

Lab.gruppen PLM 20K44 SP 20000 Watt Amplifier with 4 Flexible Output Channels on SpeakON Connectors/LAKE Digital Signal Processing

General

Processing / Network	Lake / Dante
Number of amplifier channels	4
Total burst power all channels (share among channels with RPM)	20000 W

Max output power (all channels driven)

2 ohms	4400 W
2.67 ohms	5000 W
4 ohms	4400 W
8 ohms	2300 W
16 ohms	1150 W
Hi-Z 70 V	3300 W
Hi-Z 100 V	4700 W

Max output power single channel

2 ohms	4400 W
2.67 ohms	5900 W
4 ohms	4600 W
8 ohms	2300 W
16 ohms	1150 W
Hi-Z 70 V	3300 W
Hi-Z 100 V	4700 W

Amplifier output modules (all models, all channels)

Peak output voltage	194 V
Max. output current	67 A
Rational Power Management (RPM)	Regardless of model, any channel has potential to deliver the max single channel output power
Default voltage limitation (can be lifted with RPM configuration)	194 V
Protection features	Current Average Limiter (CAL), Very High Frequency Protection (VHF), Direct Current Protection (DC), Short Circuit Protection, Current-Clip Limiter, Voltage Clip Limiter, Temperature protection

Audio Performance (Amplifier platform with digital input)

THD + N 20 Hz - 20 kHz for 1 W	< 0.05 %
THD + N at 1 kHz and 1 dB below clipping	< 0.04 %
Dynamic range	> 114 dB
Channel separation (Crosstalk) at 1 kHz	> 70 dB
Frequency response (1 W into 8 Ohm, 20 Hz - 20 kHz)	+/- 0.05 dB
Internal Sample Rate / Data path	48 / 96 kHz / 32 bit floating point
Product propagation delay AES 96 kHz / analog input	1.61 / 1.68 ms

Lake processing

Loudspeaker processing	Up to 4 modules of Classic/linear-phase/FIR crossover, EQ, delay, LimiterMax™ - peak and RMS limiters
System tuning	Group control with Raised Cosine™ MESA EG™ asymmetric filters
Input redundancy / Matrix	Automatic 4 level input redundancy / 4 input mixers
System integration	Comprehensive 3rd party protocol over UDP Ethernet

Measurement & Analysis

Pilot tone generation and analysis	Yes
Load impedance analysis	Yes
Real Time Analyzer (RTA), 3rd party integration	Yes

Dante Audio Network

Dante I/O	8 x 8
Network topology / redundancy	Flexible topology / Supports daisy-chained and Dual redundant networks
Sample Rates / Transport	48, 96 kHz / Uni + Multicast
Network latency	0.25, 0.5, 1.0, 2.0, 5.0 ms

Device presets

Local memory locations for the settings of the product	100
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AES Inputs

Inputs	4 AES inputs
Supported sample rates / resolution	44.1, 48, 88.2, 96, 176.4, 192 kHz / up to 24 bits
Sample rate conversion THD+N 20 Hz - 20 kHz unweighted	0.0000003

Analog Inputs

Inputs	4 high quality inputs with Iso-Float ground isolation
Maximum input / digital reference	+26 dBu / +21 dBu
Sampling rate / Resolution	96 kHz / 24 bit
Input impedance balanced / unbalanced	20 / 10 kOhm
THD+N (typical at 1 kHz unweighted)	0.0000022
THD+N (typical at 20 Hz and 20 kHz unweighted)	0.0000033

Limiters

Adjustable Inter-Sample Voltage Peak Limiter (ISVPL)	17.8 - 194 V, step size 0.1 V
Current Peak Limiter < 300 ms	67 A peak
Current Average Limiter (CAL) > 300 ms	33 Arms
MaxRMS (rms voltage limiter)	Yes
MaxPeak (peak voltage limiter)	Yes

Gain

Amplifier gain	22 - 44 dB, step size 0.1 dB
Output attenuator	-Inf to 0 dB, step size 0.25 dB

Back panel Interface

Analog, 2-channel I/O (input + link)	4 x 3-pin XLR, electronically balanced
AES / EBU / I/O (input + link)	2 x 3-pin XLR
Output connectors	Neutrik speakON (1 x NLT8, 2 x NLT4) or 4 Binding Posts (pairs)
Auto 10/100, Auto Uplink	2 x RJ45 etherCON
Control and monitoring interface	Via Ethernet for Lake Controller software, or DLM (the 3rd party protocol)
Detachable mains cord	Neutrik PowerCon rated at 250V/32A
Cooling	Three fans, front-rear airflow, temperature controlled speed

Front-panel user interface

Display	2.5 inch, black / white, daylight readable LCD
Fault/Warning/Limit/Clip indicators	RGB LEDs and detailed fault description on display
Mute and soft function buttons	8 provided
Standby Power button	On/Standby

Mute Enable button	Enables muting of outputs and inputs via soft-button keypad
Meter button	Toggles through meter views
Menu button	Provides a menu driven interface for full function front panel control
Rotary Encoder	Yes
Exit Button	Provides a "back" function

Mains Power

Nominal voltage	100 - 240 Volt AC 45 - 66 Hz
Operating voltage	70-265 V AC
Mains wall plug	NEMA L5-30 "Twist lock" 125 V / 30 A, and CEE 7/7 "Schuko" 230 V / 16 A

Power supply features

Soft start / Inrush power	Yes/ Max 8 Ampere
Power Factor Correction (PFC)	0.98
Regulated switch mode power supply (R.SMPS)	Yes
Breaker Emulation Limiter (BEL)	Configurable current threshold and breaker profile
BEL max current threshold	32 A
Power Average Limiter (PAL)	Yes
Under Voltage Limiter (UVL)	Yes
Mains undervoltage and overvoltage protection and mains glitch tolerance	Yes

Dimensions

Rack rail to rear panel	W: 483 mm (19"), H: 88 mm (2 U), D: 424 mm (16")
Overall depth front-rear support	D: 498 mm (19.6")

Weight

Weight	17 kg (37 lbs)
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Finish

Finish	Steel painted steel chassis with black painted steel / aluminum front
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Approvals

Approvals	CE, ANSI / UL 60065 (ETL), CSA C22.2 NO. 60065, FCC, PSE, RCM, BIS India
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