

# I-T8000

## Architectural & Engineering Specifications

### I-T8000

The power amplifier shall be a solid-state two-channel model employing Class I (BCA<sup>®</sup>) output circuitry.

The amplifier shall contain protection from shorted, open and mismatched loads, general overheating, DC, high-frequency overloads, under/over voltage, and internal faults.

If an amplifier channel starts to overheat, the Thermal Level Control (TLC) circuit shall engage that channel's input compressor in an amount proportional to the amount of overheating, in order to generate less heat. If the channel becomes too hot for safe operation, the channel shall shut off, and the Thermal Indicator for that channel shall illuminate brightly to alert the user that a state of thermal stress or overload has caused the channel to shut down.

The front-panel controls shall be a power switch, Menu/Exit button, Previous button, Next button, Encoder 1 knob and Encoder 2 knob (Channel Level Controls).

Rear-mounted controls shall include a reset switch for the circuit breaker.

The recommended load impedance in Dual mode shall be 1/2/4/8/16 ohms. The load impedance in Bridge-Mono mode shall be 2/4/8 ohms. The amplifier shall be safe when driving any kind of load, including highly reactive ones.

The rear-mounted output connectors shall be two high-current, 50A Neutrik Speakon NL4MLP (mates with NL4FC or NL4)(one per channel), two pairs of high-current, 60A color-coded 5-way binding posts (for banana plugs, spade lugs or bare wire), two male XLR passive analog loop-through connectors, and one XLR active/re-clocked AES/EBU digital loop through connector.

The rear-mounted input connectors shall be a 3-pin female XLR analog input connector for each channel, and a 3-pin female XLR digital input connector that accepts a digital signal in the AES/EBU format.

The rear-mounted Ethernet connector accepts an RJ-45 connector for HiQnet<sup>™</sup> or TCP/IQ<sup>™</sup> networking and optional CobraNet<sup>™</sup> transport from a standard network cable. Built into the connector shall be a yellow LINK ACTIVITY indicator that shows network activity, and a green 100Mb indicator that shows a 100Mb network connection.

The rear-mounted Data indicator shall be a yellow LED that indicates HiQnet or IQ data activity. The rear-mounted Preset indicator shall be a yellow LED that flashes to signal the number of the current preset if active.

The I-T8000 shall be fully compatible with the HiQnet protocol and Harman Pro's System Architect Software. The I-T8000CN shall be compatible with CobraNet networks.

Front panel indicators shall include an LCD Control Screen with white LED backlight to control the amplifier's setup and operation, a yellow Bridge-Mode Indicator that illuminates when the amplifier is set to Bridge-Mono mode, a green Ready Indicator (one per channel) that illuminates when the channel is initialized and ready to produce audio output and is off when the amplifier is in standby mode via the software, a green Signal Indicator (one per channel) that illuminates to indicate the presence of input signals above -40 dBu, a red Clip Indicator that illuminates when the THD of the channel's output signal reaches the onset of audible clipping (and illuminates during Thermal Level Control (TLC) limiting), a red Thermal Indicator (one per channel) that illuminates when the channel has shut down due to thermal stress or overload, a red Fault Indicator (one per channel) that

flashes when the amplifier output channel has stopped operating, a yellow Data Indicator that flashes during network data activity, a blue Power Indicator that illuminates when the amplifier has been turned on and AC power is available (and flashes when the AC line voltage is 15% above or below the nominal rated value), and a green AC Mains Present Indicator in the power switch that indicates AC power is present at the power cord.

The amplifier shall include onboard DSP with 24-bit conversion and 32-bit floating-point processing. DSP presets in firmware and downloadable, load supervision, error reporting, and a global power supply with Power Factor Correction.

The power amplifier shall meet or exceed the following performance criteria. Input sensitivity for rated output: adjustable in 0.1V steps from 1.4V to 7.75V. Voltage gain: 39.3 dB to 24.5 dB. Rated output with both channels driven in Dual mode with 0.35% THD (20 Hz to 20 kHz): 3500 watts per channel into 2 ohms, 4000 watts per channel into 4 ohms, and 2100 watts per channel into 8 ohms. Rated output in Bridge-Mono mode with both channels driven at 0.35% THD (20 Hz to 20 kHz): 7000 watts into 4 ohms and 8 000 watts into 8 ohms. Frequency Response at 1 watt, 20 Hz to 20 kHz:  $\pm 0.25$  dB. Signal to Noise Ratio below rated power, A-weighted: greater than 105 dB. Total Harmonic Distortion at full rated power: less than 0.35%. Intermodulation Distortion (60 Hz and 7 kHz at 4:1, from full rated output to -35 dB): less than 0.35%. Damping Factor (20 Hz to 100 Hz): greater than 5000. Crosstalk (below rated power, 20 Hz to 1 kHz): greater than 80 dB. Common Mode Rejection (20 Hz to 1 kHz): greater than 50 dB. DC Output Offset: less than  $\pm 3$  mV. Input Impedance (nominal): 20 kilohms balanced, 10 kilohms unbalanced. Maximum Input Level: +15 dBu or +21 dBu, depending on input sensitivity. Latency (analog, digital inputs): 1.13 mS analog, 1.81 mS digital (96 kHz).

The amplifier chassis shall be constructed of aluminum with a durable silver finish and shall be designed for dual-zone, microprocessor controlled, continuously variable-speed forced-air ventilation from the front panel to the back panel.

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, and 16.2 inches (41.1 cm) deep behind the rack-mounting surface.

The amplifier shall weigh 28 pounds (10.5 kg).

The amplifier shall be designated the Crown I-T8000.



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