Q-NEX SERIES

4-channel Class D power amplifiers with PFC and CORE2 DSP

KEY FEATURES

- High-power, digitally controlled Class D power amplifiers
- Very efficient Universal Switch Mode Power Supply with PFC
- Up to 20000 W in 4 channels
- 8, 4 and 2 Ohm low impedance operation
- 100 V and 70 V high impedance modes
- Extensive protection system
- 40bit floating point CORE2 processing with Linear phase FIR filters
- PRONET AX remote control
- Large IPS display with capacitive touch panel

APPLICATIONS

Q-NEX are high-performance 4-channel power amplifiers equipped with high-quality DSP, designed both for powering large touring systems and for the use in high-profile fixed installations.

TECHNICAL SPECIFICATIONS

MODEL	Q-NEX5.4	Q-NEX10.4	Q-NEX14.4	Q-NEX20.4
Channels	4	4	4	4
Total output power	5000 W	10000 W	14000 W	20000 W
Output Power* (All ch driven/single ch)				
2 ohms	4x1250 / 1x1250 W	4x2500 / 1x2500 W	4x3500 / 1x3500 W	4x5000 / 1x5000 W
2.67 ohms	4x1250 / 1x1700 W	4x2500 / 1x3300 W	4x 500 / 1x4700 W	4x5000 / 1x6700 W
4 ohms	4x1250 / 1x2500 W	4x2500 / 1x2500 W	4x3500 / 1x3750 W	4x5000 / 1x6000 W
8 ohms	4x1250 / 1x1250 W	4x1250 / 1x1300 W	4x1800 / 1x1900 W	4x2500 / 1x3000 W
4 ohms Bridged	2x2500 W	2x5000 W	2x7000 W	2x10000 W
8 ohms Bridged	2x2500 W	2x5000 W	2x7000 W	2x10000 W
Hi-Z 100V	4x1250 / 1x2500 W	4x2500 / 1x2500 W	4x3500 / 1x4200 W	4x5000 / 1x5000 W
Hi-Z 70V	4x1250 / 1x1800 W	4x2500 / 1x2500 W	4x2950 / 1x2950 W	4x3500 / 1x3500 W
Max output voltage	150 Vpeak	150 Vpeak	189 Vpeak	235 Vpeak
Max output current	36 Apeak	50 Apeak	59 Apeak	71 Apeak
Frequency response	20 Hz - 20 kHz			
Input Sensitivity (DSP adjustable)	+10 dBu	+10 dBu	+12 dBu	+12 dBu
Gain	32 dB	32 dB	32 dB	32 dB
Input Impedance	30 Kohm (bal) / 15 Kohm (unbal)			
Input Connectors	INPUT: XLR-F LINK: XLR-M			
Output Connectors	NL4 Speakon			
Network Connectors	2 x ETHERCON®(NE8FAV)			
Signal Processing	CORE2 processing, 40bit floating point SHARC DSP, 24 bit AD/DA converters			
Direct access Controls	Capacitive touch panel - Dial - Terminate			
Remote Controls	PRONET AX control software			
Cooling	Variable speed DC fan			
Protections	Soft-start, Turn-on Turn-off transients, Muting at turn-on, Over-heating, DC, RF, Short-circuit, Open or mismatched loads, Overloaded power supply, Clip Limiting			
S/N Ratio	111 dBA	111 dBA	113 dBA	115 dBA
THD+N	< 0.05 %			
Power Supply	90V - 265V AC, 50Hz-60Hz			
1/8 Rated Power	3.7 A	7.3 A	10 A	14 A
Weight Net (kg-Lb)	7 kg (15.4 lbs)	7 kg (15.4 lbs)	9 kg (19.8 lbs)	9 kg (19.8 lbs)
Dimensions (W x H x D)	483x89x355 mm (19"x3.5"x14")			

* IEC filtered pink noise signal (40Hz-5kHz, 12dB crest factor)

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PRELIMINARY INFORMATION

AMPLIFIER TECHNOLOGY

Q-NEX power amplifiers innovative technology is based on a very-high efficiency Class D topology with Switch Mode Power Supply, able to provide up to 20000 W in 4 channels. This technology includes universal power supply with **PFC (Power Factor Correction)**, which guarantees that the performance of the amplifier is always stable, even when the voltage is not. Regardless of any eventual fluctuations of the power supply, Q-NEX amplifiers will always be able to deliver the highest level of power. In addition, an advanced **Power Control Management** system allows to share the total power of the device between the channels according to needs, having the possibility to obtain in just one channel the maximum power

Q-NEX technology offers **cutting-edge performances**, such as better sound definition, high-fidelity reproduction of any frequency of the audio range, higher dynamics at any signal level with low distortion even at very high powers. At the same time, Q-NEX amplifiers feature very compact size and light weight, efficiency above 90% and negligible heat dissipation. The very high efficiency levels result also in a significant reduction in the energy waste associated with large installations, a noticeable reduction in operating costs and a direct benefit to the environment. Featuring high power levels in a lightweight and compact chassis, Q-NEX amplifiers are easy and economical to transport and this, in turn, makes them **environmentally friendly**.

The **extensive protection system** includes Soft-start, Turn-on Turn-off transients, Muting at turn-on, Over-heating, DC, RF, Short-circuit, Open or mismatched loads, Overloaded power supply and Clip Limiting.

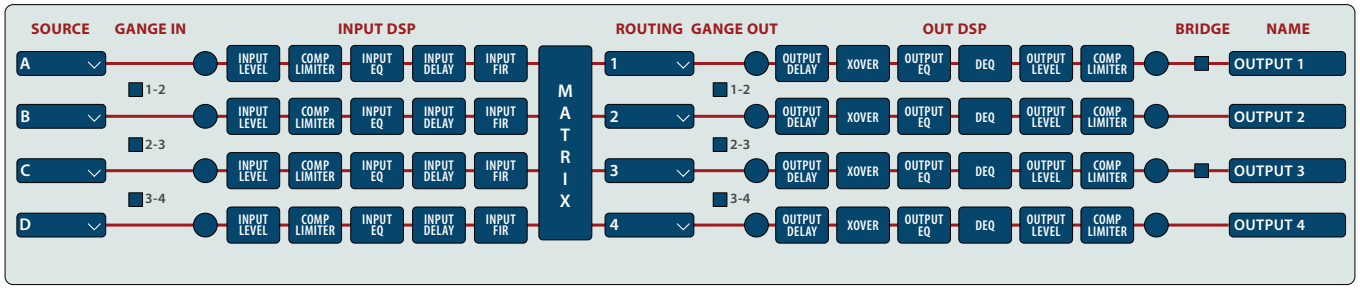
Q-NEX amplifiers feature an ergonomic and functional **up-side-down design** to avoid fan dust accumulation, plus removable dust filters for an easy maintenance in all conditions of use and therefore extensive durability.

SIGNAL PROCESSING

The Q-NEX system processing is based on the CORE2 DSP platform designed by the PROEL R&D Laboratories using one of the most advanced SHARC DSP devices available for audio applications. It features **40bit, floating point resolution and top-quality 24-bit AD/DA converters** for perfect signal integrity, dynamic range in excess of 110dB and superior sonic performance. Thanks to its massive processing power, the CORE platform is capable of providing the most sophisticated algorithms for speaker processing, including linear phase FIR filters, together with comprehensive remote control and networking capabilities.

The Q-NEX amplifiers' **DSP section** includes a full set of functions on each input and output. Each INPUT features 5 bands of full PARAMETRIC EQ, a 1024 taps FIR filter, a fully programmable COMPRESSOR/LIMITER and up to 600ms of delay. Each OUTPUT includes any kind of crossover filter with slope up to 48dB per octave, together with 10 bands of PEQ, two fully programmable COMPRESSOR/LIMITER, up to 600ms of delay and 3 bands of an extremely versatile and powerful DYNAMIC EQ.

A very flexible **ROUTING MATRIX** allows each of the physical analog inputs to be routed to any of the 4 digital inputs, and any digital input to be routed to any of the 4 power outputs.



The **PRONET AX control software**, working on a solid and reliable CANBUS based network protocol, provides an intuitive interface for the remote control of the whole audio system via the rear panel etherCON RJ45 connectors, with the possibility to setting all processing parameters and monitoring the status of the amplifier.

ENGINEERING DRAWING