CB-D 120:4L Amplifier

FEATURES AND BENEFITS

- Four-channel amplifier
  - D 120:4 - 12000 W of total output power (4 x 3000 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 theavailable mains distribution
  - Under-Voltage Limiting (UVL™) for continued operation despitesevere 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 missioncritical voice evacuation compliance.

Call or e-mail Clair Brothers for more information on available options.
(717-665-4000) e-mail: sales@clairbrothers.com

CB-D I20:4L Amplifier

SPECIFICATIONS

General	
Processing / Network	Lake / Dante
Numbers of amplifier channels	4
Total burst power all channels (share among channels with RPM)	12000 W
Max. Output Power (all ch.'s driven) 1)	
2 ohms	3000 W
2.67 ohms	3000 W
4 ohms	3000 W
8 ohms	1900 W
16 ohms	950 W
Hi-Z 70 V	3000 W
Hi-Z 100 V	3000 W
Max Output Power Single Channel 1)	
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)	Any channel has potiential to deliver the max single channel output power
Default voltage limitation (can be lifted wth RPM configuration)	175 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
Amplifier platform	
Inter Sample Voltage Peak Limiter (ISVPL)	Configurable Peak voltage threshold and profile
Amplifier gain	Digital configurable amplifier gain 22 - 44 dB
Pilot tone generation and analysis	LoadPilot
Load impedance analysis	Yes
Temperature control	Regulated fans and show must go on limitation (ATL, PTL)
Audio Performance (Amplifier platform with digital input)	
THD + N 20 Hz - 20 kHz for 1 W	< 0.05 %
THD + N at 1 kHz and 1dB 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 float 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 EQ™ asymmetric filters
Input redundancy / Matrix	Automatic 4 level input redundancy / 4 input mixers
System integration	Comprehensive 3rd party protocol over UDP Ethernet
Dante Audio Network	
Dante I/O	8 x 8
Network topology / redundancy	Flexible topology / Supports Dual redundant networks
Sample rates / transport	48, 96 kHz / Uni + Multicast
Network latency	0.25, 0.5, 1.0, 2.0, 5.0 ms
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	0.00003 %
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 k / 10 k ohm
THD + N (typical at 1 kHz unweighted)	0.00022 %
THD + N (typical at 20 Hz and 20 kHz unweighted)	0.00033 %
Back Panel Interface	
Analog inputs	4 x Terminal block connectors along input with +, - and ground
AES inputs	2 x Terminal block connectors
Output connectors	4 x 2 pole Terminal block connectors rated at 1000 V / 76 A (exceeding amplifier capacity) Can take up to 16 mm² (6 AWG) cables
Ethernet ports	2 x EtherCon RJ45 100/1000 Base-T for the Lake Controller, Dante controller and/or DLM (3rd party protocol
Detachable mains cord	Neutrik PowerCon rated at 250 V / 32 A
Front panel user interface	
System status indication	3 x 3 colored LED. FRAME, TEMP, PSU for device status indication
Channel status indication	3 x 3 colored LED per channel. Status indication separated for channel LOAD, AMP, SIGNAL status
Mute	Per channel touch button for MUTE control and tricolored LED for indication
Power	Touch button for ON/STANDBY control and tricolored LED for power state indication
Select	Touch button and LED for bidirectional device software select functionality
Main Power	
Nominal voltage	100 - 240 V AC 50 - 60 Hz
Operating voltage	70 - 265 V AC 45 - 66 Hz
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)
Power supply features	
Soft start / Inrush power	Yes / Max 8 A
Power factor correction	> 0.98 for mains power > 400 W
Regulated switch mode power supply (R.SMPS)	Yes
Breaker Emulation Limiter (BEL)	Configurable current threshold and breaker profile
BEL max current threshold	25 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: 463 mm
Weight	15.8 kg (35 lbs)
Finish	Black painted steel chassis with grey painted steel front with detachable grille
Approvals	CE, ETL (ANSI/UL, CSA), PSE, RCM

Note 1): Lab.gruppen burst power (1 kHz, 25 ms burst power @ 150 BPM, 12 dB Crest factor)

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