



LUCIA® 240/2M

Overview

The power amplifier shall be Energy Star compliant, and shall be housed in a 1U high, half rack-space wide (216 mm) chassis. It shall provide two discrete channels of amplification, with each channel capable of driving load impedances of 2 ohms to 16 ohms. The output circuit shall be an inherently bridged Class D topology. Maximum total output with both channels driven shall be 240 W. The amplifier shall incorporate a digital input section with a mix-matrix and configurable DSP features.

Power Output and Performance

Power output per channel, both channels driven, shall be as follows: 120 W into 2, 4 or 8 ohms; 60 W into 16 ohms. Peak voltage output per channel shall be 43.8 Vpk. Maximum current output per channel shall be 7.8 Arms. An auto-setting voltage peak limiter (VPL) shall adjust output characteristics for optimum performance with the connected load. The VPL setting shall be 44 V for 8 and 16 ohm loads; 31 V for 4 ohm loads; and 22 V for 2 ohm loads. Sensitivity shall be 8 dBu (1.95 Vrms) on the balanced inputs and 2 dBu (0.98 Vrms) on the unbalanced RCA inputs. Input headroom for clip shall be 12 dBu (3.09 Vrms) for the balanced inputs and 6 dBu (1.55 Vrms) for the unbalanced inputs. The amplifier shall exhibit the following performance parameters: Frequency response shall be 5 Hz to 22 kHz (+0/-3 dB at 1 watt into an 8 ohm load); channel separation shall be greater than 60 dB; and signal-to-noise ratio shall be greater than 92 dBA. THD at 1 watt (20 Hz - 20 kHz) in to 8 ohms shall be less than 0.3%; THD at 1 kHz at 1 dB below clipping shall be no more than 0.2%.

Digital Input Section

The amplifier shall incorporate a firmware-controlled digital input section with a 4x4 matrix mixer and comprehensive DSP capabilities. All four inputs may be mixed and matrixed: any input, or combination of inputs, shall be routable to either or both power outputs and/or to either or both of the line-level outputs. The DSP features shall include a high-pass filter, parametric equalizer, digital look-ahead limiter and multiband compressor. A software wizard shall enable fast initial set-up, and a software editor application shall be provided for offline configuration of presets. Presets shall be downloadable through the rear-panel USB port. The software editor shall run on both Windows® and Mac® operating systems. GPIO functions shall be configurable using the editor application. Default GPI mode shall be voltage sensing gain control per channel; default GPO mode is for external monitoring of on/off or fault.

Connectors, Controls and Indicators

The following connectors and controls shall be provided on the REAR PANEL of the amplifier. The mains connector shall be an IEC inlet. Four input connectors shall be provided on electronically balanced, 3-pin detachable screw terminals. Two line-level outputs shall be provided on electronically balanced, 3-pin detachable screw terminals. The line-level outputs shall be post-matrix and pre-DSP processing. Two unbalanced RCA connectors shall be provided for local (non-matrixed) inputs only. The loudspeaker output connectors shall be 2-pin detachable screw connectors. GPIO (General Purpose Input/Output) functions shall be provided on a 6-pin detachable screw terminal connector. A USB mini type B connector shall be provided to facilitate firmware updates. A recessed utility (UTIL) shall initiate firmware update mode. The following connectors and controls shall be provided on the FRONT PANEL of the amplifier. A signal attenuator shall be provided for both input channels; attenuators shall be adjustable over a range of - infinity to 0 dB. A Standby/On LED indicator shall illuminate amber when the amplifier is in standby mode and green when the amplifier is on. Each output channel shall have a tri-color status LED with indication as follows: green when channel is operating normally, amber when limiting is active on the channel, and red when the channel is clipping at either input or DSP.

Power Supply, Protection, and Cooling

The power supply shall be a universal type (AC line input between 100 and 240 VAC at 50 or 60 Hz). The amplifier shall turn on automatically when power is connector to the unit; it shall go into standby mode if no signal is present at either input for 20 minutes. The amplifier shall turn on from standby mode in less than two seconds when an input signal is present at either channel input. Standby power consumption shall be less than 1 W. The amplifier shall be cooled by an intelligent temperature controlled fan; the fan shall be off at lower power levels with adequate ventilation.

Physical and Conformity

The amplifier shall 216 mm (8.5") wide, 44 mm (1.75", 1 U) high and 280 mm (11") deep. It shall weigh 1.9 kg (4.2 lbs). The chassis shall be black steel and the front panel shall be black aluminum. The amplifier shall be compliant with the following standards: Energy Star, CE, CSA, CCC, PSE, and FCC.

The amplifier shall be a Lab.gruppen LUCIA 240/2M.

