PowerLight 1.0HV

FEATURES

- Ideal for powering studio monitors and high frequency drivers
- 500 watts per channel at 4 ohms
  300 watts per channel at 8 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
- Full complementary class AB output circuit for ultra-low distortion
- 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 switch
- "Touchproof" binding post output connectors
- Remote AC power control
- Data port for MultiSignal Processing
- 3 year warranty PLUS optional 3 year extended service contract

The **PowerLight™ 1.0HV** 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. A special "High Voltage" output circuit provides maximum power at 16, 8, and 4 ohm loads. The PowerLight 1.0HV is rated at 325 watts/channel into 8 ohms and 525 watts/channel into 4 ohms, making it ideal for powering midrange and high frequency drivers and studio monitors. A Class AB output circuit also provides ultra-low distortion. Outstanding audio performance and reliability, networkability, and light weight make this amplifier ideal for all critical sound system applications.

LOAD	FTC CONTINUOUS AVERAGE	EIA WATTS
Both channels driven	*20 Hz–20 kHz, 0.1% THD*	*1 kHz, 1% THD*
Stereo (W/Ch)		
8Ω	300 watts	325 watts
4Ω	500 watts	525 watts
2Ω	not rated	not rated
Bridged mono		
16Ω	600 watts	650 watts
8Ω	1000 watts	1050 watts
4Ω	not rated	not rated

QSC AUDIO
1675 MacArthur Boulevard
Costa Mesa, California 92626-1468 USA
Ph: 714/754-6175 Fax: 714/754-6174
Web: www.qscaudio.com E-mail: info@qscaudio.com

PowerLight™

PowerLight 1.0HV 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,	525 watts

OUTPUT POWER (bridged mono)

8 ohms, 20 Hz to 20 kHz,	0.1% THD,	600 watts
4 ohms, 1 kHz,	1% THD,	1000 watts

DISTORTION (SMPTE-IM): less than 0.05%

DISTORTION (TYPICAL): less than 0.01% THD
4Ω to 8Ω:
20 Hz–20 kHz, 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: 1.0 Vrms for rated power (8 ohms)

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 AC Power Control Terminal Strip

VOLTAGE GAIN: 50 (34 dB)

INPUT IMPEDANCE: 10K unbalanced, 20K balanced

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 ¼" 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.

POWER REQUIREMENTS: 120, 230 VAC, 50–60 Hz

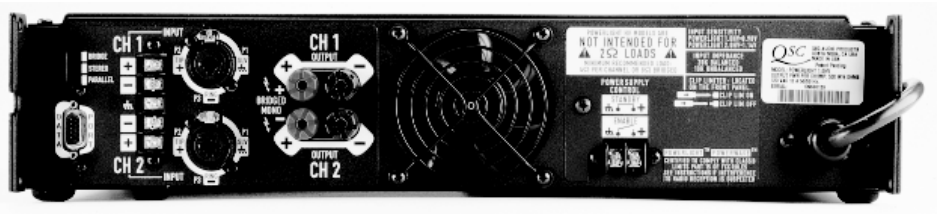
120V CURRENT CONSUMPTION:

LOAD	NORMAL PROGRAM 1/8 POWER*	MAX PROGRAM 1/3 POWER	MAX SINEWAVE 1% CLIPPING
8Ω	5.1 A	7.3 A	12.1 A
4Ω	7.6 A	11.5 A	19.8 A

Multiply currents by 0.5 for 230V units **Pink noise*

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



ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The amplifier shall contain all solid-state circuitry, using complementary silicon output devices in a class AB configuration. The amplifier shall operate from 50–60 Hz AC power. The amplifier shall operate from a 15A 120V AC outlet, drawing less than 925 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 120 V units; 220–240 V units shall be equipped with a 320-C19 16A 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 two variable speed fans 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 eight-ohm loads, in 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 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. Both channels shall have synchronized on-off muting, acting for three seconds after turn-on, and within ¼ second after turn-off or loss of AC power. Each channel shall have DC fault protection for the load, consisting of a power supply shutdown. Each channel shall have a user-defeatable clip limiter.

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, 12dB, -∞; 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 be "touchproof" binding posts, accepting banana plugs or up to 7 AWG (4 mm dia.) 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 ¼" TRS 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 Power Supply Enable; a contact closure shall place both amplifier channels 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 1.0 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™ 1.0HV.

QSC AUDIO
1675 MacArthur Blvd.
Costa Mesa, CA 92626 USA
Ph: 714/754-6175 Fax: 714/754-6174
Web: www.qscaudio.com E-mail: info@qscaudio.com