

# IPD 2400

## Overview and Functions

The unit shall comprise a two-in/two-out digital loudspeaker drive processor with power amplifier outputs. Additional capabilities and facilities shall include analog and AES inputs (with redundant failover from AES to analog), and a software controlled four-channel input mixer. Further required is Ethernet-based control and monitoring of internal parameters from a remote computer. All control and monitoring shall be remotely accessible via a custom software interface compatible with both Windows and Mac operating systems.

## Digital Loudspeaker Processing

The unit shall include comprehensive digital audio processing configured specifically for loudspeaker drive applications. Four discrete equalizer sections shall be included, one for each input and output. Each section shall facilitate 10 parametric equalizers with the ability to set each equalizer curve to bell, notch, high shelving or low shelving as required. A two-channel crossover section shall accommodate adjustable delay with up to 2 seconds per input and output and also include output limiters with limiting response configurable by entering only values for total output power at the selected nominal load impedance.

## Power Amplifier

Maximum total output of both channels shall be 2400 watts. In discrete two-channel mode, each amplifier channel shall deliver maximum continuous power as follows: 300 watts into 16 ohms; 600 watts into 8 ohms; 1200 watts into 4 ohms; or 800 watts into 2 ohms. Maximum output voltage per channel shall be 100 V peak; maximum output current per channel shall be 20 Arms. Levels shall be adjustable in the DSP across a range of infinity to 0 dB. Input Impedance shall be 18 kOhm. Performance parameters shall be as follows: THD+N (20 Hz - 20 kHz @ 1 W) less than 0.1%; THD+N @ 1 kHz, (1 dB below clip), less than 0.05%; frequency response (-3 dB) of 2 Hz – 42 kHz.

## Connectors, Network, and User Interfaces

The rear panel shall provide audio inputs for analog (2) and AES digital (1) with input signals on XLR-F connectors. Link outputs for all three inputs shall be on adjacent XLR-M connectors. One RJ45 Ethernet jack shall be provided for networked monitoring and control via remote computer (PC or Mac). The unit shall be compatible with use as part of a low-latency, self-configuring digital audio network that supports sampling frequencies from 44.1 to 96 kHz. Output connectors on the unit shall be both binding post and Neutrik® speakON® (2 x NL4). The front panel user interface shall include a high-brightness LCD panel, a rotary encoder, two mute buttons, menu button, and back button. The user interface shall be menu-driven, with all functions of the digital loudspeaker processor and the power amplifier accessible via screen displays configurable with the menu/back buttons and rotary encoder. Multicolor LEDs shall indicate presence of any warning or fault conditions. The unit shall be supplied with a custom software program for comprehensive monitoring of system status and operating parameters, as well as control of DSP and amplifier functions. The software program shall be compatible with use on a Tablet PC or Mac.

## Power Supply and Cooling

The power supply shall be a universal type with AC line input between 100 and 240 VAC at 50 or 60 Hz. The amplifier shall be cooled by one temperature-controlled, variable-speed fan, with airflow from front to back.

## Physical

The unit shall be 483 mm (19 in) wide, 44 mm (1.75 in / 1 U) high, and 431 mm (17.0 in) deep including handles and rear support. Weight shall be 6.2 kg (13.7 lbs). The chassis housing shall be black/grey painted steel with black anodized aluminum front and handles. The unit shall be approved for use as specified by CE, PSE, UL 60065, CAN/CSA-C22.2, No.60065:03, FCC part 15 Class A, EN 55103-1, EN55103-2, and ROHS.

The unit shall be the Lab.gruppen IPD 2400.

