

DIGITAL SERIES

The DX8 is a Digital Signal Processing-based digital audio mixer and processor designed for use in a variety of installations such as churches, courtrooms, convention centers and hotels. It provides eight universal inputs and two balanced outputs allowing true 8x2 mixing for stereo or dual zone applications. In its base configuration, the DX8 includes powerful signal processing software to complement the 8x2 mixing structure. The auto-mixing function allows the DX8 to be used in applications requiring little or no human operation. Optional software and hardware is available to further expand the DX8's capabilities, allowing it to meet the needs of more sophisticated applications.

Each of the eight input channels is capable of being terminated to one of two Phoenix-type detachable connectors, each optimized to accept either microphone or line-level signals. Microphone preamplifiers use XDR™ technology to offer studio-quality audio performance. Phantom power, of 48VDC, is switchable individually on each microphone input. Two Auxiliary, line-level inputs with trim are provided, allowing analog signals to be mixed with the A and B master mixes. Master outputs deliver balanced line level signals to detachable Phoenix-type connectors as well as buffered unbalanced signals to RCA connectors intended for recording.

The DX8 offers an intuitive front panel user interface, consisting of dual-function LED bar graph meters for each input and output. Input meters indicate the presence of signal before signal processing (pre-fader), while output meters indicate actual level at the output (post-fader). Levels are set by means of front panel, UP/DOWN pushbuttons dedicated to each input and output. A MODE button is used to select between Mix A and B, allowing adjustment of levels to both mix outputs from the same set of input controls. A third function of the MODE button allows the user to LOCK the front panel controls until a security unlock code is entered.

The DX8 offers flexible interface options through dedicated inputs and outputs for



control and programming purposes. Two independent RS232 connectors are provided, one on the front panel and one on the rear, for connection to a computer or control system. A multi-pin (DB25) connector on the rear panel allows interface between the 10 Logic Inputs and 10 Logic Outputs to switches, LEDs and other devices, enabling hardware control and indication from custom control panels. All logic inputs and outputs are fully programmable in software. A proprietary remote control bus allows connection of the optional DX8 wired remotes over a three-conductor cable. Remotes are available in both Volume Control and 4-switch versions and may be combined in any configuration.

The DX8 is supplied with PC software that allows access to all of the system's settings and configurations. The software offers Stereo and Mono mixer views, as well as access to the two 1/3-octave equalizers, two 5-band parametric equalizers and two compressors dedicated to the two master outputs. In addition, it allows configuration and recall of up to 16 Presets, 8 input Priority Levels, 8 Mute Groups and 8 Control Groups. Force ON and OFF functions are provided, with a selection of Relative or Absolute changes, which can be used with the Priority settings to create sophisticated audio management systems. All settings and text labels are retained in the DX8 as well as stored to the computer's local drive.

The DX8 is UL and CE approved and designed for continuous use in professional fixed installation systems. An internal auto-ranging power supply allows connection to mains voltages from 90–240VAC at 50/60Hz without requiring jumper or switch setting changes. A 24VDC input is provided for applications where backup battery power is required. Switchover to backup power is automatic and silent.

FEATURES

- .. 32-bit DSP and 24-bit Analog/Digital Conversion
- .. 8 balanced XDR™ Mic/Line inputs with trim
- .. 2 balanced Line inputs direct to mix bus
- .. 2 Independent Mix Buses and balanced Outputs
- .. 2 unbalanced Record Outputs
- .. 8 unbalanced Direct Channel Outputs
- .. Individual Level/Peak metering on each Input and Output
- .. 3-band sweepable Hi/Lo shelving and a mid-peaking EQ on each Input
- .. 2-band sweepable shelving EQ on each Output
- .. 31-band Graphic EQ on each Output
- .. 5-band Parametric EQ on each Output
- .. One fully variable Compressor on each Output
- .. Independent Automixing function for each Output to maximize acoustic gain and prevent feedback
- .. 10 Programmable Logic Inputs
- .. 10 Programmable Logic Outputs
- .. 2 independent RS-232 interface ports
- .. 48VDC Phantom Power switch per input
- .. 24VDC Backup Power input
- .. Hardware Expansion Port accepts optional modules
- .. PC Software application included

APPLICATIONS

- .. Meeting Rooms
- .. Hotels
- .. Houses of Worship
- .. Board Rooms
- .. Courtrooms
- .. Multizone Paging/Music Systems
- .. Multi-Purpose Facilities



DX8

8x2 Digital Mixer and Signal Processor

SPECIFICATIONS

INPUTS / OUTPUTS

Inputs 1-8:	Balanced, Phoenix-type terminals
Bus A and B:	Balanced, Phoenix-type terminals, direct to Mix Buses
Master Outputs:	Balanced, Phoenix-type terminals
Record Outputs A/B:	Unbalanced, RCA
Direct Outputs 1-8:	Unbalanced on DB15 (bottom row is return)
Logic Inputs:	10 inputs on DB25
Logic Outputs:	10 open-collector outputs on DB25
Serial Ports:	2 RS-232C on DB9

CONTROLS

Input Trim:	8 Rotary potentiometers
Input Gain:	2 Pushbuttons per input
EQ:	2 Pushbuttons for low, 2 for high
Master Output Gain:	2 Pushbuttons per output
Mode Select:	1 Pushbutton
Power:	Rocker switch
Phantom Power Select:	8 DIP switches

INDICATORS

Input Levels:	12-segment LEDs per ch.
EQ Levels:	12-segment LEDs per ch.
Mode Status:	3 LEDs; A/B/LOCK
Output Levels:	12-segment LEDs per ch.
Volume Setting:	12-segment LED bar graph

ELECTRICAL

AC Power:	90–240 VAC, 50/60 Hz, 1A
DC Power:	24 VDC, 3A
Fuse Ratings:	1.6A Slo Blo, 250V

SIGNAL PROCESSING

	Five, 32-bit floating point DSPs, 24-bit converters,
	512k x 16 Flash, 128k x 32 SRAM (battery back-up)

Inputs:	
3-band shelving/peaking EQ:	20 Hz–20 kHz, variable frequency
Automatic Level Control (ALC):	Range: 0 dB to –20 dB
Automix:	NOM On/Off Gate Attenuation Depth: 0 dB to –60 dB Gate Release Time: 0.5 s or 1.5 s

Outputs:	
Automatic Level Control (ALC):	Range: 0 dB to –20 dB
Automix MAC NOM:	1-8
Automix Last Mic On:	None, Last, Input 1
2-band shelving EQ:	20 Hz–20 kHz, variable frequency
1/3-Octave graphic EQ	
5-band parametric EQ	
Compressor/limiter	

AUDIO

Noise	
(20 Hz–20 kHz bandwidth, Master Out, channel Trims @ unity gain, channel EQs flat, all odd channels panned left, even channels panned right, Master Level @ Unity, Channel Levels @ Unity:	–82 dB
Single Channel to Master Out:	–100 dB (reference to 1% THD+N)

Total Harmonic Distortion (THD+N)	
(1 kHz @ +10 dBu {unity level} 20 Hz–20 kHz)	
Mic in to Master Out:	Below 0.005%

Crosstalk	
1kHz relative to 0 dBu, 20 Hz–20 kHz bandwidth, Any line input to adjacent Direct Output, Trim to unity:	Less than –90 dB

Frequency Response	
Mic Input to Direct Outputs:	3 Hz–192 kHz, +/-3 dB
Mic Input to Master Outputs:	20 Hz–20 kHz, +/-0.5 dB

Equivalent Input Noise (EIN)	
Mic in to Direct out, Max Gain	
150 ohm Termination:	–129.5 dBm unweighted

Common Mode Rejection (CMR)	
Mic in to Direct out, Max gain	
1kHz signal:	Better than 80 dB

Maximum and Nominal Levels and Ranges	
Mic Inputs:	+18 dBu, +4 dBu, 0 to 60 dB gain
Line Inputs:	+18 dBu, +4 dBu, –30 to +30 dB gain
Bus A/B Inputs:	+18 dBu, +4 dBu, –20 to +20 dB gain
All Outputs:	+18 dBu, +4 dBu

Impedances	
Mic Inputs:	1.3K ohms
Line Inputs:	40K ohms
All Other Inputs:	10K ohms or greater
All Outputs:	120 ohms

Phantom Power	+48 VDC current limited to 7 mA per input channel
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PHYSICAL

Dimensions (HxWxD):	3.5" x 19" x 13.25" (89 mm x 483 mm x 337 mm)
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Net Weight:	12.5 lb (5.7 kg)
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PC SYSTEM REQUIREMENTS

OS:	Windows® '95, '98, NT®, 2000, XP
Processor:	Pentium® or faster
RAM:	16MB minimum, 32MB recommended
Storage:	10MB free disk space
Display:	800 x 600 pixels, 256 colors minimum

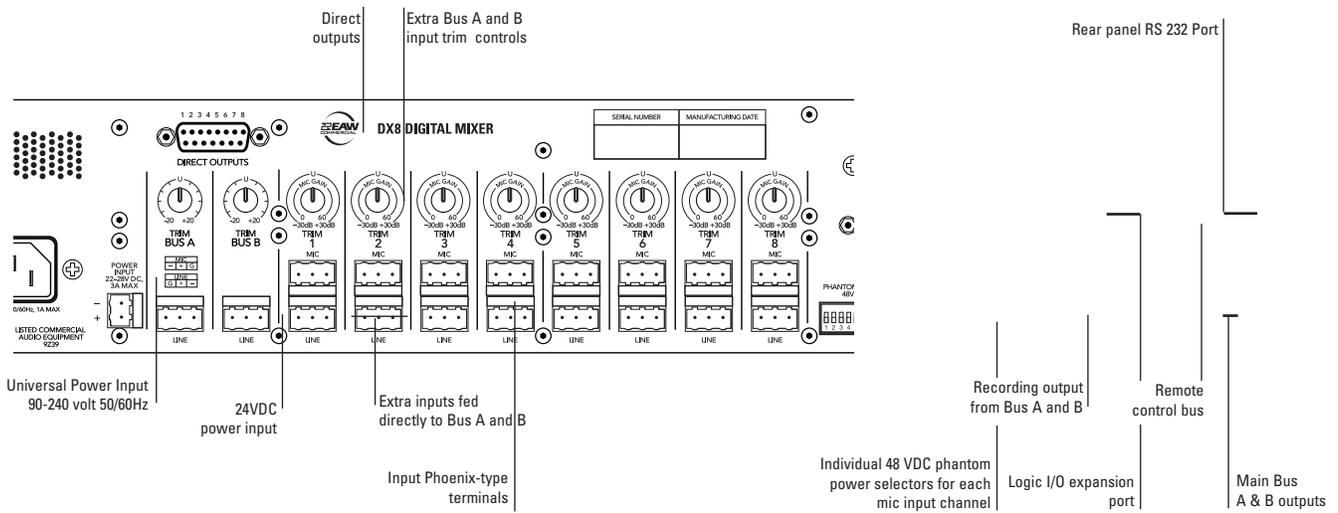
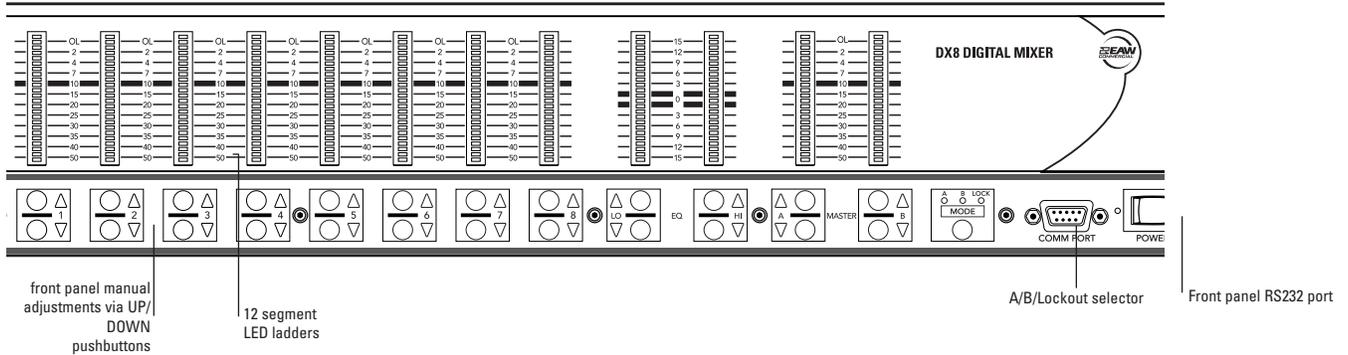
LED METER VALUES

1.	Red (scale: 0L):	>–2dB full-scale (>16dBu)
2.	Yellow (scale: 2):	>–4dB full-scale (>14dBu)
3.	Yellow (scale: 4):	>–7dB full-scale (>11dBu)
4.	Yellow (scale: 7):	>–10dB full-scale (>8dBu)
5.	Green (scale: 10):	>–15dB full-scale (>3dBu)
6.	Green (scale: 15):	>–20dB full-scale (>–2dBu)
7.	Green (scale: 20):	>–25dB full-scale (>–7dBu)
8.	Green (scale: 25):	>–30dB full-scale (>–12dBu)
9.	Green (scale: 30):	>–35dB full-scale (>–17dBu)
10.	Green (scale: 35):	>–40dB full-scale (>–22dBu)
11.	Green (scale: 40):	>–50dB full-scale (>–32dBu)
12.	Green (scale: 50):	>–60dB full-scale (>–42dBu)



DX8

8x2 Digital Mixer and Signal Processor





The DX8 Mixer view offers two faders for each input

DX8 SOFTWARE FOR THE PC

The DX8 is supplied with a real-time PC software application that allows access to all of the unit's features. The user interface employs a mixer metaphor, making settings and operation clear and intuitive. Several of the mixer's elements are fixed, allowing immediate access to Master output controls, Preset selection and editing, as well as Active Device selection. Indicators for Active Logic Inputs and Mute Groups are always visible, as are the input and output signal meters. Mixer, equalizer, compressor, automix, and setup screen views are recalled from direct-select buttons.



The DX8 Automix view includes an Automatic Level Control and a Gate control



The DX8 has a full-featured Compressor for each output



The DX8 Graphic EQ view offers 31 bands of control on ISO-centered frequencies for each of the two master outputs



The DX8 Parametric EQ view includes 5 bands of control, as well as display windows that graphically represent the selected curves



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CSI PRODUCT SPECIFICATIONS FOR DESIGNERS, SPECIFIERS, AND CONSULTANTS

(Also known as "A&E Specifications")

The following are "Part 2 Products" CSI-type specifications. It is assumed that "Part 1 General – Administrative and Procedures" and "Part 3 Execution – Installation and Maintenance" are part of an overall audio system or project specification.

PART 2 PRODUCTS

2.01 Approved Manufacturer/Product

- A. EAW Commercial, One Main Street, Whitinsville, MA 01588 USA, USA
- B. Model number: DX8

2.02 Design

- A. Configuration: 8-channel digital audio mixer
 - 1. Inputs:
 - a. Eight balanced mono mic inputs (Eight 3-pin Phoenix-type connectors)
 - b. Ten balanced mono line inputs (Ten 3-pin Phoenix-type connectors)
 - 2. Outputs:
 - a. Two balanced line outputs (Two 3-pin Phoenix-type connectors)
 - b. Eight unbalanced direct line outputs (one DB15 connector)
 - c. Two unbalanced RECORD outputs (two RCA line-level output jacks)
 - 3. Other
 - a. Ten logic inputs and ten logic outputs (one DB25 connector)
 - b. One remote bus connector (one 3-pin Phoenix-type connector)
 - c. Two RS-232C serial ports (two DB9 connectors)
- B. Powering Mode
 - 1. Internal AC power supply, 90 - 240 VAC, 50/60 Hz, 1 A
 - 2. External DC power supply, 22 - 28 VDC, 3 A

2.03 Electrical Properties

- A. Frequency Response (± 0.5 dB):
20 Hz to 20 kHz
- B. Total Harmonic Distortion (20 Hz to 20 kHz @ 0 dBu output):
< 0.005%
- C. Noise (20 Hz to 20 kHz BW, 150 ohm source impedance):
 - 1. Equivalent Input Noise (EIN):
-129.5 dBm unweighted
 - 2. Output Noise
 - a. Master level at unity, channel levels at unity:
-82 dBu
 - b. Single channel to Master out:
-100 dBu
- D. Common Mode Rejection (@ 1 kHz, Gain at maximum):
80 dB
- E. Crosstalk (@ 1 kHz, any input to adjacent direct output):
-90 dB
- F. Input Gain Control Range:
 - 1. Mic In: 0 dB to +60 dB
 - 2. Line In: -30 dB to +30 dB
- G. Phantom Power: +48 VDC @ 7 mA per input channel
- H. Rated Output:
 - 1. Nominal Output: +4 dBu
 - 2. Maximum Output: +18 dBu

2.04 Physical Properties

- A. Dimensions
 - 1. Height: 3.5 in/89 mm
 - 2. Width: 19 in/483 mm
 - 3. Depth: 13.25 in/337 mm
- B. Weight
 - 1. Net Weight: 12.5 lb/5.7 kg

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