LM-PRE4

4-Channel Microphone Preamplifier plus A/D Module for Lynx Aurora(n) Converter

The LM-PRE4 four-channel microphone preamplifier module transforms the Aurora(n) into a full-fledged computer interface and stand-alone audio recording device. This high performance module extends the capabilities of the Aurora(n) product line by adding support for microphone, HI-Z or line level input signals and direct coupling to four additional channels of A/D conversion per module.

The Aurora(n) PRE 1608 comes pre-installed with two LM-PRE4 modules adding eight channels of microphone/line/HI-Z inputs to the eight channels of analog line I/O for a total of sixteen analog inputs. Other Aurora(n) PRE models are available through the Lynx Custom Shop
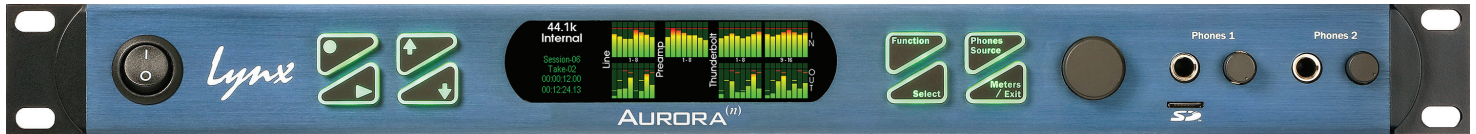
Lynx converters have won acclaim for pristine transparency and imaging while providing industry professionals with the means to capture performances with all their subtleties and nuances. Acknowledging the high bar set by this level of performance, the LM-PRE4 was designed with strict requirements for noise suppression and ruler-flat frequency response while operating over a wide range of gain settings. In support of this, critical attention was focused on component selection, circuit board layout, and power delivery. The resulting combination of preamp and conversion technology in the LM-PRE4 offers sonic detail typically lost in the all-in-one interfaces. The performance of the microphone preamplifier alone meets or exceeds popular stand-alone devices on the market.

LM-PRE4 design innovations:
• Its current feedback design provides extremely low noise and distortion across gain settings up to 68.6dB. Each channel has separate controls for 48V phantom power, phase, high-pass filter, and attenuator pad.
• The fully-differential design and RF attenuation circuitry provide excellent suppression of both external and internal common-mode noise.
• The Hi-Z input supports instrument and other unbalanced or balanced signals.
• When the Line Mode is selected, signals are routed on a dedicated path to achieve the same performance and circuitry as the line in channels on the Aurora(n). This provides the convenience of adding additional line inputs compatible with existing Aurora(n) line inputs when the application requires.
• The preamp output is connected directly to the same A/D converter circuitry used Aurora(n). This tight coupling shortens the signal path considerably and avoids potential noise associated with cabled connections between a separate preamp and converter.

LM-PRE4 FEATURES

• **Four-channel microphone/line/HI-Z input module for Aurora(n)**
• **On-board four-channel Aurora(n) A/D conversion directly coupled to preamp out**
• **Fully-differential, current-feedback preamplifier architecture**
• **Transformerless, transparent design**
• **Up to 68.6dB gain in 1dB increments**
• **Low noise (-129dBu EIN) microphone input**
• **Noise and distortion optimized at all gain settings**
• **Independent 48V phantom power, phase, high-pass filter, and pad for each channel**
• **Dedicated line level signal path provides performance identical to AIO8E**
• **Gold contact relays for distortion-free signal routing**
• **Seamless integration with Aurora(n)'s mixing and routing engine**

Aurora(n) front panel.

Aurora(n) PRE 1608 rear panel.

PRELIMINARY SPECIFICATIONS

	LINE INPUT	MICROPHONE INPUT	HI-Z INPUT
THD+N *1kHz, -1dBFS, 20kHz filter*	-113dB (0.00022%)	-111dB (0.00028%) *@ 21.6dB gain*	-109dB (0.00035%) *@ 21.6dB gain*
EIN *A-weighted*	N/A	-129dBu *@ 61.6dB gain*	-115dBu *@ 21.6dB gain*
Dynamic Range *A-weighted, -60dBFS method*	119dB	116dB *@ 21.6dB gain*	114dB *@ 21.6dB gain*
Frequency Response *Deviation over 20-20kHz band, -1dBFS*	±0.010dB max.	+0.01 / -0.08dB max. *@ all gain settings*	+0.01 / -0.05dB max. *@ all gain settings*
Crosstalk *Adjacent channel, -1dBFS, 1kHz*	-138dB max.	-127dB max. *@ 41.6dB gain*	-132dB max. *@ 21.6dB gain*
Common Mode Rejection *-1dBFS, 60Hz and 1kHz*	75dB min	75dB min. *@61.6dB gain, 60Hz and 1kHz*	N/A
Full-scale Input Level for A/D	20dBu	28.7dBu *@5.6dBu with pad*	14.9dBu *@5.6dBu gain*
Input impedance	200k Ohm bal., 100k Ohm unbal.	2.1k Ohm	1M Ohm unbal. (TS), 2M Ohm bal. (TRS)
Gain Settings	Fixed	5.6dB/13.6dB to 68.6dB in 1dB steps	5.6dB/13.6dB to 68.6dB in 1dB steps
Pad attenuation	N/A	13.6dB	N/A
High-pass Filter	N/A	80Hz, 12 dB / octave	N/A
Connector	Female XLR on Neutrik jack	Female XLR on Neutrik jack	TRS on Neutrik jack

SUGGESTED RETAIL PRICES

Aurora(n) PRE 1608 **LM-PRE4 Module**
USB $4,199 $699
Thunderbolt $4,599

Aurora(n) front panel preamplifier screen.