

Digital Power Amplifier



- 12-channel class-D power amp with bridge tied load (BTL)
- 10 Watts per channel; adjacent channels can be tied together for doubled output power
- Every output channel includes a DSP delay, nine filters, compressor and limiter
- Passively cooled; no heat buildup
- Inputs are taken from the Lecnet 2 DANI™ bus forward or backward propagated signals - no analog inputs are provided
- Front panel level controls and LED signal status indicators

The DMPA12 is a powerful digital audio processor and multi-channel power amplifier combined into a single rack space component designed to work with DM Series processors. The design represents a milestone in DSP technology in its basic architecture and in its processing speed and efficiency. The primary applications are sound reinforcement and teleconferencing systems in boardrooms, courtrooms, lecture halls, distance learning applications, hotels and other systems with multiple microphones and loudspeakers. The design is ideally suited to mix-minus sound reinforcement designs.

Inputs are taken from the DANI™ bus (Digital Audio Network Interface) which is common to all DM Series components. Each output can drive a variety of loads, including loudspeakers, long cable runs and headphones. The BTL configuration allows two adjacent channels to be wired in parallel on a common load to double the output power.

The amplifier is designed to run continuously (idle or with a load) without heat buildup, making it ideal for permanent installations where prolonged operation is required.

Class-D amplification is implemented with a late generation component that provides exceptional efficiency, low heat, excellent audio performance and is indestructible with wiring errors.

Each output channel includes a delay, nine filters, a compressor and limiter. Settings are stored in memory with 24 different presets available for immediate recall of all setup parameters. Presets can be recalled with serial commands or simple contact closures.

Remote control can be implemented with serial commands or via rear panel logic I/O connections using simple switches and pots. Rear panel controls are essentially the same as other in DM Series models.

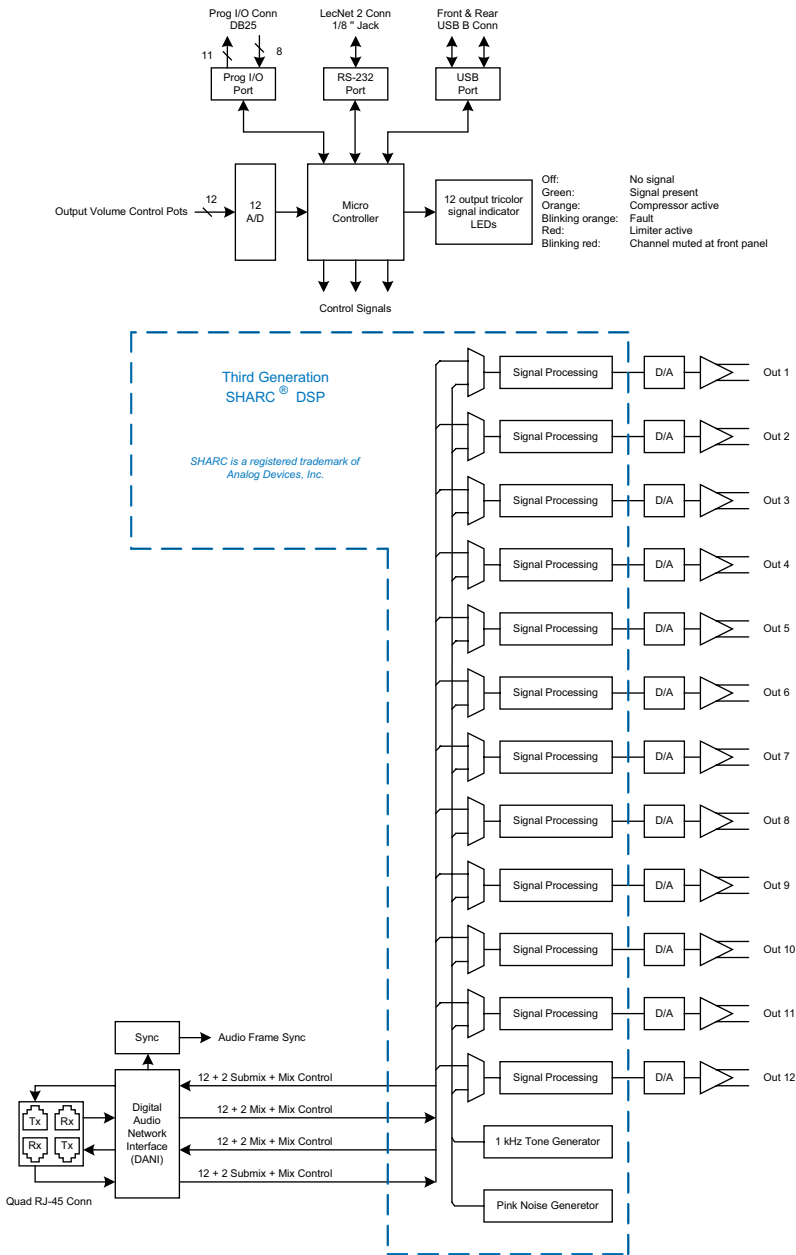
A software control panel is supplied for setup and monitoring. The standard tabbed environment in the GUI provides an intuitive interface for quick setup and diagnostics.

A powerful Macro language is included for control and to make changes to the setup configuration or the levels "on the fly." Macros can be launched with serial commands or contact closures on the rear panel logic I/O connections. Multiple macros can be tied together in strings where one macro calls another, which calls another, etc., providing extensive control functionality. A built-in Macro Recorder and Macro Editor are included in the software control panel to simplify the creation of macros.

Front panel indicators provide output level status at a glance. The multi-color LEDs indicate as follows:

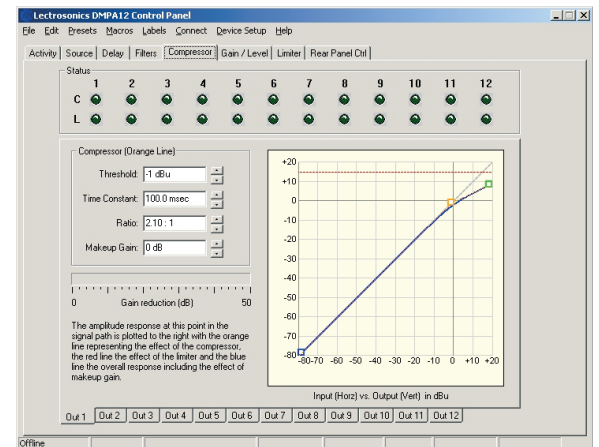
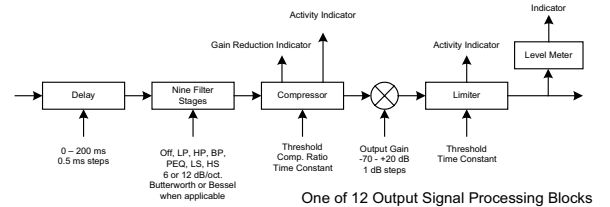
OFF:	Channel is inactive
GREEN:	Audio signal present at level greater than -35 dBu
ORANGE:	Compressor is active
RED:	Limiter is active
BLINKING ORANGE:	Fault exists at output
BLINKING RED:	Channel muted at front panel

DMPA12 control, signal flow and processing



External control, the user interface and signal flow are shown in the diagram at left. Multiple DM Series units interconnected in a system pass control information and audio signals via the DANI™ bus (Digital Audio Network Interface) as shown in the diagram.

Each of the 12 outputs on the DMPA12 includes the signal processing stages shown below. The signal flow passes through a logical sequence to apply needed conditioning and level settings. The setup tabs across the top of the screen in the control panel GUI appear in the same sequence as shown in the diagram.



The setup screens in the supplied GUI are presented in a familiar tabbed format

Specifications

Amplifier type:	Class-D with bridge tied load (BTL).
Number of outputs:	12
Rated power per output channel:	10 Watts (Two outputs can be tied together for 20 Watts into 4 Ohms)
Load impedance:	4 to 8 Ohms
Total harmonic distortion (THD):	0.2% (10mW to 10W, 20Hz to 20kHz)
Dynamic range:	95 dB
Frequency response flatness:	+/-1 dB (20 Hz to 20 kHz)

