PowerLight 1.4

The PowerLight™ 1.4 is an advanced professional audio amplifier featuring uncompromised audio performance. A new high frequency power supply, utilizing QSC's *PowerWave™ Switching Technology*, has been combined with the rugged audio amplification circuits of traditional QSC amplifiers to produce an amplifier with incredible reliability, thermal capacity and audio performance. The PowerLight 1.4 is rated at 325 watts/channel into 8 ohms, 550 watts/channel into 4 ohms, and 700 watts/channel into 2 ohms making it ideal for powering subwoofer and high power, passive full-range speaker systems. Increased power supply regulation maintains excellent low impedence performance. Outstanding audio performance and reliability, high efficiency design, networkability, and light weight make this amplifier ideal for all critical sound system applications.

LOAD	FTC CONTINUOUS AVERAGE	EIA WATTS
	20Hz-20kHz, 0.1% THD	*1kHz, 1% THD*
Stereo (W/Ch)		
8Ω	300 watts	325 watts
4Ω	500 watts	550 watts
2Ω		700 watts
Mono-Bridged		
16Ω	600 watts	650 watts
8Ω	1000 watts	1100 watts
4Ω		1400 watts

F E A T U R E S

700 watts per channel at 2 ohms
550 watts per channel at 4 ohms
(guaranteed minimum specs)

Advanced thermal management system

Clip Limiter (user defeatable)—reduces distortion, protects loud speakers

PowerWave™ Switching Technology—for improved audio performance

Detented gain controls with 2 dB steps for easy resetting

Comprehensive LED status arrays

High efficiency, 2-step output circuit for improved thermal performance and lower AC current consumption

Variable speed fan, for quiet operation

DC, sub audio, and thermal overload protection

Patented Output Averaging™ short-circuit protection

Neutrik "Combo" (XLR & 1/4") and barrier balanced input connectors

Stereo/bridging/parallel input switch

"Touch proof" binding post output connectors

Remote AC power control

Data port for MultiSignal Processing

3 year warranty PLUS optional 3 year extended service contract

PowerLight™

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PowerLight 1.4 Specifications

OUTPUT POWER (per channel)

8 ohms, 20 Hz to 20 kHz,	0.1%	THD, 300 watts
8 ohms, 1kHz,	1%	THD, 325 watts
4 ohms, 20 Hz to 20 kHz,	0.1%	THD, 500 watts
4 ohms, 1 kHz,	1%	THD, 550 watts
2 ohms, 1 kHz,	1%	THD, 700 watts

OUTPUT POWER (bridged mono)

8 ohms, 20 Hz to 20 kHz,	0.1%	THD, 1000 watts
4 ohms, 1 kHz,	1%	THD, 1400 watts

DISTORTION (SMPTE-IM): less than 0.05%

DISTORTION (typical): less than 0.01% THD
4Ω to 8Ω:
20Hz-20kHz, 10 dB below rated power
1.0 kHz and below, full rated power

FREQUENCY RESPONSE:
20 Hz to 20 kHz, ±0.15 dB
8 Hz to 100 kHz, +0/-3 dB

DAMPING FACTOR:
Greater than 350

DYNAMIC HEADROOM: 1.9 dB at 4 ohms

NOISE: 108 dB below rated output (20 Hz to 20 kHz)

SENSITIVITY: 0.96 Vrms for rated power (8 ohms)

VOLTAGE GAIN: 50 (34 dB)

INPUT IMPEDANCE: 10K unbalanced, 20K balanced

CONTROLS:
Front: AC Switch, Ch 1 and Ch 2 Gain Knobs, Ch 1 and Ch 2 Clip Limiter Switches
Back: Parallel/Stereo/Bridge Switch, Remote A.C. Power Control Terminal Strip

INDICATORS:

PROT:	Red LED	CLIP:	Red LED, 1 per channel
STANDBY:	Yellow LED	LEVEL -10:	Yellow LED, 1 per channel
PWR-ON:	Green LED	LEVEL -20:	Yellow LED, 1 per channel
		SIG-PRESENT:	Green LED, 1 per channel

CONNECTORS: (each channel)
Input: Barrier strip and Neutrik "Combo" XLR and 1/4" input
Speakers: "Touch proof" binding posts
Data Port: HD15 female

COOLING: Variable speed fan, rear-to-front air flow.

AMPLIFIER PROTECTION:
Full short circuit†, open circuit, thermal, ultrasonic, and RF protection. Stable into reactive or mismatched loads.

LOAD PROTECTION:
On/off muting. DC-fault power supply shut down.

OUTPUT CIRCUIT TYPE:
Complementary linear outputs. 2-step high efficiency circuit.

POWER REQUIREMENTS: 120, 240 Vac, 50-60 Hz

POWER CONSUMPTION:
Normal Operation: 4 ohms per channel: less than 5.5 amps, 120 Vac (660 VA) maximum (full power, 2 ohms per channel): 26 amps, 120 Vac (3120 VA)

DIMENSIONS:
19.0" (48.3 cm) rack mounting
3.5" (8.9 cm) tall (2 spaces)
17.9" (45.5 cm) deep (rear support ears)

WEIGHT: 18 lbs (8.2 kg) net, 24 lbs (10.6 kg) shipping

†Output Averaging™ short circuit protection (US Patent 4,321,554)
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

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ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The amplifier shall contain all solid-state circuitry, using complementary silicon output devices. The amplifier shall exceed the efficiency of an ordinary class-B linear output circuit. The amplifier shall operate from 50-60 Hz AC power. The amplifier shall operate from a normal household AC outlet, drawing less than 660 VA when driven with random program material at 1/8 rated power into four ohm loads. The amplifier shall be supplied with a single molded AC cord having a standard NEMA 15 AC plug for the intended operating voltage for 120 V units, 220-240 V units shall be equipped with a standard IEC mains connector and a removable power cord. The amplifier shall comply with FCC part 15 class B requirements.

The amplifier shall employ forced-air cooling with a variable speed fan for minimum acoustic noise. Air flow shall be from rear to front to avoid temperature rise inside the rack. Rack mounting shall be possible without clearance between amplifiers for ventilation. The amplifier shall be capable of continuous operation at 1/3 power, into four-ohm loads, for ambient temperatures up to 104° F (40° C).

The amplifier shall contain two independent amplifier channels and a switching power supply. All amplifier protection systems shall be self-resetting upon removal of fault. Each channel shall have independent protective circuitry against short circuit or mismatched loads. Each channel shall monitor heat sink temperature and shall trigger fan speed boost, and if necessary, signal muting to prevent excessive temperature rise. Each channel shall have on-off muting, acting for three seconds after turn-on, and within 1/4 second after turn-off or loss of AC power. Each channel shall have DC fault protection for the load, consisting of a power supply shut down.

The front panel shall contain the AC power switch; a green LED power-on indicator; a yellow LED standby indicator and a red protect mode indicator. Each channel shall have the following controls and displays: A front panel detented gain control, with 11 gain settings: 34 dB, 32 dB, 30 dB, 28 dB, 26 dB, 24 dB, 22 dB, 20 dB, 16 dB, 10 dB, -∞; a recessed front panel clip limiter defeat switch; a green signal present LED triggering at -30 dB; two yellow LED output indicators, triggering at -20 dB and -10 dB; a red LED showing true amplifier clipping.

The output connectors for each channel shall include a "touch proof" binding post, accepting banana plug or up to 7 AWG (4mm) wire. Connector terminals are arranged to allow bridge mono connection.

The rear panel input shall provide barrier strip and Neutrik "Combo" connectors for each channel. The XLR input shall be wired with pin 2 high, the 1/4" RTS input shall be wired with tip positive, ring negative, and sleeve grounded. Inputs shall be electronically balanced, with a minimum impedance of 10 kilohms per side, and a common mode rejection of at least 50 dB from 20 Hz to 20 kHz.

A High Density 15 Pin Data Port connector shall carry both audio and amplifier operational status signals to and from a QSC MultiSignal Processor.

Switches shall be provided for stereo-bridging and parallel inputs. A two position barrier strip, on the rear panel, shall be used for remote AC power control. A contact closure shall place the amplifier in standby mode, when the front panel power switch is in the on position. The front panel power switch shall function as a master switch that removes all AC power.

Each channel shall be capable of meeting the following performance criteria with both channels driven: Sine-wave output power of 300 watts into eight ohms, and 500 watts into four ohms, 20 Hz to 20 kHz, with less than 0.1% THD. Frequency response at 3 dB below rated power shall be 20 Hz to 20 kHz within 0.15 dB. The voltage gain shall be 50, equivalent to 34 dB, and the input sensitivity shall be 0.96 Vrms. The signal to noise ratio over the range of 20 Hz to 20 kHz shall exceed 108 dB relative to full output. IHF damping factor shall exceed 350.

The amplifier chassis shall occupy two rack spaces, with provision for securing the rear corners. Depth from mounting surface to tips of rear supports shall be 17.9" (45.5 cm).

Weight shall not exceed 18 lbs. (8.2 kg.). The amplifier shall be the QSC Audio Products PowerLight™ 1.4.