


**STUDIO
REFERENCE I****Architectural & Engineering Specifications****Studio Reference I (120 V, 60 Hz models)**

The Crown® Studio Reference I power amplifier shall be a solid-state two-channel model employing multi-mode (AB+B) grounded bridge(TM) output circuitry with a variable impedance (VZ) power supply for each channel.

The outputs shall be switchable as stereo, bridged-mono or parallel-mono modes of operation. The bridged-mono mode shall bridge the outputs to provide increased output voltage. The parallel-mono mode shall parallel the outputs to provide increased output current.

The output impedance of each channel shall be less than 10 milliohms in series with less than 2 microhenries in stereo mode.

The variable impedance power supplies shall reduce unnecessary voltage across the output devices by automatically switching to a parallel mode when less voltage is required by the output circuitry and to a series mode when more voltage is required.

The amplifier shall contain protection circuitry which limits the drive level placed on the output devices before their SOA (Safe Operating Area) is exceeded. This protection circuitry shall calculate the instantaneous voltage across and current through the output devices while factoring in their simulated junction temperatures to predict how close they are to their operating limits. This protection will be called "ODEP."

The amplifier shall contain controlled slew-rate voltage circuitry to protect it against radio frequency interference burnouts. It shall also be protected from current overload at its output stage. The slew rate of the amplifier shall be greater than 30 volts per microsecond in stereo mode.

The amplifier shall temporarily go into a stand-by mode if its power transformer becomes excessively hot and shall automatically resume normal operation once it has cooled to a safe operating temperature.

Front-panel controls shall include an enable on/off switch and a detented input level control for each channel.

Rear-mounted controls shall include a ground lift switch to isolate the signal ground from the chassis ground, a switch which selects between stereo, bridged-mono and parallel-mono modes of operation and a reset switch for the AC mains circuit breaker.

Internal controls shall include an input sensitivity switch to select between 0.775 V, 1.4 V or a fixed voltage gain of 26 dB for full rated output.

A Crown P.I.P. and P.I.P.2-compatible expansion connector shall be provided behind an access panel in the rear to accept auxiliary input modules. It shall be fully compatible with the Crown IQ System.

Front panel indicators shall include an amber power enable indicator, an amber ODEP protection system indicator for each channel which shall normally be illuminated to confirm the availability of reserve thermodynamic energy and which shall dim in proportion to limiting when the power demands of the output stages have been exceeded, a green IOC indicator for each channel, and a green Signal indicator for each channel which shall normally flash at moderate intensity to show the presence of an audio signal.

The power amplifier shall meet or exceed the following performance criteria. Input sensitivity for rated output: 26 dB voltage gain (unbalanced). Rated FTC output in stereo mode with less than 0.1% THD: 780watts per channel (20 Hz to 20 kHz) into 8 ohms. Hum and noise: at least 120 dB (A weighted) below full rated output power. Phase response: +5 to -15 degrees from 20 Hz to 20 kHz at 1 watt. Frequency response: 20 Hz to 20 kHz, 0.1 dB at 1 watt into 8 ohms per channel in stereo mode. Damping factor: greater than 20,000 from 10 to 200 Hz into 8 ohms. Intermodulation distortion (SMPTE): less than 0.005% from full bandwidth power to 78 watts rising linearly to better than 70 dB at 20 kHz. Harmonic distortion: less than 0.02% at rated low-distortion 1 kHz power.

The amplifier shall be safe when driving any kind of load—even highly reactive ones.

The power requirements shall be 120 VAC at 60 Hz. At idle, the amplifier shall draw 90 watts or less.

The amplifier chassis shall be constructed of steel with a durable black finish and shall be designed for flow-through fan-assisted ventilation from the front panel to the side panels. The amplifier shall have an aluminum front panel with super-gloss Imron finish and Lexan overlay.

The dimensions of the amplifier shall allow for 19 inch (48.3 cm) EIA standard (RS-310-B) rack mounting. The amplifier shall be 7 inches (17.8 cm) tall, 16 inches (40.6 cm) deep behind the rack-mounting surface, and 2.75 inches (7 cm) in front of the rack-mounting surface.

The amplifier shall weigh 60 pounds, 11 ounces (27.6 kg) and shall have a center of gravity approximately 6 inches (15.2 cm) behind the front panel.

The amplifier shall be designated the Crown Studio Reference I.



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