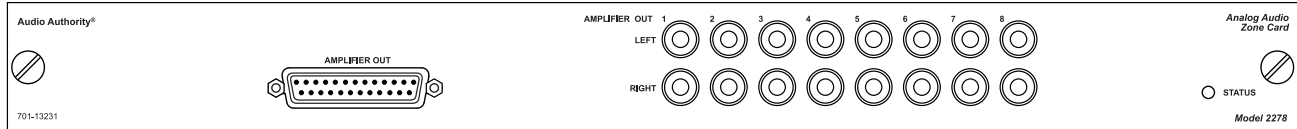# HLX SERIES
MODULAR MATRIX SYSTEM

Model 2278 Audio Zone Card Installation and Operation

The 2278 is designed to expand audio zone output capacity for Model 2006 HLX Modular Matrix card cage. Each 2278 adds eight audio zones, each of which can either switch with a video zone or act as an independent audio zone. Any zone amplifier or receiver can be used to amplify the output of each 2278 zone. The 2278 audio outputs can be switched to any analog audio input. Low level signals are routed to the audio zones after any digital signal processing is performed, such as volume control or EQ.

Features

- ExpressRamp™ volume control changes smoothly to a set level with a single command
- 10-Band EQ for each audio zone
- EQ settings can be exported and archived via USB
- Tone and balance controls for each zone
- RCA outputs plus a special DB-25 output that will enable quick connection to Audio Authority amplifiers that are currently in development.

Installation

2278 cards may be installed in the third, fourth, fifth or sixth card slot in a Model 2006 card cage, or in any 2014 expander card cage slot.

- Remove AC power from the HLX.
- Remove the blank panel on the HLX card cage and carefully insert the 2278.
- Insert the card along the guides into its slot and carefully engage it with the backplane connectors. Tighten the two captive screws part way, then push the card firmly in place. Securely tighten the captive screws.
- Apply power and use front panel controls to navigate to the new zone outputs in order to verify proper card recognition.
- It is not usually necessary to update firmware when installing a new card; however, some new features may be available, so it is a good practice to bring all HLX firmware up to the most recent version. Check www.audioauthority.com/page/software for firmware updates (see the HLX firmware update instruction PDF).

Control and Operation

All digital signal processing commands are possible using serial, Ethernet, or IR remote control systems. Listed below are the commands used in Ethernet and serial protocol; IR commands are available for download at www.audioauthority.com.

HLX Commands for Digital Signal Processing

Ramp volume level at one zone output	[VO##R##]	[VO1R-10]	(VO1R-10)	Zone 1 output volume level is attenuated 10 dB (below the maximum level).
Ramp all zones to the same volume level	[VXR##]	[VXR-30]	(VXR-30)	All zone outputs are set to -30 dB via ExpressRamp.
Mute a zone output	[VMO##]	[VMO1]	(VMO1]	Zone 1 output is muted.
Cancel mute at a zone output	[VUMO##]	[VUMO3]	(VUMO3)	Zone 3 output is un-muted and set back to the previously set volume level.
Adjust zone balance	[BO##L##R##]	[BO2L-3R0]	(BO2L-3R0)	Zone 2 output level for the left channel is attenuated 3 dB, while the right channel remains flat.
Adjust zone equalization	[EO##B##L##]	[EO12B2L-4]	(EO12B2L-4)	Zone 12 equalizer band 2 is set to -4 dB.
Adjust zone tone control	[TO##B##T##]	[TO2B-3T9]	(TO2B-3T9)	Zone 2 output tone control is set to attenuate bass 3 dB and amplify treble 9 dB.

Volume Control - Volume control is achieved by attenuating the low level signal by a set value before output to the amplifier. Sudden volume changes are automatically softened by ExpressRamp, an exclusive Audio Authority feature.

EQ, Tone and Balance - Each zone may have separate settings. EQ adjustments are made before tone, balance, and volume adjustments. EQ commands can be sent over serial or Ethernet, but when extensive EQ adjustments are necessary, use the PC Configuration Utility to speed up the process. It may be desirable to connect to the HLX over a wireless Ethernet network so that audio adjustments can be made via the PC Utility in real time from each zone location. Once all EQ settings have been finalized, you may wish to export HLX settings as a backup, via the USB port on the HLX front panel.

Call Audio Authority Technical Support with questions about the HLX, or email: support@audioauthority.com.