The EX 1250 is an advanced professional power amplifier offering high power, comprehensive operational and protection features, and an extremely flexible interface standard.

The output circuit combines high power with high efficiency to provide greater average and dynamic audio performance, while reducing normal system cooling and AC requirements by greater than 40% over conventional designs. 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>275 watts</td>
<td>300 watts</td>
</tr>
<tr>
<td>4Ω</td>
<td>400 watts</td>
<td>450 watts</td>
</tr>
<tr>
<td>2Ω</td>
<td></td>
<td>600 watts*</td>
</tr>
<tr>
<td>Mono-Bridged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16Ω</td>
<td>550 watts</td>
<td>600 watts</td>
</tr>
<tr>
<td>8Ω</td>
<td>800 watts</td>
<td>900 watts</td>
</tr>
<tr>
<td>4Ω</td>
<td></td>
<td>1200 watts*</td>
</tr>
</tbody>
</table>

*Typical

600 watts per channel at 2 ohms
400 watts per channel at 4 ohms
Built-in clip limiter
Advanced thermal management system
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
Split secondary configuration — independent power supply on each channel, for greater reliability
Quiet variable speed fan
Independent DC, sub audio speaker protection & thermal overload protection on each channel
Open Input Architecture™ — Level 2
Patented Output Averaging™ short-circuit protection
XLR and barrier balanced input connectors
Mono-bridging/parallel switch
Speakon and "Touch proof" binding post output connectors
THX approved for cinema applications
3 year warranty PLUS optional
3 year extended service contract

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Lucasfilm
THX Audio
UL
CE
TUV
GS

EX Series
**OUTPUT POWER (per channel)**

- 8 ohms, 20 Hz to 20 kHz, 0.1% THD, 725 watts
- 8 ohms, 1 kHz, 1% THD, 300 watts
- 4 ohms, 20 Hz to 20 kHz, 0.1% THD, 400 watts
- 4 ohms, 1 kHz, 1% THD, 450 watts
- 2 ohms, 1 kHz, 1% THD, 600 watts*

**OUTPUT POWER (bridged mono)**

- 8 ohms, 20 Hz to 20 kHz, 0.1% THD, 800 watts
- 4 ohms, 1 kHz, 1% THD, 1200 watts*

*typical

**DISTORTION:**

- SMPTE-IM, less than 0.05%

**FREQUENCY RESPONSE:**

- 20 Hz to 20 kHz, ±0.1 dB
- 8 Hz to 100 kHz, ±3 dB

**DAMPING FACTOR:**

- Greater than 200

**DYNAMIC HEADROOM:**

- 3 dB at 4 ohms

**NOISE:**

- 100 dB below rated output (20 Hz to 20 kHz)

**SENSITIVITY:**

- 1.0 Vrms for rated power (8 ohms)

**VOLTAGE GAIN:**

- 45 (33 dB)

**INPUT IMPEDANCE:**

- 10K unbalanced, 20K balanced

**CONTROLS:**

- Front: AC Switch, Ch 1 and Ch 2 Gain knobs (with 2 dB detent)
- Back: Parallel/Stereo/Bridge Switch

**INDICATORS:**

- PWR-ON: Green LED
- LEVEL-30: Yellow LED
- LEVEL-10: Yellow LED
- LIMIT: Red LED
- TEMP-PROT: Red LED (flashes for over-temp)

**CONNECTORS:** (each channel)

- Input: Barrier 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. 2-step high efficiency circuit

**POWER REQUIREMENTS:**

- 100, 120, 240 Vac, 50-60 Hz

**POWER CONSUMPTION:**

- Normal Operation: 4 ohms per channel: less than 12 amps, 120 Vac (1440 VA) maximum full power; 2 ohms per channel: 24 amps, 120 Vac (2500 VA)

**DIMENSIONS:**

- 19" (40.3 cm) rack mounting
- 35" (8.9 cm) tall (2 spaces)
- 17.9" (45.5 cm) deep (rear support ears)

**WEIGHT:**

- 42 lbs (19.1 kg) net; 47 lbs (21.2 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. The amplifier shall exceed the efficiency of an ordinary class-B linear output circuit. Overall electrical efficiency, with four or eight ohm loads, shall exceed 44% at 1.5 power, and 30% at 0.5 power. The amplifier shall operate from 50-69 Hz AC power, with internal taps for selecting voltages 100, 120, or 220-240 VAC. The amplifier shall operate from a normal household AC outlet, drawing less than 240 VA when driven with random program material at 1.5 rated power into four ohm loads. 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 variable speed fan for minimum acoustic noise.

Air flow shall be from front to rear to avoid temperature rise inside the rack. Rack mounting shall be possible without clearance necessary between amplifiers for ventilation. The amplifier shall be capable of continuous operation at 1.5 power into eight ohm loads, for ambient temperatures up to 104°F (40°C)

The amplifier shall contain two independent channels on a common printed circuit board, each driven by side-by-side transistor transformers, power supplies, and protection systems. All power supplies shall be self-regulating upon removal of fault, and the remaining channel shall continue to operate. Each channel shall have independent protection circuitry against open circuit, short circuit, or mismatched loads. Each channel shall remain temperature of its heat sink and power transformer, and shall trigger fan speed boost, if needed, to prevent excessive temperature rise. Each channel shall have a fuse blowing acting after 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 load-grounding relay with fault sensing 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 clipping circuitry, using compression triggered by the onset of clipping, to limit clipping to approximately 1% of the average output signal. HF frequency overloads above 20 kHz shall result in muting until the excessive signal is removed.

Each channel shall have the following contacts and displays: A front panel Gain control, with 11 detents, having 2 dB steps for attenuations of 0 to 14 dB, 18 dB, 24 dB, a green LED power on indicator, two yellow LED output fuses, triggering at 0.8 dB and 10 dB, a red LED showing true amplifier clipping and activation of the limiting circuit, and a red LED which indicates muting when slightly illuminated, and excessive internal temperatures when flashing.

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

The input connectors shall be mounted on a removable panel to permit upgrades. The standard input panel shall provide barrier strip and XLR connectors for each channel, with pin 2 high. Input shall be electronically balanced, with 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, jumpers for changing the polarity of the XLR connectors, and solid patterns 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 measuring up to 5 9/16" wide by 4 3/4" deep. The multi-pin connector to the amplifier circuitry shall carry regulated DC power of ±5.5 V, unregulated DC power of ±5 V, and the input sensitivity shall be 1 Vrms. The input signal to noise ratio shall be greater than 98 dB.

The amplifier shall be capable of meeting the following performance criteria with both channels driven. Sinewave output power of 250 watts into eight ohms, and 400 watts into four ohm loads, with less than 0.1% THD. Frequency response at 3dB below rated power shall be 20 Hz to 20 kHz within ±1.5 dB. The voltage gain shall be 45, equivalent to 35 dB, and the input sensitivity shall be 1 Vrms. The signal to noise ratio over the range of 20 Hz to 20 kHz shall exceed 100 dB. Power limiting factor shall exceed 20."