

MA-2402

Architectural & Engineering Specifications

Macro-Tech 1202 (120 V, 60 Hz models)

The power amplifier shall be a solid-state two-channel model employing multi-mode® (AB+B) grounded bridge™ output circuitry.

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 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 shall be called "ODEP."

The amplifier shall contain protection from shorted, open and mismatched loads, general overheating, DC, high-frequency overloads, and internal faults. This protection shall be called "Quad-Mute."

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 13 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.

The amplifier shall be safe when driving any kind of load, including highly reactive ones.

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 each channel's 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.

The amplifier shall be fully compatible with and shall provide appropriate input cables and connectors for Crown® PIP2™ input modules. An optional input adapter shall be available so the amplifier can also accept standard Crown PIP™ input modules. The amplifier shall be fully compatible with Harman Pro System Architect and the Crown IQ System®.

Front panel indicators shall include an amber power enable indicator, an amber 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, and a green dual-function signal presence/input-output comparator indicator for each channel which shall normally flash at moderate intensity to show the presence of an audio signal and shall flash brightly if distortion of any kind equals or exceeds 0.05%.

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: 685 watts per channel (20 Hz to 20 kHz) into 4 ohms; 495 watts per channel (20 Hz to 20 kHz) into 8 ohms. Rated FTC output in bridged-mono mode with less

than 0.1% THD: 1355 watts (20 Hz to 20 kHz) into 8 ohms; 955 watts (20 Hz to 20 kHz) into 16 ohms. Hum and noise: at least 105 dB (A weighted) below full rated output power. Phase response: ±10 degrees from 10 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 1000 from 10 to 400 Hz into 8 ohms. Intermodulation distortion (SMPTE): less than 0.05% from 163 milliwatts to rated power into 8 ohms in stereo mode. Harmonic distortion at rated power into 8 ohms per channel (stereo mode): less than 0.05% from 20 Hz to 1 kHz and increasing linearly to less than 0.1% at 20 kHz.

The power requirements shall be 120 VAC at 60 Hz. At idle, the amplifier shall draw 100 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 Lexan overlay and air filter media.

The dimensions of the amplifier shall allow for 19 inch (48.3 cm) EIA standard (RS-310-B) rack mounting. The amplifier shall be 3.5 inches (8.9 cm) tall, 16 inches (40.6 cm) deep behind the rack-mounting surface, and 2.5 inches (6.4 cm) in front of the rack-mounting surface.

The amplifier shall weigh 51 pounds, 12 ounces (23.5 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 Macro-Tech 2402.



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