DNA C series

10K8c • 3K8c

The culmination of five years intensive effort, the Danley Sound Labs DNA series amplifiers represent the leading edge of amplifier design. In a straightforward robust package, they surpass similar products in power delivery, sonic performance and efficiency.

Spanning 10,000 to 3,200 Watts RMS output power, all models share a high end specification with generous power reserves. The integrated state of the art DSP being the perfect complement to the world's finest loudspeaker systems.

This truly revolutionary amplifier platform provides a logical front panel user interface and powerful Ethernet based remote control. Both provide access to all features allowing rapid system configuration with full performance monitoring and analytics.

- Eight channels of sonically pure Class D amplification
- Unique, precise digital signal processing
- Over designed switch mode power supply
- 10,000 & 3,200 watts RMS total output
- Analog, AES3 and Dante™ digital network audio inputs
- Full front panel user interface
- Ethernet network software for system operation and monitoring
- DSP Drive Modules for loudspeaker processing
- Powerful grouping for multi-layer EQ and effective control of large systems

DNA Pro series

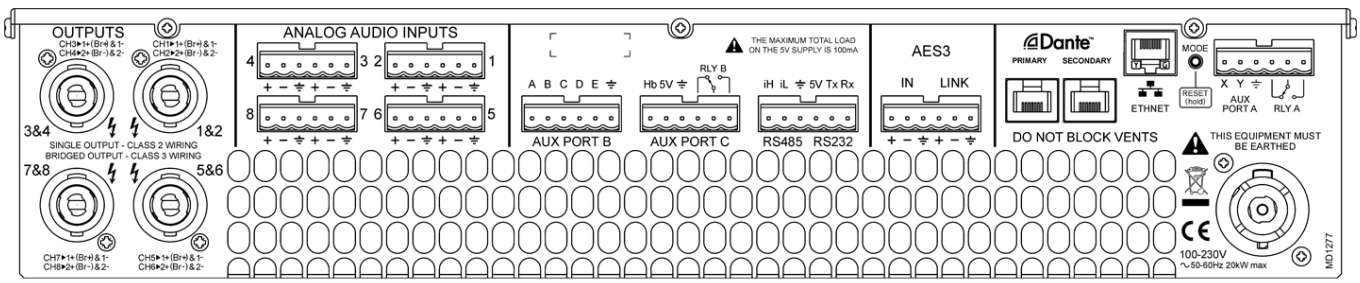
10K8 • 3K8

General Specifications

Amplifier topology	Class D
Number of channels	Eight
Total power output, all channels driven	10,000 and 3,200 Watts RMS
Audio inputs	8x Analog, 1x AES3 and 8x Dante™ (factory fitted option)
Digital Signal Processing	High performance DSP processing on all inputs and outputs
Control, monitoring and system status alarms	Ethernet network Volt-free relay and contact closure port
Power-save modes	Standby after user defined time, instant wake up on audio (less than 1ms) Deep ECO sleep after user defined time, wake up on command (30 seconds)
System standby and wakeup	Front panel switch, network command, and audio detection

Power Output

Model	10K8	3K8
Power specification	RMS output power per channel, all channels driven with continuous program material and a nominal ambient temperature of 40degC / 105degF	
Crest Factor of 4 (12dB), 2-Ohm nominal load	1,250W	400W
Crest Factor of 2.8 (9dB), 4-Ohm nominal load	1,250W	400W
Crest Factor of 2 (6dB), 8-Ohm nominal load	1,250W	400W
Bridged, per channel pair, 4-Ohm nominal load	2,500W	800W
100V line operation, Crest Factor 4 (12dB)	1,250W	400W
70V line operation, Crest Factor 4 (12dB)	1,250W	400W
25V line operation, Crest Factor 4 (12dB)	625W	355W



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Audio Performance

Amplifier topology	Proprietary 5h Generation High Performance Class D
Amplifier modulation scheme	Low feedback, multiple loop, with feed-forward error correction
Dynamic range to amplifier output	Analog input, better than 113dBA typical AES / Dante™ input, better than 114dBA typical
Gain (with all DSP level controls set to 0dB)	32dB
Frequency response, 4 Ohm load	Less than 7Hz to greater than 30KHz, 4 Ohms -2.5dB
Total harmonic distortion, THD	Less than 0.05% typical, 1KHz signal, AES17 filter, 4 Ohm load
Inter-channel crosstalk, worst case combination	Better than -85dBr at 1KHz and -75dBr at 10KHz
Slew Rate	Greater than 60V per microsecond typical
Damping Factor (ref 8 Ohms)	Greater than 800 at amplifier output
Maximum analog input level	+20dBu
Analog input sensitivity range for full output	0dBu to +20dBu, continuously adjustable
Analog input (four channels)	Input 20k Ohm, electronically balanced, link directly connected to analog input
Analog ground scheme	AES48 standard compliant
AES3 input (two audio channels, one connection)	Transformer isolated with unique active cable equalization for extended range
AES3 link (two audio channels, one connection)	Active AES3 signal regeneration. Automatic direct bypass to the AES3 input ensuring the audio signal will still flow even when the amplifier is powered down
AES3 supported sampling rates	24KHz to 192KHz (auto locking)

Digital Signal Processing

Resolution	40 bit, proprietary LMD algorithms (Linea Micro Detail)
Sample rate	96kHz throughout
Physical inputs to DSP drive modules	8x analog, 2x AES, & 8x Dante™ inputs can be routed to eight DSP drive modules
Drive module input processing	Input signal routing, delay, gain, high pass filter, polarity, mute **EQ:** 2x low shelf, 6x parametric, and high FIR shelving filter
Drive module output processing	Source, delay, gain, polarity, mute, high pass and low pass crossover filters, VX limiters **EQ:** low shelf, 8x parametric / all pass, and high shelf filters
Preset management	10 snapshots for device wide setup, 50 presets for loudspeaker settings Presets can be recalled to sets of outputs or individual outputs as required
Unique high performance processing	
Overlays	Twelve additional independent overlays of EQ, Delay and Gain Flexible grouping for effective control of many amplifier channels in large systems
Class leading VX limiters	See the ‘speaker protection systems’ section
LIR crossover filters	Linear Phase alignments without the compromises of FIR filters

Power Supply

Topology (main power supply)	3rd generation high performance Series Resonant
Internally stored energy	Greater than 600 Joules
Nominal mains input voltage range	85V to 240V Power supply automatically detects voltage and configures accordingly
Mains input frequency range	47Hz to 63Hz
Mains inrush current (max for <10ms)	6A at 115V and 12A at 230V

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Mains Current and Thermal Dissipation

DNA 10K8c

Sleep Mode (slow wake up)					
AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation		
	120 VAC	230 VAC	Watts	BTU/Hr	Kcal/Hr
4.5	0.4	0.2	4.5	15	4

Standby Mode (fast wake up)					
AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation		
	120 VAC	230 VAC	Watts	BTU/Hr	Kcal/Hr
60	1.0	0.5	60	205	52

Running with no audio signal					
AC Mains Power Draw (Watts)	Current Draw (Amps)		Thermal Dissipation		
	120 VAC	230 VAC	Watts	BTU/Hr	Kcal/Hr
204	3	1.5	204	696	175

Running with audio signal (all channels driven)								
Load Mode	Load (Ohms)	Signal Duty & Crest Factor	Input Power (Watts)	Current Draw (Amps)		Thermal Dissipation		
				120 VAC	230 VAC	Watts	BTU/Hr	Kcal/Hr
2 Ohm	2	1/8, CF=4.0 (12dB)	1703	20.4	10.6	453	1547	390
2 Ohm	4	1/4, CF=2.8 (9dB)	1652	19.8	10.3	402	1371	345
2 Ohm	4	1/8, CF=4.0 (12dB)	938	11.9	6.2	313	1069	269
4 Ohm	4	1/4, CF=2.8 (9dB)	2967	31.6	16.5	467	1592	401
4 Ohm	4	1/8, CF=4.0 (12dB)	1617	20	10.4	367	1251	315
4 Ohm	8	1/4, CF=2.8 (9dB)	1605	19.2	10.0	355	1211	305
4 Ohm	8	1/8, CF=4.0 (12dB)	920	16.6	6.1	295	1007	254
8 Ohm	8	1/4, CF=2.8 (9dB)	2825	33.1	17.3	325	1109	279
8 Ohm	8	1/8, CF=4.0 (12dB)	1567	18.5	9.6	317	1081	272

NOTES:

- The amplifier was configured to have no audio processing
- Measurements were performed with a Hameg HM8115-2 power analyzer
- All measurements were done at 230 VAC, 50 Hz
- The Current Draw figures for 120 VAC are calculated

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204	3	1.5	204	696	175

Running with audio signal (all channels driven)								
Load Mode	Load (Ohms)	Signal Duty & Crest Factor	Input Power (Watts)	Current Draw (Amps)		Thermal Dissipation		
				120 VAC	230 VAC	Watts	BTU/Hr	Kcal/Hr
2 Ohm	2	1/8, CF=4.0 (12dB)	511	6.7	3.4	136	464	117
2 Ohm	4	1/4, CF=2.8 (9dB)	495	6.5	3.3	120	411	104
2 Ohm	4	1/8, CF=4.0 (12dB)	281	4.1	2.1	94	321	81
4 Ohm	4	1/4, CF=2.8 (9dB)	890	11.0	5.5	140	478	120
4 Ohm	4	1/8, CF=4.0 (12dB)	485	6.0	3.0	110	375	95
4 Ohm	8	1/4, CF=2.8 (9dB)	481	6.0	3.0	107	364	92
4 Ohm	8	1/8, CF=4.0 (12dB)	276	3.8	1.9	89	302	76
8 Ohm	8	1/4, CF=2.8 (9dB)	847	10.0	5.0	98	333	84
8 Ohm	8	1/8, CF=4.0 (12dB)	470	6.0	3.0	95	324	82

NOTES:

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Protections Systems

Under all circumstances the control and protection systems will endeavour to deliver the maximum power possible for a given set of conditions, applying limiters only in extreme circumstances. Muting will only occur when a dangerous situation is detected, normal operation automatically resuming when the condition clears.

System protection	**Speaker protection**
Excessive power supply current or amplifier output current	Sustained clipping prevention
Excessive temperature per sub system: PSU, amplifier and DSP	DC offset protection
Mains voltage within acceptable limits	Excessive HF energy (VHF) limiter
Internal power rails producing correct output	
Fans operating at correct speed	**VX audio output limiters**
	Vx provides a linear phase virtual crossover and two limiter paths on each output. This unique system delivers effective protection for systems that incorporate passive crossovers.
Power distribution protection systems	Vx Limit Multiband peak limiter, two per output
Mains inrush current limiting for soft start and anti-surge	Vx Max Multiband overshoot limiter, two per output
Mains average current limiting for mains breaker management	X-Max Driver excursion limiter
Randomized initialization when remotely powered up	T-Max Driver thermal limiter (long term power limiter)
Monitoring, measurements recorded against time	**Monitoring, device statistics and counters**
Supply current	Number of power cycles counted
Supply voltage	Number of mains brownout events counted
Thermal Capacity	Fan speeds continuously monitored
Each driver current	Fan under-speed events counted
Each driver impedance	Various protection mute events counted
Protection limiting for each output	Driver Impedance continuously monitored

An inbuilt alarm and notification system to indicate problems to remote devices either via the network or the Volt-free changeover relay contacts accessibly on the rear panel.

Physical

Cooling	Dual vari-speed fans, front to back airflow. Washable, tool less change filter media.
Analog IN and LINK	Phoenix pluggable terminal block
AES3 dual channel IN and LINK	Phoenix pluggable terminal block
Amplifiers output	4x Neutrik Speakon™ NL4 connectors
Mains input connector	Neutrik 32A Powercon™
Dante Primary and Secondary	2x Shielded RJ45
Relay output & contact closure inputs/output	Phoenix pluggable terminal block
LED indicators	Bright, easily differentiated
Enclosure	Standard 19” 2U (88mm), 357mm (14”) deep with handles and optional rear support
Net Weight	27.5 pounds (12.5kg)
Rear Support Kit	DNA-RSK

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