

DMP 44 LC

DIGITAL MATRIX PROCESSOR

▶ **4x4 line level audio matrix mixer**

▶ **DSP audio signal processing**

- Fixed, low latency DSP processing

▶ **Audio DSP tools:**

- Compression
- Limiting
- Ducking
- Parametric EQ
- Bass and treble shelving filters
- High pass filters
- Low pass filters
- Building Block DSP templates
- 16 DSP Configurator presets
- 16 Group master controls

▶ **24-bit/48 kHz analog-to-digital and digital-to-analog converters**

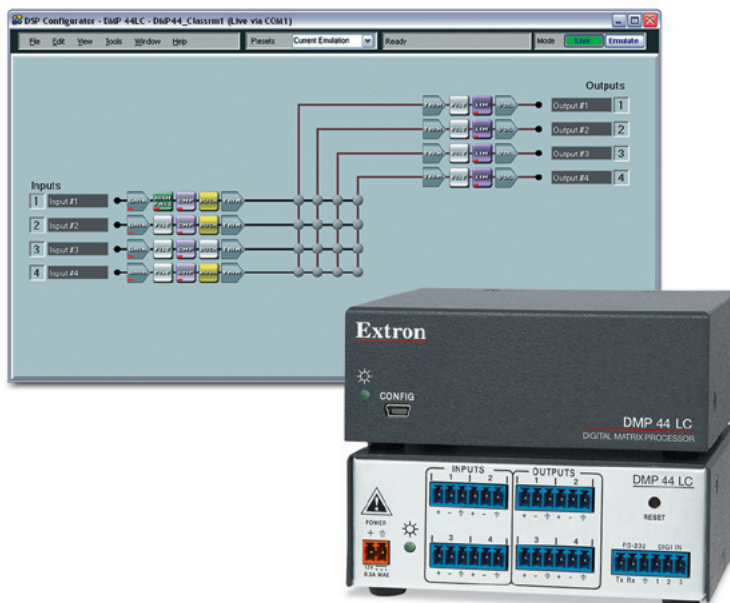
▶ **DSP Configurator™ Software for fast configuration**

▶ **Live and Emulate operation modes**

▶ **Intuitive Graphical User Environment**

▶ **SpeedNav™ keyboard navigation**

▶ **Three digital input ports for remote triggering**



The Extron DMP 44 LC is a compact audio matrix mixer with a digital signal processing platform for audio signal routing and control. Several DSP audio tools facilitate source signal and room optimization with quick and easy configuration using the DSP Configurator software. The built-in 4x4 matrix mixing makes the DMP 44 LC ideal for combining two or more audio sources into an input on an amplifier or recording system, or for distributing audio in a divisible room installation.



Extron® Electronics
INTERFACING, SWITCHING AND CONTROL

DESCRIPTION

The Extron **DMP 44 LC** Digital Matrix Processor is a compact 4x4 audio matrix mixer featuring a digital signal processing platform for audio signal routing and control. The DMP 44 LC features four line level inputs and outputs, all balanced or unbalanced. It offers several audio DSP tools for mixing, routing, and room optimization with quick and intuitive configuration using the DSP Configurator™ Software, allowing the DMP 44 LC to be installed in very little time. The DMP 44 LC is ideal for presentation applications that require line level audio matrix mixing with DSP in a small form factor.

DSP

The DSP built into the DMP 44 LC provides wide dynamic range and utilizes 24-bit audio converters with 48 kHz sampling to maintain audio signal transparency. Several convenient, easy-to-configure tools are available: level controls, high and low pass filters, parametric EQ filters, bass and treble shelving filters, compressor, limiter, and ducker.

Easy-to-Use DSP Configurator Software

The DSP Configurator Software features an intuitive on-screen layout that offers fast access to all of the digital audio signal processing tools as well as audio matrix mixing. Designers can quickly get a snapshot view of the entire audio system including processing blocks, routing, and mixing matrix assignments all at once.

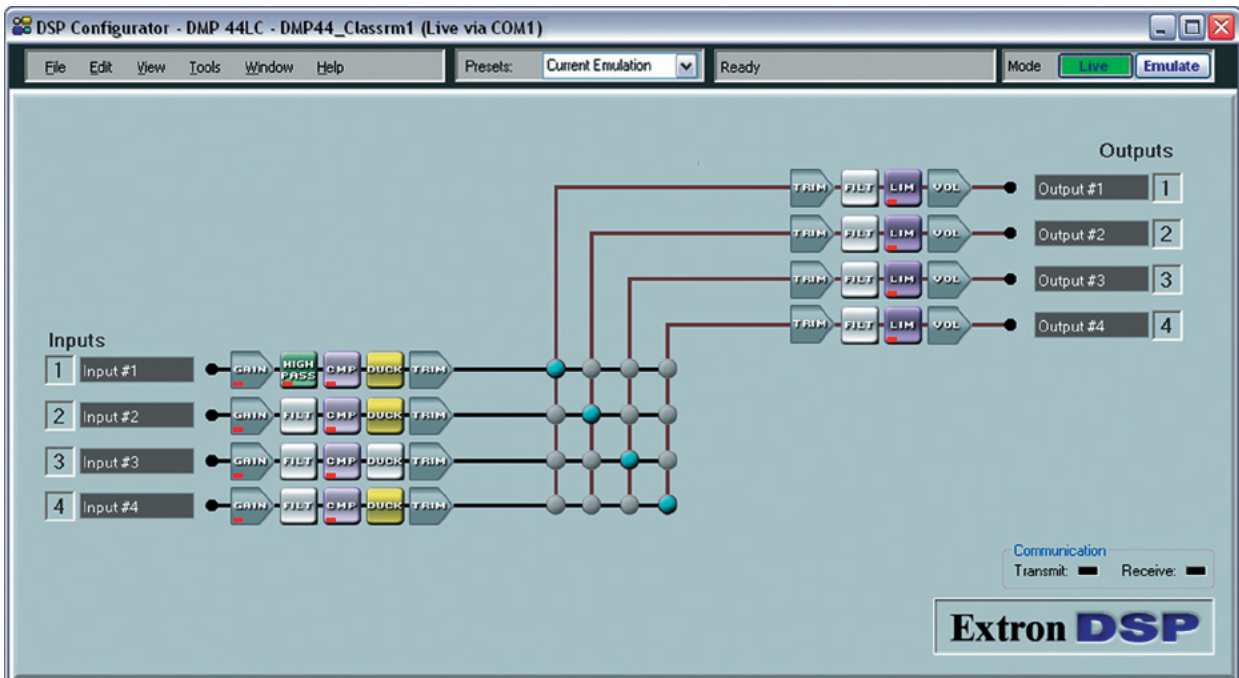
Flexible Routing

The DMP 44 LC features four mono line inputs, each of which can be mixed into any or all four mono line outputs. This audio matrix mixing is ideal for many applications, such as combining two independent stereo audio sources or switchers into a single amplifier or recording system, or in a divisible room installation where a switcher's audio output is fed to the sound system for each room.

FEATURES

- ▶ **4x4 line level audio matrix mixer** – The DMP 44 LC is a compact matrix mixer with DSP. It features four line level inputs that can be processed, mixed, and routed to four line level outputs.
- ▶ **DSP audio signal processing** – The DMP 44 LC provides digital signal processing on all input and output paths.
- ▶ **24-bit/48 kHz analog-to-digital and digital-to-analog converters** – High performance converters preserve audio signal integrity in input and output signal conversion, while maintaining latency under 1 ms.
- ▶ **Fixed, low latency DSP processing** – Input to output latency within the DMP 44 LC is fixed regardless of the number of active channels or processes. Fixed, low latency processing keeps audio in sync with video, and prevents distractions to the presenter resulting from delayed live audio.
- ▶ **DSP Configurator™ Software** – A powerful yet user-friendly PC-based software tool for managing all audio operations of the DMP 44 LC. It enables complete setup and configuration of digital audio processing tools as well as routing and mixing.
- ▶ **Intuitive Graphical User Environment** – The DSP Configurator Software features a Graphical User Environment that offers a clear view of all inputs and outputs, audio processing blocks, routing, and mix points in a single window. This allows a designer or installer to quickly view an audio configuration without having to access multiple windows or menus.
- ▶ **Front panel USB configuration port** – Enables easy configuration via the DSP Configurator Software without having to access the mixer's rear panel.
- ▶ **RS-232 control port** – Using serial commands, the DMP 44 LC can be integrated into a control system.
- ▶ **Three digital input ports for remote triggering** – Three configurable digital input ports are provided, so that external switches and sensors can be connected to the mixer for remote triggering of functions within the DMP 44 LC.
- ▶ **Building Blocks processor templates** – A collection of pre-designed processor templates optimized for a specific type of input or output device, such as microphones and Extron speakers, with preset levels, filters, dynamics, and more. Flexible Building Blocks are available on each I/O strip and allow system designers to fully customize and save their own Building Blocks, further streamlining audio system design and integration.
- ▶ **Console View with gain settings, metering, and routing in a single window** – An optional view within the DSP Configurator Software that allows system designers to see all gain settings and routing, together with live metering in a single window. Console View provides overload indication, numeric values for levels, and also mute status for each input, gain stage, mix point, and output, so that settings between inputs and outputs can be easily compared and adjusted in one view.
- ▶ **Live and Emulate operation modes with configuration file saving** – Allows settings to be configured offline, then uploaded to the DMP 44 LC. The software also downloads configuration files from the mixer for archiving.
- ▶ **16 DSP Configurator presets** – Using the DSP Configurator Software, any or all parameters for DSP processing, levels, or audio routing can be saved as presets.
- ▶ **Group Master controls** – The DMP 44 LC provides the capability to consolidate gain or mute control using 16 gain and mute groups. Gain or mute controls can be selected and added to a group master, which can then be controlled by a single master fader or mute control.
- ▶ **Soft limits provide optimal group master adjustment range** – The group master volume range can be limited using soft limits to maintain optimal minimum and maximum levels when using external volume control. This prevents operators from over or under-adjusting levels when using digital I/O or RS-232 control.
- ▶ **SpeedNav™ keyboard navigation** – SpeedNav enables user-friendly, keyboard-based navigation of the DSP Configurator Software without the need for a mouse or touchpad. Using keyboard navigation keys and shortcuts, the user can access any input or output, mixing points, and all audio DSP tools. Using only the keyboard for software access can help expedite audio system setup and commissioning while on-site using laptop PCs.

DSP CONFIGURATOR – EASY TO USE DSP SOFTWARE FOR FAST SETUP



Intuitive Graphical User Environment - The DSP Configurator Software features a Graphical User Environment that offers a clear view of all inputs and outputs, audio processing blocks, routing, and mix points in a single window. This allows a designer or installer to quickly view the entire configuration without having to access multiple windows or menus.

DSP TOOLS

The DMP 44 LC includes several enhanced DSP tools for setting up and fine-tuning audio systems. These tools, or processing blocks, allow for control and management of gain, dynamics, filtering, and ducking. The powerful DSP built into the DMP 44 LC can simplify system designs and save money by eliminating the need for separate DSP equipment. This easy-to-use configuration approach saves time during system tuning.

Gain, Filter, Compressor, and Ducking blocks are available for each input. Filter, Limiter, and Volume blocks are available for each of the four outputs. Selecting any of these blocks opens a dedicated pop-up window with a range of options and customizable parameters. Multiple windows can be open at the same time. Input and output levels can be monitored at any time by simply opening any of the input or output Gain or Volume windows, the convenient Console View, or the meter bridge.

Enhanced DSP Tools

Gain Stages	4 gain stages across input-to-output paths Gain control at mix points
Dynamics	1 compressor per input 1 limiter per output
Ducking	1 ducking processor for mic/line inputs, multiple priority levels
Filters	3 filters per input 9 filters per output High pass Low pass Shelving Parametric EQ
Presets	16 presets store entire DSP configuration or selected DSP settings

SPECIFICATIONS

AUDIO

Gain	Unbalanced output: -6 dB; balanced output: 0 dB
Frequency response	20 Hz to 20 kHz, ± 0.3 dB
THD + Noise	<0.02% @ 1 kHz, at maximum output level
S/N	>100 dB, 20 Hz to 20 kHz, at maximum output, unweighted
Crosstalk	<-90 dB @ 1 kHz, fully loaded
CMRR	>60 dB @ 1 kHz

AUDIO INPUT

Number/signal type	4 mono, line, balanced/unbalanced
Connector	(2) 3.5 mm captive screw connectors, 6 pole
Impedance	>10k ohms unbalanced/balanced
Nominal level	+4 dBu when level is set to 0 dB gain; adjustable from -20 dBu to +4 dBu
Maximum level	+21 dBu, balanced, when input gain is set to 0 dB
Volume range	-18 dB to +24 dB, line input, adjustable per input
NOTE:	0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV = 2 dBu

AUDIO PROCESSING

D/A conversion	24 bit, 48 kHz sampling
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AUDIO OUTPUT

Number/signal type	4 mono, line, balanced/unbalanced
Connectors	(2) 3.5 mm captive screw connectors, 6 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	± 0.2 dB channel to channel
Maximum level (Hi-Z)	>+21 dBu balanced, >+15 dBu unbalanced

CONTROL/REMOTE – AUDIO PROCESSOR

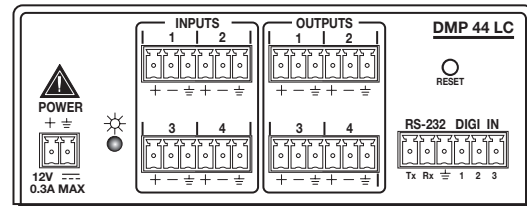
Serial host control port	1 bidirectional RS-232: 3.5 mm captive screw connector, 6 pole (uses 3 poles) (shared with digital input)
Baud rate and protocol	9600 to 115200 baud (38400 baud = default), 8 data bits, 1 stop bit, no parity, no flow control
Serial control pin configuration	Pin 1 = Tx, 2 = Rx, 3 = GND
USB control ports	1 front panel female mini USB B
USB standards	USB 2.0, low speed
Program control	Extron control/configuration program for Windows® Extron Simple Instruction Set (SIS™)

CONTROL – DIGITAL INPUT PORTS

Number/type	3 digital input (configurable)
Connector	(1) 3.5 mm captive screw connector, 6 pole (shared with RS-232 port, uses 4 poles)
Pin configuration	3 = GND; 4, 5, 6 = digital inputs 1, 2, 3
Digital inputs	
Input voltage range	0-24 VDC
Input impedance	10k ohms
Threshold low to high	>2.0 VDC
Threshold high to low	<0.8 VDC



Front



Back

GENERAL

Power	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 1 A	
Power consumption	4.8 watts	
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing	
Cooling	Convection, no vents	
Mounting		
Rack mount	Yes, with optional 1U rack shelf	
Furniture mount	Yes, with optional under-desk mounting kit	
Enclosure type	Metal	
Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide) (4.3 cm H x 10.9 cm W x 7.6 cm D) (Depth excludes connectors.)	
Product weight	0.6 lbs (0.3 kg)	
Shipping weight	3 lbs (2 kg)	
Vibration	ISTA 1A in carton (International Safe Transit Association)	
Regulatory compliance		
Safety	CE, c-UL, UL	
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI	
Environmental	Complies with the appropriate requirements of RoHS, WEEE	
MTBF	30,000 hours	
Warranty	3 years parts and labor	
NOTE:	All nominal levels are at $\pm 10\%$.	
Model	Version Description	Part number
DMP 44 LC	Digital Matrix Processor	60-1095-01

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.



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