The EX 800 is an advanced professional power amplifier offering high power, comprehensive operational and protection features, and an extremely flexible interface standard.

The output circuit combines clean power with superb linearity to provide greater average and dynamic audio performance for high frequency drivers and other medium power applications. A built-in limiter prevents gross distortion during clipping to further enhance dynamic performance. A sophisticated thermal management system varies fan speed with heat requirements and, in the event of over-temperature, reduces gain until normal operating temperatures return. Thermal muting occurs only in extreme cases.

The rear panel uses QSC’s Open Input Architecture™ which allows the use of second generation signal processing and a wide variety of computer control, optional input connectors, input transformers, cinema crossovers, power limiters, precision attenuators, and other signal processing cards as they become available.

<table>
<thead>
<tr>
<th>LOAD</th>
<th>FTC CONTINUOUS AVERAGE</th>
<th>EIA WATTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20Hz–20kHz, 0.1% THD</td>
<td>1kHz, 1% THD</td>
</tr>
<tr>
<td>Stereo (W/Ch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8Ω</td>
<td>175 watts</td>
<td>200 watts</td>
</tr>
<tr>
<td>4Ω</td>
<td>275 watts</td>
<td>325 watts</td>
</tr>
<tr>
<td>2Ω</td>
<td></td>
<td>400 watts*</td>
</tr>
<tr>
<td>Mono-Bridged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16Ω</td>
<td>350 watts</td>
<td>400 watts</td>
</tr>
<tr>
<td>8Ω</td>
<td>550 watts</td>
<td>650 watts</td>
</tr>
<tr>
<td>4Ω</td>
<td></td>
<td>800 watts*</td>
</tr>
</tbody>
</table>

*Typical
**OUTPUT POWER (per channel)**
8 ohms, 20 Hz to 20 kHz, 0.1% THD, 175 watts
8 ohms, 2 kHz, 0.1% THD, 200 watts
4 ohms, 20 Hz to 20 kHz, 0.1% THD, 275 watts
4 ohms, 1 kHz, 1% THD, 325 watts
2 ohms, 1 kHz, 1% THD, 400 watts

**OUTPUT POWER (bridged mono)**
8 ohms, 20 Hz to 20 kHz, 0.1% THD, 550 watts
4 ohms, 1 kHz, 1% THD, 800 watts
*typical

**DISTORTION:**
SMPTE-IM, less than 0.05%

**FREQUENCY RESPONSE:**
20 Hz to 20 kHz, ±0.1 dB
8 Hz to 100 kHz, ±0.3 dB

**DAMPING FACTOR:**
Greater than 200

**DYNAMIC HEADROOM:** 2 dB at 4 ohms

**NOISE:** 100 dB below rated output (20 Hz to 20 kHz)

**SENSITIVITY:** 1 V RMS for rated power (8 ohms)

**VOLTAGE GAIN:** 25 (3) dB

**INPUT IMPEDANCE:** 10 kΩ unbalanced, 20 KΩ balanced

**CONTROLS:**
Front: AC Switch, Ch 1 and Ch 2 Gain Knobs (with 2 dB detents).
Back: Parallel/Stereo/Bridge Switch

**INDICATORS:**
- PW-R: Green LED
- LEVEL -10: Yellow LED
- LEVEL -10: Yellow LED
- LIMIT: Red LED
- TEMP-PROT: Red LED (flashes for over-temperature)

**CONNECTORS:** (each channel)
Input: Banana strip and XLR
Speakers: "Touch proof" binding posts, Neutrik "Speakon" connectors, stereo Neutrik "Speakon"

**COOLING:** Continuously variable speed fan, rear-to-front air flow.

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

**LOAD PROTECTION:**
On/off muting, Clip Limiting DC-fault load grounding relay with internal fault fuses.

**OUTPUT CIRCUIT TYPE:**
Complementary linear outputs.

**POWER REQUIREMENTS:** 100, 120, 240 Vac, 50-60 Hz

**POWER CONSUMPTION:**
Normal Operation: 4 ohms per channel: less than 8 amps, 120 Vac (1000 VA) maximum (full power, 2 ohms per channel): 16 amps, 120 Vac (2000 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:** 40 lbs (18.1 kg) net, 46 lbs (20.9 kg) shipping

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**ARCHITECT'S AND ENGINEER'S SPECIFICATIONS**

The amplifier shall contain all solid-state circuitry, using complementary silicon output devices in class AB configuration. The amplifier shall operate from 55-60 Hz AC power, with internal taps for selecting voltages 100, 120, or 220-240 Vac. The amplifier shall operate from a nominal household AC outlet, drawing less than 1000 VA when driven with random program material at 9.5 rated power into four ohms load. The amplifier shall be supplied with a single molded AC cord having an appropriate AC plug for the intended operating voltage.

The amplifier shall employ forced-air cooling with a two-speed fan for minimum noise.

Air flow shall be from rear to front to avoid temperature rise inside the cabinet. Rack mounting shall be possible without clearance necessary between amplifiers for ventilation. The amplifier shall be capable of continuous operation at 1/8 power, into four-ohm loads, for ambient temperatures up to 104°F (40°C).

The amplifier shall contain two independent channels on a common printed circuit board, with separate secondary transformer windings, power supplies, and protection systems. All protection systems shall be self-resetting upon removal of fault, and the remaining channel shall continue to operate. Each channel shall have independent protective circuitry against open circuit, short circuit, or mismatched loads. Each channel shall monitor temperature of its heat sink and power transformer, and shall trigger a fan speed boost, and if necessary, signal muting to prevent excessive temperature rise. Each channel shall have an off muting circuit for three seconds after turn-on, and within 1.5 seconds after turn-off of AC power. Each channel shall have DC fault protection for the load, consisting of a load-grounding relay with fault-fusing to interrupt power. Fault fuses shall be adequately large to prevent nuisance tripping at any output power the amplifier is capable of delivering. Each channel shall have dip-limiting circuitry, using compression triggered by the onset of clipping, to limit clipping to approximately 1% of the average output signal. High frequency overload above 20 kHz shall result in muting until the excessive signal is removed.

Each channel shall have the following controls and displays: A front panel Gain control, with 11 detents, having 2 db steps for attenuations of 0 to 14 dB, 16 dB, 24 dB, a green LED power-on indicator, two yellow LED output indicators, triggering at 30 dB and 10 dB; a red LED showing true amplifier clipping and activation of the limiting circuit, and a red LED that indicates muting when the circuit is triggered, and excessive internal temperatures when flashing.

The output connectors for each channel shall include a "touch proof" binding post and Neutrik "Speakon" connector. A "Speakon" connector shall be provided for single-cable bridged mono, stereo, and diplex connections.

The input connectors shall be mounted on a removable panel to permit upgrades. The standard input panel shall provide banana strip and XLR connections for each channel, with pin 2 high. 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. The standard input panel shall contain switches for mono-bridging and parallel inputs, jacks for changing the polarity of the XLR connectors, and signal pathways for input isolation transformers, gain reduction resistors, and first-order high and low pass filters.

The input panel shall have enough space behind it to contain a circuit board realizing up to 5.9" wide by 4.5" deep. The multipin connector to the amplifier circuitry shall carry regulated DC power of ±15 V, unregulated DC power of ±5 V, and for each channel, signals for balanced inputs, on/off control, power-on monitor, output signal, temperature, clipping, and muting indication.

Each channel shall be capable of meeting the following performance criteria with both channels driven: Sinewave output power of 175 watts into eight ohms, and 275 watts into four ohms, 20kHz to 20kHz, with less than 0.1% THD. Frequency response at 3dB below rated power shall be 20Hz to 20kHz within 0.1 dB. The voltage gain shall be 30.5, equivalent to 38 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 100 dB unweighted. The damping factor shall exceed 200.

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

Weight shall not exceed 40 lbs (18 kg). The amplifier shall be the QSC Audio Products Model EX-800.