

# QC SERIES

Digitally controlled Class D power amplifiers with SMPS and CORE DSP



## KEY FEATURES

- Digitally controlled Class D power amplifiers
- PWM output stages with variable switching frequency
- Very efficient Switch Mode Power Supply
- Extensive protection system
- 96KHz / 40bit floating point CORE processing with PRONET remote control
- Aluminum front panel with removable dust filters

## APPLICATIONS

QC power amplifiers are high-performance professional amplifiers with built-in DSP, designed both for powering large touring systems and for the use in high-profile fixed installations.

## AMPLIFIER TECHNOLOGY

QC series is based on PROEL **DA amplifiers**, a new generation of digitally controlled Class D power modules with Switch Mode Power Supply (SMPS) featuring an innovative technology.

Unlike most of the competitors in this range, which use a fixed switching frequency, the PWM (Pulse Width Modulation) output stage of DA modules uses a **variable switching frequency** according to the input signal level. This technology offers performances far above most of the products currently available on the market: 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. The superior sound quality can be compared

## TECHNICAL SPECIFICATIONS

MODEL	QC4.2	QC4.4	QC2.4
Channels	4 (single) or 2 (bridge)		2 (single) or 1 (bridge)
Power 8 ohm *	250 W	500 W	1000 W
Power 4 ohm *	500 W	1000 W	2000 W
Power BRIDGE 8 ohm *	1000 W	2000 W	4000 W
Frequency response	20 Hz - 20 kHz		
Input Sensitivity (adjustable by DSP)	+3 dBu	+6 dBu	+3 dBu
Gain (fixed)	32 dB	32 dB	38dB
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)		
Controls	Level, GND lift, Terminate, ID		
LED Indicators	Signal/Limit, Protection, Bridge, Parallel, Com, Terminate, Power		
Signal Processing	CORE processing, 96kHz / 40bit floating point SHARC DSP, 24 bit AD/DA converters		
Cooling	Variable speed DC fan		
Protections	Clip Limiter, Short circuit, DC voltage, Over heating		
Damping Factor	> 500 @ 8 ohm		
Slew Rate	50 V/uS		
S/N Ratio	> 105 dB (unweighted)		
THD+N	< 0.5 %		
Power Supply	230 V~ or 120 V~ - 50/60 Hz		
Max Consumption	2900 W	5300 W	1800W***
Rated Consumption**	800 W	1350 W	600W***
Weight	11 Kg (24.3 lb)		
Dimensions (W x H x D)	483 x 89 x 383 mm (19 x 3.5 x 16.2 inch)		483 x 89 x 463 mm (19 x 3.5 x 18.2 inch)

\* Standard EIA 1KHz THD < 1%, per channel

\*\* Rated consumption is measured with pink noise with a crest factor of 12 dB, this can be considered a standard music program.

\*\*\* With PFC

with top-of-the-range AB-class analog systems, while DA modules thanks to the use of SMPS and Class D feature very compact size and light weight, efficiency above 90% and negligible heat dissipation.

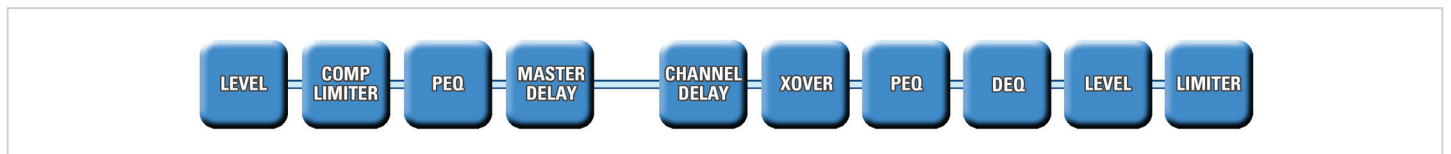


The very high efficiency levels result also in a significant reduction in the energy waste associated with large installations, a noticeable reduction in operating costs and a direct benefit to the environment. Featuring high power levels in a lightweight and compact chassis, the QC amplifiers are much easier and more economical to transport than conventional models and this, in turn, makes them even more **environmentally friendly**.

In the top-of-the-range model, **QC2.4**, the use of **PFC (Power Factor Correction)** technology used for the power supply stage 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, the QC2.4 will always be able to deliver the highest level of power.

QC amplifiers feature an ergonomic and functional design with removable dust filters, for an easy maintenance in all conditions of use and therefore extensive durability. The protection system includes thermal protection, short circuit protection, high frequency protection and CLIP LIMITER circuit.

## SIGNAL PROCESSING



The system processing is based on the **CORE DSP platform** designed by the PROEL R&D Laboratories using one of the most advanced SHARC DSP for audio application. It features 40bit, 96kHz floating point resolution and top-quality 24bit AD/DA converters, for a perfect signal integrity, a dynamic range in excess of 110dB and a superior sonic performance. Thanks to its massive processing power, the CORE platform is capable of providing the most sophisticated algorithms for speaker processing, together with remote control and networking capability.



The QC amplifiers' DSP section includes a full set of functions on each input and output. Each INPUT features 5 bands of full PARAMETRIC EQ (including parametric, shelving, notch, res. HP and LP, allpass and bandpass), a fully programmable COMPRESSOR/LIMITER and up to 600ms of delay. Each OUTPUT includes any kind of crossover filters with slope up to 48dB per octave, together with 5 bands of PEQ, fully programmable COMPRESSOR/LIMITER, up to 600ms of delay and 3 bands of an extremely versatile and powerful DYNAMIC EQ.

QC amplifiers can be remotely controlled with **PRONET software**, which works on a solid and reliable CANBUS based network protocol and provides an intuitive interface for the remote control of the DSP features and the monitoring of the amplifier's status.

