E 12:2

Overview: Channel Modes
The power amplifier shall be Energy Star 2.1 certified. It shall provide two discrete channels of amplification, with each channel capable of independently driving either low-impedance or high-impedance (70 V) loads. The output circuit shall be an inherently bridged Class D topology. Maximum total output with both channels driven shall be 1200 W.

Power Output and Performance
The power amplifier shall offer two power output modes (Lo-Z and 70 V) selectable by a rear-panel switch. Power output per channel, both channels driven, shall be as follows in Lo-Z mode: 600 W into 2 ohms, 600 W into 4 ohms, 300 W into 8 ohms and 150 W into 16 ohms. Power output per channel, both channels driven, shall be as follows in 70 V mode: 600 W into 8 ohms, 310 W into 16 ohms, and 600 W into a 70 V system. The amplifier shall incorporate a rail voltage sensing circuit to ensure low distortion. Peak voltage output per channel shall be 100 V (70 V rms); maximum output current per channel shall be 18 Arms. Power outputs higher than stated prior shall be possible in one channel with asymmetrical loading or with no load connected to the other channel. Gain shall be 35.2 dB in 70 V mode and 32 dB in Lo-Z mode. The amplifier shall exhibit the following performance parameters: Frequency response shall be 2 Hz to 40 kHz (+0/-3 dB at 1 watt into an 8 ohm load); channel separation shall be greater than 70 dB; and signal-to-noise ratio shall be greater than 112 dBA. THD at 1 watt (20 Hz - 7 kHz) shall be less than 0.1%; THD at 1 kHz shall be no more than 0.05% at 1 dB below clipping.

Connectors, Controls, and Indicators
The following connectors and controls shall be provided on the REAR PANEL of the amplifier. The input connectors shall be electronically balanced, 3-pin detachable screw terminals. The output connectors shall be 2-pin detachable screw connectors. GPIO (General Purpose Input/Output) functions shall be provided on two 2-pole detachable screw terminal connectors. Two detented potentiometers shall provide level adjustment from -infinity to 0 dB. A power switch shall toggle between On and Standby power states. The following LED indicators shall be provided on the FRONT PANEL of the amplifier: One bi-color power indicator (amber standby, green on); one temperature indicator (flashing amber warning and steady amber over-temperature/mute); two LED indicators per channel, one for signal present and one for limiter active.

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 power supply shall offer three modes for power on/standby/off. Default mode shall be auto-power down (APD): the amplifier shall go into standby mode when no signal is present at the inputs for 20 minutes; power on mode shall resume with restoration of input signal. Standby power consumption shall be less than 1 W. Alternative power modes shall be manually switched on/standby or external power sequencing via GPIO connections. The amplifier shall be cooled by a temperature-controlled, variable-speed fans with air flow from front to rear.

Physical
The amplifier shall be 483 mm (19 in.) wide, 44 mm (1.75 in. / 1 U) high, and 276 mm (10.9 in.) deep. The weight shall be no more than 4.2 kg (9.3 lbs). The chassis shall be black painted steel with a grey painted aluminum front-panel. The amplifier shall be approved for use as specified by CE. The amplifier shall be the Lab.gruppen E 12:2.