access credentials for AMX Shell:

Connection Settings and Access Credentials	
Protocol	SSH
Username	amx
Password	1988 (This value will match the Security settings.)

Connecting to Enzo via AMX Shell

To connect, the IP address of the Enzo device needs to be known. See the *Locating the IP Address of the Device* section on page 12 for information about retrieving the IP address of the Enzo device.

The following is an example of an SSH connection command:

```
> ssh amx@192.168.0.1 -p22 [ENTER]
```

In the above example, amx serves as the user name. The default port number is 22. Use the -p attribute to connect to a different port number. After pressing ENTER, type the password at the password prompt. (The default password is *1988*.)

Using a Windows Terminal Client to Connect to Enzo via AMX Shell

The terminal client used to connect to Enzo must support SSH connections. The log on process varies depending on the terminal client being used to connect to Enzo. Consult the terminal client documentation for help.

1. Open the terminal client and type the IP address of Enzo in the Hostname or IP Address text box.
2. Set the connection type to **SSH**.
3. When prompted for the user name, enter *amx*.
4. When prompted for the password, enter *1988*. The AMX Shell splash page appears (FIG. 14).

FIG. 14 AMX Shell Splash Page

Shell Commands

The following sections list the shell commands available for the Enzo device.

Command Auto-Complete

AMX Shell supports command auto-complete using the TAB key. Press the tab key at the command prompt anytime to see a listing of all available commands (FIG. 15).

```
> [TAB]
```

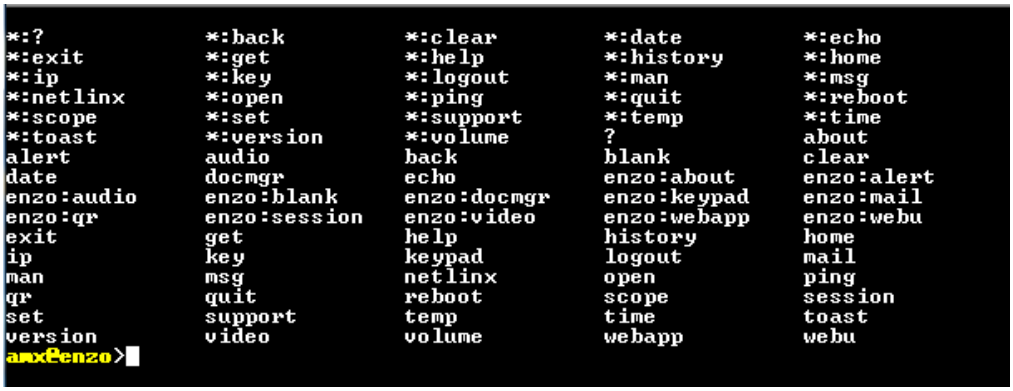


FIG. 15 Command List via Tab Key

Press the tab key after entering one or more characters to see the listing of possible command matches (FIG. 16).

```
> t [TAB]
```

FIG. 16 Command Matching with the Tab Key

If the auto-complete results find only a single match, the command is completed after the characters entered (FIG. 17).

```
> to [TAB]
```

FIG. 17 Auto-complete Using the Tab Key

Command Scopes

AMX Shell registers all commands with a "scope" attribute. The scope is an additional qualifier that can help distinguish duplicate command names at run/execution time. (Duplicate commands using the same command name and scope names are not permitted.)

NOTE

It is best to avoid duplicate command names, but if necessary, use the scope to uniquely resolve each distinct command.

NOTE

Command names are also displayed without the scope identifier for commands that can be resolved without the scope identifier.

The command scope is included in the command listing.

Use the scope name and press the TAB key to auto-complete and see the scope-specific command listing (FIG. 18).

```
> enzo [TAB]
```

FIG. 18 Scope-specific Command Listing

A command can be executed with the fully-qualified command scope and command name (FIG. 19).

NOTE

Full command scope is typically not required; however, if there are duplicate command names, include the scope to ensure that thee correct command is being executed.

```
> enzo:keypad --close [ENTER]
```

```
amx@enzo>keypad --close
Closing virtual keypad controller screen.
amx@enzo>
```

FIG. 19 Full command scope

While in a user-specified scope, the scope name is included in the command prompt: `amx@Enzo(enzo)>`.

```
> scope enzo [ENTER]
```

```
amx@enzo>scope enzo
Current shell scope: enzo
amx@enzo(enzo)>
```

FIG. 20 User-specified Scope

While in a user-specified scope, the auto-complete listing is limited (filtered) to the commands available in the specified scope.

```
> scope enzo [ENTER]
> [TAB]\
```

```
amx@enzo(enzo)>
about       alert       audio       blank       docmgr      keypad
mail        qr          session     video       webapp      webu
amx@enzo(enzo)>
```

FIG. 21 User-specified Scope Commands

While in a user specified scope, the help command listing is limited (filtered) to the commands available in the specified scope.

```
> scope enzo [ENTER]
> help [ENTER]
```

```
amx@enzo(enzo)>scope enzo
Current shell scope: enzo
amx@enzo(enzo)>help

COMMAND LISTING

enzo:about            Display the about screen on the display device connect
enzo:alert            Display an alert notification on screen.
enzo:audio            Audio settings.
enzo:blank            Show/hide blank screen.
enzo:docmgr           Display the document management screen.
enzo:keypad           Display the virtual keypad controller on screen.
enzo:mail             Configure mail settings.
enzo:qr               Display a QR code.
enzo:session          Start or end an enzo session.
enzo:video            Video settings.
enzo:webapp           Open a web application URL in full screen view.
enzo:webu             Web Update
```

FIG. 22 User-specified Scope Command Listing

System Scope

All AMX Shell system commands are registered with the scope identifier "*" (asterisk). System-scoped commands are given the highest priority for command resolution.

Scope Command

The scope command is provided as a default system command. Use the scope command to specify a scope at runtime in which to work. If working in a specific scope, all commands executed via the shell will have biased command resolution to the selected scope.

The following command displays the scope command usage in the shell session.

```
> scope --help [ENTER]
```

Use the scope command to switch scopes ().

```
> scope [ENTER]
```

Immediately switch to a new specified scope by including the scope namespace as an argument to the scope command.

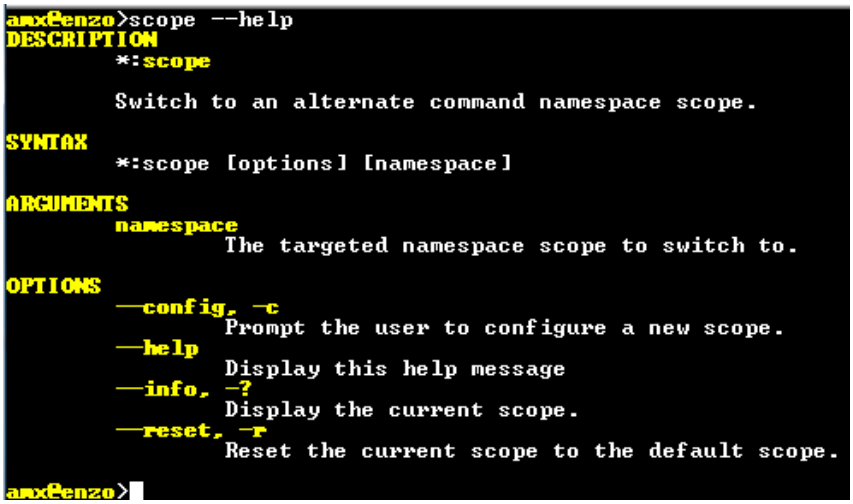


FIG. 23 Scope Command Help

FIG. 24 Scope Command

```
> scope enzo [ENTER]
```

FIG. 25 Scope Command with Namespace

Return to the default system scope by using the "–reset" (or "-r") command option.

```
> scope --reset [ENTER]
```

FIG. 26 Reset Scope

Command Arguments

AMX Shell commands support command arguments. Command arguments typically include informational data that is required for the command to fulfill its intended goals.

The following command is an example of using a command argument to send a text message to the toast command. The toast command is displayed on the output connected to the Enzo.

```
> toast "This is a test of the emergency broadcast system" [ENTER]
```

NOTE

If a command argument datum includes a space character, then the command argument string must be wrapped with double quotes.

Command Options

AMX Shell supports command options. Command options always start with a hyphen ("-") character. Command options are used to provide additional (and often optional) content or instructions to the command execution.

NOTE

Long option names start with two hyphen characters. Example: "--system" Abbreviated (short) option names start with a single hyphen character. Example: "-s"

The following command is an example of using command options to apply specific settings values to the NetLinx command.

```
> netlinx --system 0 --device 10005 --mode URL
```

Help Commands

List registered shell commands on-screen using the "help" command. The "?" command is an alias for "help".

```
> help [ENTER]
> ? [ENTER]
```

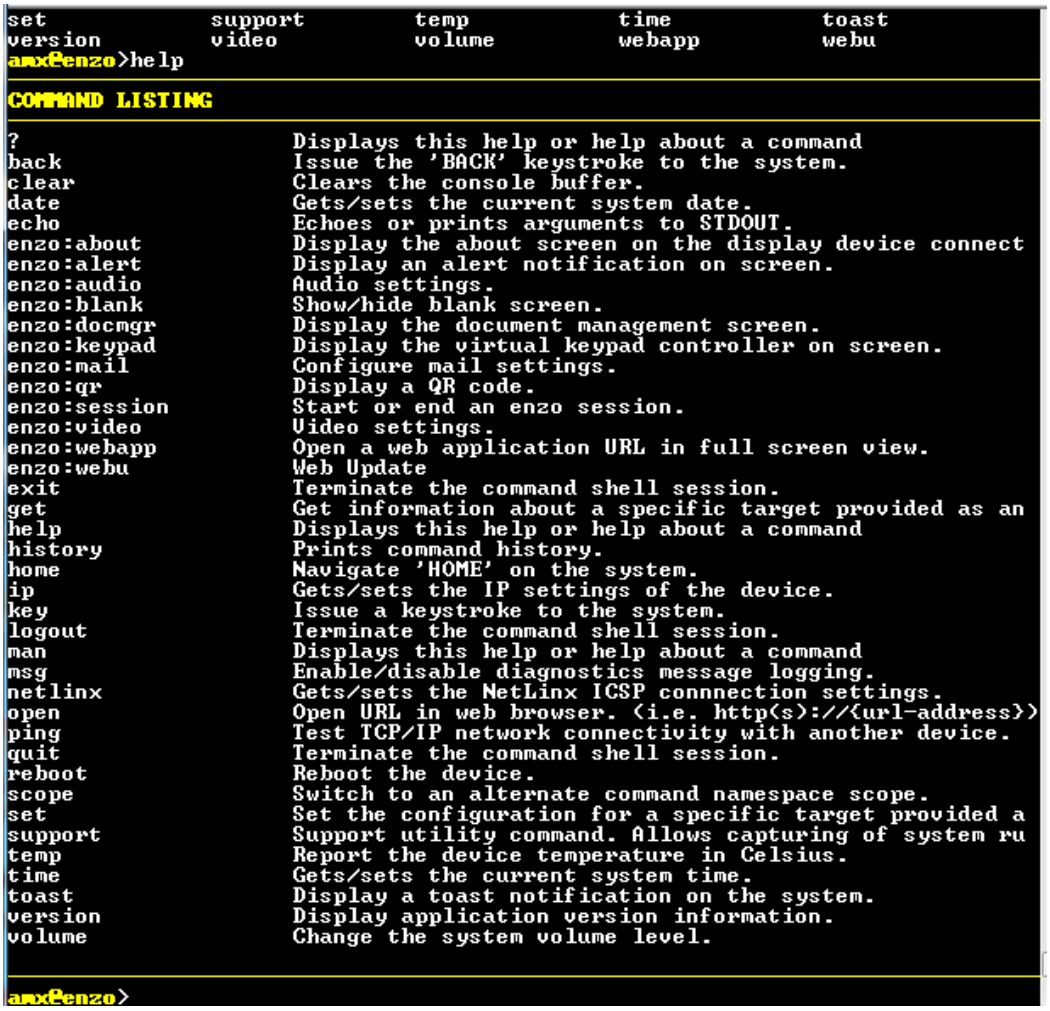


FIG. 27 Help Command

To access the usage details, command arguments, and options, include the "–help" option at the end of any command.

NOTE

The "man" (manual) command can display the same command detail & usage information.

```
> echo --help [ENTER]
> man echo [ENTER]
```

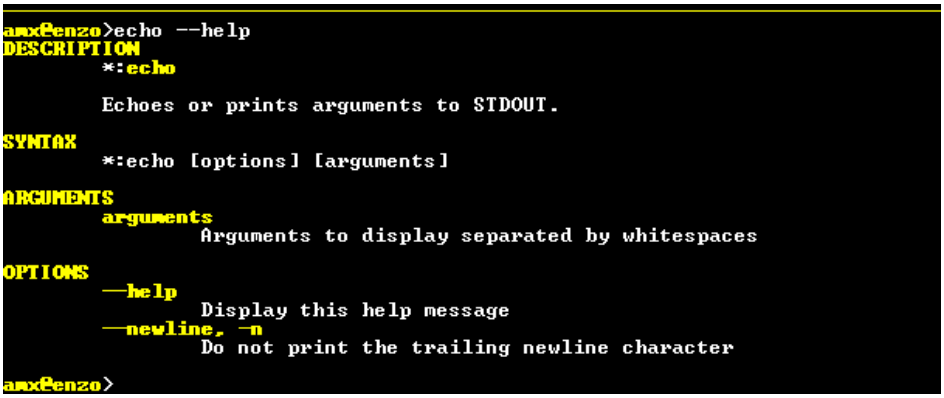


FIG. 28 --help option

Get/Set Command Proxies

Amx Shell defines specialized "get" and "set" commands to help establish a convention across all implementing products so that a common command syntax/notation for obtaining (get) information or applying (set) configuration settings.

The "get" and "set" commands are considered command proxies because all they do is execute the targeted underlying command with a prefixed command line option. The target command must support the command line options for the get and set command to function with the target command. Support for get and set commands is noted within each command definition in the command list tables below.

NOTE

All shell commands that can provide status or display data support the --info command line option and thus support the get command.
All shell commands that can be used to configure settings or apply runtime configuration support the --config command line option and thus support the set command.

System Shell Commands

The following table lists the system shell commands. These commands are configured system commands and are available to all implementations of AMX Shell.

System Shell Commands	
clear	Clear the console screen. Syntax: `*:clear`
date	Gets/sets the current system date. Syntax: `*:date [options] [date]` Arguments: date - New date in format: YYYY-MM-DD Options: --day, -d Day of month (1-31) (defaults to -1) --config, -c, --set Set the system date --help Display a help message --verbose, -v Display verbose date information --info, -? Display the current date on screen --month, -m Month (1-12) (defaults to -1) --year, -y Year (XXXX) (defaults to -1)
echo	Echoes the provided argument text. Syntax: `*:echo [options] [arguments]` Arguments: arguments - Arguments to display separated by whitespaces Options: --help Display a help message --newline, -n Do not print the trailing newline character
get	Command proxy used to get information about a specific target (command). See the *Get/Set Command Proxies* section on page 83 for more information. Syntax: `*:get [arguments]` Arguments: arguments - Command arguments to pass through.
help	Displays a help listing of all available shell commands to which the user has permission to access or displays help about a specific command. Syntax: `*:help [command]` Arguments: command - The command for which to get help

System Shell Commands (Cont.)	
history	Prints the command history. Syntax: `*:history`
home	Navigate to the home screen on the video output. This command returns to the Enzo main screen. It does not exit the session. Syntax: `*:home`
ip	Gets/sets the IP settings for the Enzo device. Syntax: `*:ip [options]` Options: --config, -c, --set Configure the set-up info interactively --dns1, -d1 The IP address of the primary DNS server --dns2, -d2 The IP address of the secondary DNS server --domain, -dn The domain name for the network --gateway, -gw The gateway IP address --help Displays a help message --hostname, -hn The host name for the device. (Alpha-numeric values, dashes, and no spaces.) --info, -i Displays the current IP settings --ipaddress, -ip The static IP address for the device. --mode, -m Set the connection mode (DHCP or Static) --reset, -r Reset IP settings to the factory default --subnetmask, -sn The subnet mask for the device
logout	Exits the shell and terminates the user's connection. (Same as "quit" or "exit") Syntax: `*:logout`
man	Displays detailed usage and CLI arguments and options information for a given command. Syntax: `*:man [command]` Arguments: command - The command for which to get help

System Shell Commands (Cont.)	
msg	Enable/disable diagnostics message logging. Syntax: `*:msg [options] [instruction] [filters]` Arguments: instruction - Diagnostics message command instruction 'on': enable diagnostics messages 'off': disable diagnostics messages 'filter': sets optional log filters (provided by filters argument) 'add': add optional log filters (provided by filters argument) 'remove': removed optional log filters (provided by filters argument) 'clear': clear optional log filters 'delete': deletes current log filters - Optional log message filters (separated by spaces) Options: --add-filter, -af Add a filter to the current diagnostics log filters --clear-filter, -cf Remove all filters from diagnostics logging --clear-history, -ch, -d Delete the diagnostics log history --config, -c, --set Enable/disable diagnostics message output --filter, -f Optional log message filter --help Display a help message --info, -? Display current diagnostic message output status --off, -F, --disable, --stop Disable diagnostics message output --on, -N, --enable, --start Enable diagnostics message output --remove-filter, -rf Remove one or more filters from the current diagnostics log filter --show-filter, -sf Display all existing filters applied to diagnostics logging --verbose, -v Display verbose diagnostics message status information

System Shell Commands (Cont.)	
netlinx	Gets/sets the NetLinx ICSP connection settings. Syntax: `*:netlinx [options]` Options: --help Display a help message --url, -u Set the URL of the Master controller --system, -s Set the system number --reset, -r Reset the NetLinx settings to the factory default --password, -p Set the password for secure mode --config, -c, --set Set the NetLinx (ICSP) connection settings --device, -d Set the device number --mode, -m Set the connection mode (AUTO, URL, LISTEN) --clear-credentials, -cc Clear the username and password settings --info, -? Display the current NetLinx settings --username, -n Set the username for secure mode
open	Open a URL in the Web browser Syntax: `*:open [options] url` Arguments: url - The Web address to open Options: --help Displays a help message --no-scheme, -ns Do not apply a default scheme (protocol prefix) to the provided URL.
ping	Test TCP/IP network connectivity with another device. Syntax: `*:ping [options] address` Arguments: address - IP address or URL Options: --help Display a help message --timeout, -w Timeout wait (number of seconds to wait for a response) --retry-count, -c Retry count (number of packets)
quit	Exits the shell and terminates the user's connection. (Same as "logout") Syntax: `*:quit`

System Shell Commands (Cont.)	
reboot	Reboot the system. Syntax: `*:reboot [options]` Options: --silent, -s, -Y Do not prompt for confirmation; proceed with reboot. --help Display a help message
scope	Sets the current runtime command scope. While the session is in a command scope, commands that belong to this scope will be prioritized for runtime resolution. Executing this command with no arguments will return the shell to the default system scope. Syntax: `*:scope [options] [namespace]` Arguments: namespace - The targeted namespace scope to switch Options: --config, -c Prompt the user to configure a new scope --help Display a help message --info, -? Display the current scope --reset, -r Reset the current scope to the default scope
set	Command proxy used to set configuration on a specific target (command). See the *Get/Set Command Proxies* section on page 83 for more information. Syntax: `*:set arguments` Arguments: arguments - Command arguments to pass through.

System Shell Commands (Cont.)	
time	Gets/sets the current system time. Syntax: `*:time [options] [time] [ampm]` Arguments: time - New time in format: 00:00:00 ampm - AM or PM (not needed if using 24 hour format) Options: --second, -s Second (0-59) (defaults to -1) --hour, -h Hour (0-24) (defaults to -1) --help Display a help message --info, -? Display the current time on screen. --am, -am AM (used when setting time) --minute, -m Minute (0-59) (defaults to -1) --millisecond, -ms Millisecond (0-999). (defaults to -1) --config, -c, --set Set the system time. --pm, -pm PM (used when setting time) --verbose, -v Display verbose time information.

Enzo Shell Commands

The following table lists the Enzo shell commands.

Enzo Shell Commands	
about	This command is used to open the "about" page in the Enzo settings GUI. Syntax: `enzo:about [options]` Options: --help Display a help message
alert	This command is used to submit alert notifications to the Enzo user interface. Include quotation marks (") around the title or message if using spaces in the text. This command supports the "set" command proxy. The "set alert" and "alert --config" commands invoke the interactive configuration mode. Syntax: `enzo:alert [options] [message]` Arguments: message - The message text for the alert notification. Options: --close, -c This option will close the alert notification dialog. (This option is exclusive. Any other options provided are ignored.) --config, -c, --set Configure the alert notification interactively. --help Display a help message --modal, -m Modal status for the alert notification. --timeout, -to Timeout in seconds for the alert notification. (The default is 30.) --title, -s, --subject The title text for the alert notification. --type, -t The message type for the alert notification (information, question, warning, security, critical). The default is information.
audio	This command is used to configure the audio output port selection. This command supports the "get" and "set" command proxies. The "set audio" and "audio --config" commands invoke the interactive configuration mode. Syntax: `enzo:audio [options]` Options: --beep, -b Test the audio output using a beep sound. --config, -c, --set Set the audio output port. --help Display a help message --info, -? Display the current audio output port. --out, -o Set audio output (HDMI, Analog). --verbose, -v Include detailed/verbose information about audio settings.

Enzo Shell Commands (Cont.)	
blank	This command is used to display/hide the blanking screen in the Enzo user interface. This command supports the "set" command proxy. The "set blank" and "blank --config" commands will invoke the interactive configuration mode. Syntax: `enzo:blank [options] [visible]` Arguments: visible - Controls blanking visibility. 'on', 'show': show blank screen 'logo': show blank screen with logo 'off' 'hide': hide blank screen Options: --config, -c, --set Choose to show/hide the blanking screen from options menu. --help Display this help message --logo, -l Show blank screen with the AMX logo. --off, -f, --hide Hide blank screen. --on, -n, --show Show blank screen.
docmgr	Displays the document management screen. Syntax: `enzo:docmgr [options]` Options: --close, -x This option closes the document management screen. --help Display a help message
keypad	Displays the virtual keypad controller on screen. Syntax: `enzo:keypad [options]` Options: --close, -x This option closes the virtual keypad controller. --help Display a help message

Enzo Shell Commands (Cont.)	
mail	This command is used to display and/or configure SMTP mail settings. Syntax: `enzo:mail [options]` Options: --authentication, -a Set the authentication (ssl, tls, none) --from, -f Set the return address of the email --help Display a help message --host, -h Set the URL of the SMTP host --password, -p Set the password --port, -P Set the port number --test, -t Set a test email --user, -u Set the user name
qr	Display a QR code. Syntax: `enzo:qr [options] [uri]` Arguments: uri - The URI to encode Options: --close, -x Close any open QR activity --link, -l This option displays the URI in text. --help Display a help message --title, -t This option places a title on the page.
session	Start or end an Enzo session. Syntax: `enzo:session [options] [action]` Arguments: action - start or end action to perform. 'start': start session 'end', 'stop': end session Options: --config, -c, --set Choose to start/end a session from options menu --end, -e, --stop End current session (if in a session) --help Display a help message --info, -? Display the current session state --start, -s Start a new session (if not already in a session)

Enzo Shell Commands (Cont.)	
video	Sets the video settings. Syntax: `enzo:video [options]` Options: --config, -c, --set Set the video output resolution settings --help Display a help message --info, -? Display the current video output resolution settings --out, -o Set the display video resolution (1080p, 720p, EDID) --reboot, -r Reboot the system after applying the new video resolution
webapp	Open a web application URL in full screen view. Syntax: `enzo:webapp [options] url` Arguments: url - The URL address to open Options: --help Display a help message --close, -x This option closes the Web browser --no-scheme, -ns Do not apply a default scheme (protocol prefix) to the provided URL --title, -t The title screen for this Web page.
webu	Perform a web update where the new firmware kit file is provided by the specified URL. Syntax: `enzo:webu [options] url` Arguments: url - The URL address to open Options: --help Display a help message

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