Duecanali DSP+ Series

2-Channel Fixed Installation Amplifier Platform with DSP and AES67

TOURING
INSTALLATION

POWER SHARING | 2 LO-Z HI-Z CHANNELS | 1U | ROUTING CHANNEL | AUDIO NETWORK | DSP ON BOARD | SAFETY RELIABILITY | SRM | PFC | ArmoníaPlus System Manager

Excellent sound quality and ample output power result from Powersoft's unique approach to Class D amplification, making the Duecanali DSP+ Series ideal for the main system in any venue where performance is priority.

The Duecanali DSP+ is versatile in use and easy to set up. The front panel LED display provides real-time status feedback, while all the amplifier's configuration, monitoring and control parameters are accessible via the software ArmoníaPlus.

The Duecanali Series heralds Powersoft's renowned efficiency, saving valuable energy, therefore keeping both operational cost and carbon footprint at a minimum.

This state of the art amplifier platform shines with outstandingly low power consumption and heat dissipation, with direct positive effects on investment – not to mention the benefits for the environment and aiding to support a more eco-friendly planet.

A fully integrated state-of-the-art DSP yields extensive system management functionality. In addition to sound shaping and limiter functions in unique Powersoft style, the DSP hardware and ArmoníaPlus software enable compliance with IEC 60849 for the crucial requirements of sound systems for emergency purposes.

The Duecanali DSP+ is designed to work with lo-Z (from 2 Ω) and with 70V/100V distributed lines: any mixed configuration of low and high impedance output loads can be realized, making the Duecanali DSP+ suitable for all applications in installed sound reinforcement systems.

DSP+ versions of the Duecanali series extends system performance with the support of AES67 digital audio networking architecture and the on board high-end signal processing.

- Small to Medium-scale venues
- Main systems, central or distributed, subwoofers, hi-Z/lo-Z
- Emergency systems (IEC 60849)
- Stadiums, arenas
- Theaters, concert halls
- Houses of worship
- Convention centers
- Amusement parks, themed entertainment
- Cruise ships

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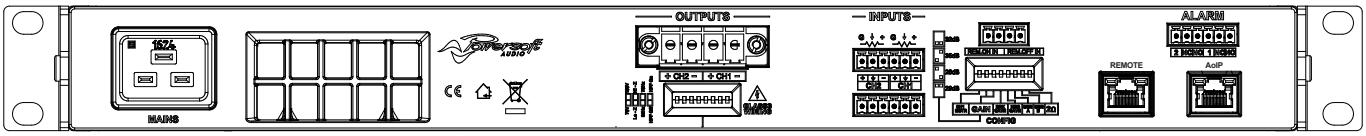

Specifications

Channel Handling		
Number of output channels	2 Hi-Z or Lo-Z (bridgeable per ch. pair)	Phoenix PC 5/4-STF1-7,62
Number of input channels		
Analog	2	Phoenix MC 1,5/6-ST-3,81
AES67	2	1 x RJ45

Audio	804	1604	4804	6404	
Input sensitivity @ 8 Ω with 26 dB Gain	2.84	4.08	5.03	5.76	Vrms
Input sensitivity @ 8 Ω with 29 dB Gain	2.01	2.89	3.56	4.08	Vrms
Input sensitivity @ 8 Ω with 32 dB Gain	1.42	2.04	2.52	2.88	Vrms
Input sensitivity @ 8 Ω with 35 dB Gain	1.01	1.45	1.79	2.05	Vrms
SNR (20 Hz - 20 kHz @ 8 Ω - typical)	106	109	111	112	dB(A)
Max input level	20 dBu				
Frequency Response	20 Hz - 20 kHz ±1.0 dB, 1 W @ 8 Ω				
Crosstalk (1 kHz)	typical -70 dB				
Input impedance	20 kΩ balanced				
THD+N (from 0.1 W to Half Power)	< 0.1% (typical < 0.05%)				
SMPTE IMD (from 0.1 W to Half Power)	< 0.1% (typical < 0.05%)				
Slew Rate	> 50 V/µs @ 8 Ω, input filter bypassed				
Output impedance at 100 Hz	26 mΩ				

DSP	
AD converters	24 Bit Tandem™ @ 48 kHz typical 125 dB-A Dynamic Range - 0.005 % THD+N
DA converters	24 Bit Tandem™ @ 48 kHz typical 117 dB-A Dynamic Range - 0.003 % THD+N
Sample rate converter	24 Bit @ 44.1 kHz to 96 kHz typical 140 dB Dynamic Range - 0.0001 % THD+N
Internal precision	32 bit floating point
Latency	2.5 ms fixed latency architecture
Memory/Presets	49 amplifier snapshots, virtually unlimited speaker presets
Delay	2 s (input) + 100 ms (output) for time alignment
Equalizer	Raised-cosine, custom FIR, parametric IIR: peaking, hi/lo-shelving, all-pass, band-pass, band-stop, hi/lo-pass
Crossover	linear phase (FIR), Butterworth, Linkwitz-Riley, Bessel: 6 dB/oct to 48 dB/oct (IIR)
Limiters	TruePower™, RMS voltage, RMS current, Peak limiter
Damping control	Active DampingControl™ and LiveImpedance™ measurement

Output Stage		804	1604	4804	6404	
Maximum output power	per channel @ 8 Ω (symmetrical)*	400	800	1250	1800	W
	per channel @ 4 Ω (symmetrical)*	400	800	2400	3200	W
	per channel @ 2 Ω (symmetrical)*	500	1000	3000	4600	W
	@ 4 Ω Bridged (symmetrical)*	1000	2000	6000	9200	W
	@ 8 Ω Bridged (symmetrical)*	800	1600	4800	6400	W
	@ Hi-Z distributed line 100 V (symmetrical)*	400	800	2400	4000	W
	@ Hi-Z distributed line 70 V (symmetrical)*	400	800	2400	3200	W
	per channel @ 8 Ω (asymmetrical)**	800	1300	1300	1900	W
	per channel @ 4 Ω (asymmetrical)**	800	1600	2600	3600	W
	per channel @ 2 Ω (asymmetrical)**	1000	1600	4300	6000	W
	@ Hi-Z distributed line 100 V (asymmetrical)**	800	1600	4000	5500	W
	@ Hi-Z distributed line 70 V (asymmetrical)**	800	1600	3000	3000	W
Maximum unclipped output voltage @ 8 Ω		80 V_{peak}	115 V_{peak}	142 V_{peak}	175 V_{peak}	
Maximum output current		39 A_{peak}	45 A_{peak}	80 A_{peak}	110 A_{peak}	

*: All channels driven with the same burst power
**: Maximum power-sharing capacity per channel

Power & Thermal			804	1604	4804	6404	
@ 115 V	Idle	Power	23.0	23.0	32.5	33	W
		Current Draw	0.34	0.34	0.31	0.53	A_{rms}
		Thermal Loss	78	78	111	112	BTU/h
	1/8 Power @ 4Ω	Power	148	267	780	1073	W
		Current Draw	1.4	2.5	7.0	10	A_{rms}
		Thermal Loss	162	229	613	931	BTU/h
@ 230 V	Idle	Power	22.5	23.3	32.8	33	W
		Current Draw	0.21	0.21	0.30	0.37	A_{rms}
		Thermal Loss	77	79	112	114	BTU/h
	1/8 Power @ 4Ω	Power	147	274	755	1068	W
		Current Draw	0.9	1.5	3.9	5.3	A_{rms}
		Thermal Loss	161	251	528	913	BTU/h
Power supply			Universal regulated switch mode with PFC, SRM				
Nominal voltage (±10%)			100-240 VAC @ 50-60Hz				
Operating Voltage			90-264 VAC				
AC Mains connector			IEC C20 inlet (20 A max) region-specific power cord provided				

Typical use case power consumption is expected to be at least 20% lower (likely more than 50% lower)

Networking	
Standards compliance	auto-sensing Fast Ethernet (IEEE 802.3u, 100 Mbit/s)
Supported topologies	Star
Remote interface	ArmoníaPlus™

Construction	
Dimensions	483 x 44.5 x 358 mm 19.0 x 1.75 x 14.1 in
Weight	7 Kg (15 lb)

Data subject to change without notice.