



CB-D 200:4L Amplifier



FEATURES AND BENEFITS

- Four-channel amplifier
 - D 200:4 - 20000 W of total output power (4 x 5000 W nominal)
- Rational Power Management (RPM)
 - True flexibility in allocating power output across channels to match requirements, enabling more efficient use of amplifier inventory
 - Any channel is capable of delivering up to 5000 W power output, from total available power in each frame
- Dedicated on-board surveillance & load monitoring system
- Unique universal power supply
 - Regulated Switch-Mode Power Supply (R.SMPS™) maintains stability despite mains voltage fluctuations
 - Best-in-class Power Factor Correction (PFC)
 - Current Draw Modelling (CDM™) reduces mains peak draw
 - Breaker Emulation Limiter (BEL™) - Tailors D Series to the available mains distribution
 - Under-Voltage Limiting (UVL™) for continued operation despite severe voltage drops
- CAFÉ (Configuring Amplifiers For the Environment) Software incorporating ESP™ (Equipment Specification Predictor) for design, system and equipment planning, installation and commissioning.

D Series: The Integration Superpower

The Lab.gruppen D Series provides exceptional performance and expanded flexibility in high-power audio amplification for challenging systems integration applications in stadia, arenas, convention centers and other large or particularly demanding installed sound installations. Based on the proven, road-tested and green amplifier technologies of Lab.gruppen's renowned PLM Series, the installation-dedicated D Series adds Rational Power Management (RPM™) – a new proprietary Lab.gruppen technology that rationalises power allocation and potentially reduces amplifier inventory. The Lake-variant D Series models benefit from the proven package of onboard Lake Processing and Dante™ digital audio networking, and also offer integration potential with many 3rd party matrix and proprietary DSP systems via dedicated middleware. Equipment specification, commissioning (including configuring RPM and other unique amplifier technologies) and on-going control and system monitoring are managed via the innovative CAFÉ™ software, running on Mac or PC. D Series features include redundant audio inputs as well as on board surveillance and load monitoring to fulfill the requirements of mission-critical voice evacuation compliance.

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SPECIFICATIONS

General		Sample rate conversion THD + N 20 Hz - 20 kHz unweighted	0.00003 %
Processing / Network	Lake / Dante		
Numbers of amplifier channels	4		
Total burst power all channels (share among channels with RPM)	20000 W		
Max. Output Power (all ch.'s driven) 1)		Analog Inputs	
2 ohms	4400 W	Inputs	4 high quality inputs with Iso-Float™ ground isolation
2.67 ohms	5000 W	Maximum input / digital reference	+ 26 dBu / + 21 dBu
4 ohms	4400 W	Sampling rate / resolution	96 kHz / 24 bit
8 ohms	2300 W	Input impedance balanced / unbalanced	20 k / 10 k ohm
16 ohms	1150 W	THD + N (typical at 1 kHz unweighted)	0.00022 %
Hi-Z 70 V	3300 W	THD + N (typical at 20 Hz and 20 kHz unweighted)	0.00033 %
Hi-Z 100 V	4700 W		
Max Output Power Single Channel 1)		Back Panel Interface	
2 ohms	4400 W	Analog inputs	4 x Terminal block connectors along input with +, -, and ground
2.67 ohms	5900 W	AES inputs	2 x Terminal block connectors
4 ohms	4600 W	Output connectors	4 x 2 pole Terminal block connectors rated at 1000 V / 76 A (exceeding amplifier capacity) Can take up to 16 mm ² (6 AWG) cables
8 ohms	2300 W	Ethernet ports	2 x EtherCon RJ45 100/1000 Base-T for the Lake Controller, Dante controller and/or DLM (3rd party protocol)
16 ohms	1150 W	Detachable mains cord	Neutrik PowerCon rated at 250 V / 32 A
Hi-Z 70 V	3300 W		
Hi-Z 100 V	4700 W		
Amplifier Output Modules (all models, all channels)		Front panel user interface	
Peak output voltage	194 V	System status indication	3 x 3 colored LED. FRAME, TEMP, PSU for device status indication
Max output current	67 A	Channel status indication	3 x 3 colored LED per channel. Status indication separated for channel LOAD, AMP, SIGNAL status
Rational Power Management (RPM)	Any channel has potential to deliver the max single channel output power	Mute	Per channel touch button for MUTE control and tricolored LED for indication
Default voltage limitation (can be lifted with RPM configuration)	194 V	Power	Touch button for ON/STANDBY control and tricolored LED for power state indication
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	Select	Touch button and LED for bidirectional device software select functionality
Amplifier platform		Main Power	
Inter Sample Voltage Peak Limiter (ISVPL)	Configurable Peak voltage threshold and profile	Nominal voltage	100 - 240 V AC 50 - 60 Hz
Amplifier gain	Digital configurable amplifier gain 22 - 44 dB	Operating voltage	70 - 265 V AC 45 - 66 Hz
Pilot tone generation and analysis	LoadPilot	Mains wall plug	Selectable on order CEE 7/7 "Schuko" 230 V / 16 A, NEMA L5-30 "Twistlock" 125 V / 30 A, NEMA 5-15P 125 V / 15 A (D 80:4 only), NEMA 5-20P 125 V / 20 A (D120:4 only), NEMA 6-20P 250 V / 20 A, AS/NZS 3112 230 V / 15 A (Aus/Nz), BS 546 230 V / 16 A (India), C-30P 125V / 30A (Japan)
Load impedance analysis	Yes		
Temperature control	Regulated fans and show must go on limitation (ATL, PTL)		
Audio Performance (Amplifier platform with digital input)		Power supply features	
THD + N 20 Hz - 20 kHz for 1 W	< 0.05 %	Soft start / Inrush power	Yes / Max 8 A
THD + N at 1 kHz and 1dB below clipping	< 0.04 %	Power factor correction	> 0.98 for mains power > 400 W
Dynamic range	> 114 dB	Regulated switch mode power supply (R.SMPS)	Yes
Channel separation (Crosstalk) at 1 kHz	> 70 dB	Breaker Emulation Limiter (BEL)	Configurable current threshold and breaker profile
Frequency response (1 W into 8 ohm, 20 Hz - 20 kHz)	+/- 0.05 dB	BEL max current threshold	32 A
Internal sample rate / Data path	48 / 96 kHz / 32 bit float point	Power Average Limiter (PAL)	Yes
Product propagation delay AES 96 kHz / analog input	1.61 / 1.68 ms	Under Voltage Limiter (UVL)	Yes
		Mains undervoltage and overvoltage protection and mains glitch tolerance	Yes
Lake Processing		Dimensions	
Loudspeaker processing	Up to 4 modules of Classic/linear-phase/FIR crossover, EQ, delay, LimiterMax™ - peak and RMS limiters	Rack rail to rear panel	W: 483 mm (19"), H: 88 mm (2 U), D: 424 mm (16")
System tuning	Group control with Raised Cosine™ MESA EQ™ asymmetric filters	Overall depth front-rear support	D: 463 mm
Input redundancy / Matrix	Automatic 4 level input redundancy / 4 input mixers		
System integration	Comprehensive 3rd party protocol over UDP Ethernet		
Dante Audio Network		Weight	
Dante I/O	8 x 8	Finish	16.5 kg (36 lbs)
Network topology / redundancy	Flexible topology / Supports Dual redundant networks	Approvals	Black painted steel chassis with grey painted steel front with detachable grille
Sample rates / transport	48, 96 kHz / Uni + Multicast		
Network latency	0.25, 0.5, 1.0, 2.0, 5.0 ms		
AES Inputs		Note 1): Lab.gruppen burst power (1 kHz, 25 ms burst power @ 150 BPM, 12 dB Crest factor)	
Inputs	4 AES inputs		
Supported sample rates / resolution	44.1, 48, 88.2, 96, 176.4, 192 kHz / up to 24 bits		