Installation Guide

Enova DVX-2100HD-SP, -T Total Environment Controller

Overview

***Note**: For more information, consult the Enova DVX-2100HD Total Environment Controller Operation/Reference Guide available at **www.amx.com**.*

The DVX-2100HD-SP (**FG1905-04**) and DVX-2100HD-T (**FG1905-05**) are six input, two output, multi-format active switchers with a built-in video scaler, microphone mixer, and device controller. This presentation-style switcher incorporates the following:

- A NetLinx controller
- Integrated Multi-format and UTP audio / video switcher
- Video scaler
- Audio processor with mic mixing
- Volume controller and audio amplifier

FIG. 1 Enova DVX-2100HD-SP Total Environment Controller (front panel)

The following table lists the specifications for the DVX-2100HD environment controllers:

DVX-2100HD Specifications	
Power:	110-240V, 47/63 Hz, 2.5A maximum AC supply
Memory:	• 64 MB SDRAM • 1 MB Non-volatile (NV) SRAM
Flash:	256 MB
Amplifier:	• 2 x 25W into 8 Ohms Class D stereo amplifier (capable of driving loads in the range of 2-8 ohms) (DVX-2100HD-SP) • 70V or 100V at 75W amplified variable mono audio (DVX-2100HD-T)
Enclosure:	Metal with black matte finish
Front Panel Components:	
LEDs:	• LINK/ACT (green) - Link/Activity LED blinks when receiving Ethernet data packets. • STATUS (green) - Status LED blinks to indicate that the system is programmed and communicating properly. • INPUT (yellow) - Input LED blinks to indicate that the Controller is receiving data. • OUTPUT (red) - Output LED blinks to indicate that the Controller is transmitting data. • RS-232 / 422 / 485 (red/yellow) - 3 sets of LEDs indicate that RS-232/422/485 Ports (1-3) are transmitting or receiving data. • RELAYS (red) - 4 LEDs indicate that one or more of the relay channels (1-4) are active (closed). • IR/SERIAL (red) - 4 LEDs indicate that one or more of the IR/Serial channels (1-4) are transmitting control data. • I/O (yellow) - 4 LEDs indicate that one or more of the I/O channels (1-4) are active.
MACROS pushbuttons:	4 back-lit pushbuttons allow access to macro functions. Macro functions are programmed via NetLinx code.
INPUT SELECT pushbuttons:	6 back-lit (multi-color) source selection pushbuttons select an Input (source). Pressing an INPUT SELECT button after pressing the VIDEO MENU button activates only the video for the source input. Similarly, pressing the AUDIO MENU button followed by an INPUT SELECT button activates only the audio on the source input.
MIC SELECT pushbuttons:	2 back-lit (yellow) buttons for selecting a microphone. Each button lights to indicate that a microphone is selected.
LCD display:	Liquid crystal display (2 lines with 20 characters per line) indicates current volume level and displays the Video, Audio, and Tools menu options.
VIDEO MENU pushbutton:	Press to access the Video menu on the LCD display. Press both the Video Menu and Audio Menu buttons simultaneously to access the Tools menu.
AUDIO MENU pushbutton:	Press to access the Audio menu on the LCD display.
Navigational pushbuttons:	4 directional buttons for navigating the options in the Video and Audio menu (on the LCD display).
VIDEO MUTE pushbutton:	Press to mute/un-mute (enable/disable) all video output displays. Video Mute results in a blank screen on the output displays.
AUDIO MUTE pushbutton:	Press to mute/un-mute all audio outputs.

DVX-2100HD Specifications (Cont.)	
Rear Panel Components:	
RS-232/422/485 (PORT 1-3):	RS-232/422/485 Ports 1-3 provide serial control via DB9 (male) connectors.
RELAYS (PORT 4):	Port 4 provides Relay control via 8-pin 3.5 mm captive-wire connector. Each relay can switch up to 24 VDC or 28 VAC @ 1 A.
IR/SERIAL (PORTS 5-8):	Ports 5-8 provide IR/Serial control via 2-pin 3.5 mm captive-wire connectors.
I/O (PORT 9):	Port 9 provides 4-channel binary I/O port for contact closure with each input being capable of voltage sensing. Input format is software selectable with interactive power sensing for IR ports.
AUDIO INPUTS:	4 3.5mm 5-pin captive-wire connectors receive up to four balanced/ unbalanced line level audio inputs.
MIC INPUTS:	2 3.5mm 3-pin captive-wire connectors receive up to 2 mono microphones (balanced or unbalanced audio and switchable Phantom Power).
AUDIO OUTPUTS:	• LINE: 1 3.5mm 5-pin captive-wire connector provides for fixed or variable, balanced or unbalanced, mono or stereo line level audio output. • AMP: 4-position captive wire connector provides amplified audio output with volume control (DVX-2100HD-SP only) • AMP: Two 2-position captive wire connector provides 70V or 100V mono amplified audio output (DVX-2100HD-T only).
VIDEO INPUTS (1-4):	4 DVI-I input connectors provide multi-format video inputs for up to four video sources. Each VIDEO INPUT connector supports RGBHV, S-video, composite video, component video, and DVI input.
UDM INPUTS (5-6):	2 RJ-45 inputs receive audio and video from up to two UDM Multi-Format Distribution Hubs and UPX wallplates.
VIDEO OUTPUTS (1-2):	2 DVI-I Output connectors provide digital and analog video output.
UDM OUTPUT (1):	1 RJ-45 connector allows the DVX-2100HD to connect to a UDM Multi-Format Receiver. The video is identical to DVI-I output 1. You can configure the audio to follow either the AMP out or Line out.
CONFIG DIP Switch:	4-position Master configuration DIP switch allows setting the onboard Master execution mode (PRD or normal).
PROGRAM Port:	Type-B USB connector connects the DVX-2100HD to a USB port on a PC.This USB connection is used to configure system settings. Your PC's COM port and terminal program's communication settings should be set to a baud rate of 115200. *Note: This port is not recommended for firmware updates or large file transfers. These more data-intensive operations are better handled via the Ethernet port.*
ID Pushbutton:	Black ID pushbutton sets the NetLinx Device ID assignments of the Internal Control Device. It has no effect on the Internal Switcher Device.
ETHERNET 10/100 Port:	RJ-45 connector provides TCP/IP communication. This is an Auto MDI/MDI-X enabled port, which allows you to use either straight-through or crossover Ethernet cables.
AxLink Port:	1 3.5 mm captive-wire connector provides data and power to external control devices. The AxLink LED (green) indicates the state of the AxLink port. The AxLink port can be used to supply power to downstream AxLink-compatible devices as long as the maximum current draw is less than 2A.
Power Connector:	IEC Power cord connector: 100-240V AC, 47-63Hz, 2.5A maximum
Operating Environment:	Storage temperature: -10º C to 60º C (14º F to 140º F) Operating Temperature: 0º C to 40º C (32º F to 104º F) Operating Relative Humidity: 5% to 85% non-condensing
Dimensions (HWD):	3.5" (8.89 cm) x 17" (43.18 cm) x 14.25" (36.2 cm) HWD
Weight:	DVX-2100HD-SP: 14.7 lbs (6.67 kg)
Certifications:	RoHS, FCC Class B, CE, CB Scheme, and UL
Included Accessories:	• 2 CC-NIRC, IR Emitter w/3.5mm Phoenix (**FG10-000-11**) • 2 CC-DVIM-VGAF, DVI to VGA Adapter (**FG10-2170-13**) • 2 Front Rack Mounting Brackets (62-1905-04)
Optional Accessories	For a list of optional accessories, see the *Enova DVX-2100HD Total Environment Controller Operation/Reference Guide*.

Mounting the DVX-2100HD into an Equipment Rack

The DVX-2100HD occupies two rack units in a standard equipment rack. Install the included Rack Mounting Brackets using the supplied mounting screws prior to securing the unit in the rack.

***Note**: ALWAYS ensure that the rack enclosure is adequately ventilated. It is highly recommended that you leave 1 RU of space above the DVX-2100HD when you install it in a rack.*

DVI-I VIDEO INPUTS (1-4)

The four DVI-I VIDEO INPUT connectors on the rear panel are used to connect source input devices to the DVX-2100HD. The DVX-2100HD routes video from connected source input devices to the connected output devices. These numbered inputs correspond to the numbered INPUT SELECT pushbuttons on the front panel. Each VIDEO INPUT connector supports DVI-D, as well as RGBHV, S-video, Composite, and Component inputs, using the appropriate conversion cables.

Use an adapted cable to connect a video source to one of the DVI-I VIDEO INPUTS. Consult the *Enova DVX-2100HD Total Environment Controller Operation/Reference Guide* for information on adapter cables.

AUDIO INPUTS (1-4)

The four AUDIO INPUTS connectors are 3.5 mm 5-position captive-wire terminals that can be wired for either balanced (differential) or unbalanced (single-ended) stereo audio. The four AUDIO INPUT connectors correspond to the four DVI-I VIDEO INPUT connectors, so you should connect audio and video sources to matching connectors on the DVX-2100HD. Connect an audio source to the audio port that corresponds to the video source connector you are using.

VIDEO OUTPUTS (1-2) and UDM OUTPUT

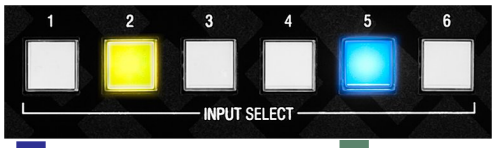
The three VIDEO OUTPUT ports allow connectivity to various types of display devices. Connect an output display device to one of the available ports. The UDM output requires a UDM-RX02N.

INPUT SELECT Pushbuttons

The six backlit INPUT SELECT buttons (1-6) allow you to select Video-only, Audio-only or Video+Audio playback. These pushbuttons use multi color LEDs to indicate various states of input selection:

When you press an inactive input select button, the button lights green and activates the audio and video for the source input. Pressing an INPUT SELECT button after pressing the VIDEO MENU button activates only the video for the source input. Similarly, pressing the AUDIO MENU button followed by an INPUT SELECT button activates only the audio on the source input.

After making your selection, the selected input type (Audio, Video, or both) is routed to the selected output(s), and the LED displays solid with the corresponding color (FIG. 2):



= Video only (blue)
= Audio only (yellow)
= Video + Audio, but video signal cannot be displayed (magenta)
= Video + Audio (green)
= Video, but input signal cannot be displayed (red)

FIG. 2 INPUT SELECT pushbuttons

Preparing the DVX-2100HD for Serial Communication

1. Before using the USB port on the DVX-2100HD you must install the appropriate FTDI driver. A link to this driver can be found on the Product web page at *www.amx.com*.
2. Connect your PC's USB port to the USB Configuration Port on the DVX-21010HD. Either allow Windows to install the driver automatically (internet connection required), or point the installer to the location where you have previously saved the driver. This will create a new virtual COM port on your PC.
3. Edit the Serial Communication settings in NetLinx Studio to use the virtual COM port created in step 2, and set the communication parameters to 115.2K baud, N, 8, 1.

Accessing the Configuration Settings

You can access the configuration settings for the environment controller by using the buttons on the front panel on the environment controller or by using a web browser.

Using the Front Panel Buttons

You can access the configuration settings for the environment controller by using the VIDEO MENU and AUDIO MENU buttons on the front panel of the DVX-2100HD. Pressing either opens the respective Video or Audio Menus on the LCD display on the front panel. Pressing both buttons simultaneously opens the Tools Menu.

Use the Navigational buttons to traverse the available options and change their values. FIG. 3 displays the navigational function of each button.

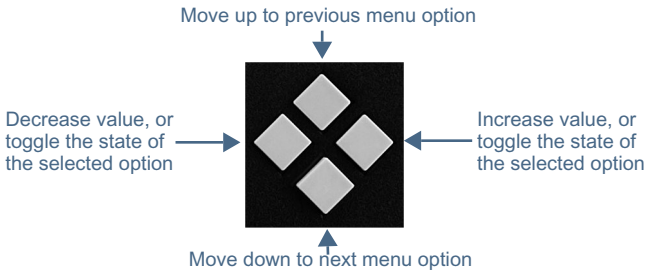


FIG. 3 Navigation buttons

Selecting a Test Pattern

Selecting a test pattern for your input source can help determine if you have everything connected correctly. Perform these steps the select a test pattern:

1. Press the VIDEO MENU button on the front panel of the DVX-2100HD.
2. Press the down navigational button until the Output Test Pattern option appears.
3. Use the left and right navigational buttons to select an appropriate output test pattern.

Locating the IP Address of the Environment Controller

You can locate the IP address of the environment controller by using the buttons on the front panel of the environment controller. The IP address appears on the LCD display on the front panel of the switcher. Perform these steps to locate the IP address of the unit:

1. Simultaneously press the Video Menu and Audio Menu buttons to open the Tools Menu. The System Information options appear on the LCD display.
2. Use the UP and DOWN navigational arrow buttons to navigate through the options until you find the switcher's IP address. Note the IP address for future reference.

***Note**: You can use the Tools Menu to verify current TCP/IP settings using the UP and DOWN navigational buttons.*

Using a Web Browser

The system configuration pages are available by entering the IP address of the NetLinx master into the location bar of your web browser. Entering your IP address into your web browser opens the Main WebControl page.

***Note**: The configuration screens appear in a pop-up window separate from the Main WebControl screen. Make sure the pop-up blocker in your web browser is disabled.*

Perform these steps to access the configuration settings:

1. Open a web browser, and enter the IP address of the environment controller in the location bar of the web browser. The Main WebControl page opens.

***Note**: WebControl requires that you install the latest version of the Adobe Flash Player plug-in for your browser. If your browser does not have the Flash Player plug-in installed, you will be prompted to install it.*

2. Use the Device options menu at the top of the screen to select *<DEVICE #> - DVX-2100HD-SP*. The Configuration page opens in a separate pop-up window.

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