

# Duecanali DSP Series

2 Channel Power Amplifier with DSP and Networking  
for High Performance Installed Sound Systems

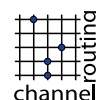


- ☐ Touring
- ☒ Installation

**2** lo-Z  
hi-Z  
channels



**DSP**  
onboard



**Armonía**  
Pro Audio Suite™

Designed for long-term safe and reliable operation, the Duecanali DSP Series suits both low impedance and constant voltage systems equally well.

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 Armonía Pro Audio Suite™ software enable compliance with IEC 60849 for the crucial requirements of sound systems for emergency purposes.

The DSP interface provides

two standard Ethernet ports and hub functionality for two AES3 digital audio streams equivalent to 4 analog signal channels over the same RJ45, allowing for a redundant ring architecture too.

Powersoft's legendary efficiency saves valuable energy, keeping both operational cost and 'carbon footprint' at a minimum: the Duecanali DSP Series shines with outstandingly low power consumption and heat dissipation; this has direct positive effects on investment and recurring costs from the AC mains supply and air

conditioning/cooling systems – not to mention the benefits to the environment for a more eco-friendly planet.

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

# Duecanali DSP Series

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## Specifications

Channel Handling		
Number of output channels	2 Hi-Z or Lo-Z (bridgeable per ch. pair)	4 x 2-pin Phoenix type GMSTB2.5/2-ST
Number of input channels		
Analog	2	Phoenix MC 1,5/12-ST-3,81
Digital	AES3 (glitchless fallback to analog audio selectable)	

Audio				
Gain	26 dB	29 dB	32 dB	35 dB
3904 Input sensitivity @ 8 $\Omega$	4.48 V	3.17 V	2.25 V	1.59 V
5204 Input sensitivity @ 8 $\Omega$	5.30 V	3.76 dB	2.66 V	1.88 V
Max input level	27 dBu	24 dBu	21 dBu	18 dBu
Frequency Response ( $\pm 0.5$ dB , 1 W @ 8 $\Omega$ )	20 Hz - 20 kHz			
Crosstalk (1 kHz)	typical -70 dB			
S/N (20 Hz - 20 kHz A-Weighted @ 8 $\Omega$ )	> 110 dB			
Input impedance	10 k $\Omega$ balanced			
THD+N (from 0.1 W to Full Power)	< 0.2% (typical < 0.05%)			
Slew Rate (input filter bypassed @ 8 $\Omega$ )	> 50 V/ $\mu$ s			
Damping Factor @ 8 $\Omega$ , 20 Hz - 100 Hz	> 500			

DSP	
AD converters	Dual 24bit 96 kHz Tandem® architecture with 127 dBA of dynamic range and THD <0.005% (20 Hz - 20 kHz)
DA converters	Dual 24bit 96 kHz Tandem® architecture with 122 dBA of dynamic range and THD <0.003% (20 Hz - 20 kHz)
Sample rate converter	24 Bit @ 44.1 kHz to 192 kHz 140 dB Dynamic Range - 0.0001 % THD+N
Internal precision	32 bit floating point
Latency	2.5 ms fixed latency architecture
Memory/Presets	8 MB (RAM) plus 2 MB (flash for presets); 50 presets stored locally + 150 stored on a smartcard up to 4 s on the input section, up to 32 ms per output, sample-by-sample stepping
Delay	
Input Equalizer	Three layers (PEQ, raised cosine, shelving), 32 filters each + group filters, up to 256 filters per channel
Output Equalizer	16 fully parametric filters per channel, IIR: peaking, hi/lo shelving, hi/lo pass eq, band pass, band stop, all pass. Custom FIR up to 384 taps @ 48 or 96 kHz Butterworth, Linkwitz-Riley, Bessel, arbitrary asymmetric, 6 dB/oct to 48 dB/oct (IIR), linear phase (FIR), hybrid (FIR+IIR)
Crossover	
Limiters	TruePower™, RMS voltage, RMS current, Peak limiter
Damping control	Active DampingControl™

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

Output Stage	3904	5204
Maximum output power per channel @ 8 $\Omega$	1000 W	1400 W
Maximum output power per channel @ 4 $\Omega$	1950 W	2600 W
Maximum output power per channel @ 2 $\Omega$	2400 W	2800 W
Maximum output power @ 4 $\Omega$ Bridged	4800 W	5600 W
Maximum output power @ 8 $\Omega$ Bridged	3900 W	5200 W
Maximum output power @ Hi-Z distributed line 100 V	2400 W	2400 W
Maximum output power @ Hi-Z distributed line 70 V	1800 W	1800 W
Maximum unclipped output voltage @ 8 $\Omega$	140 V <sub>peak</sub>	165 V <sub>peak</sub>
Maximum output current	102 A <sub>peak</sub>	75 A <sub>peak</sub>

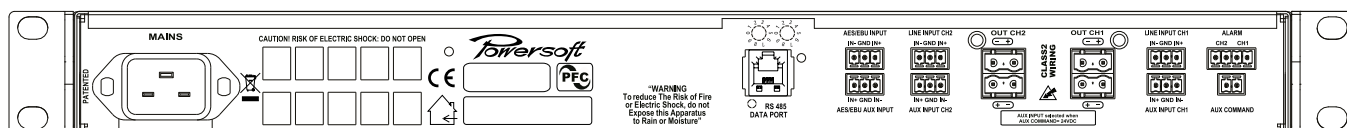
The power figure is calculated by driving and loading symmetrically all the channels: uneven loads allow to achieve higher performances.

Thermal		
Cooling		Low noise fan, continuously variable speed, temperature controlled, front to rear airflow
Operating Temperature		0° - 35° C / 32° - 95° F
Thermal dissipation		
3904	Idle	382 BTU/h 96 kcal/h
	1/8 Max Output Power @ 4 Ω	722 BTU/h 182 kcal/h
	1/4 Max Output Power @ 4 Ω	1,062 BTU/h 268 kcal/h
5204	Idle	382 BTU/h 96 kcal/h
	1/8 Max Output Power @ 4 Ω	836 BTU/h 211 kcal/h
	1/4 Max Output Power @ 4 Ω	1,390 BTU/h 326 kcal/h

AC Mains Power				
Power supply	Universal input, regulated output, PFC, overvoltage tolerant, SRM			
Nominal voltage ( $\pm 10\%$ )	100-240 V @ 50-60Hz			
Power factor (> 500 W output)	> 0.95			
Consumption/current draw	@ 115 V	@ 230 V		
3904	Idle	69 W 1.2 A	88 W 1.35 A	
	1/8 Max Output Power @ 4 $\Omega$	609 W 6.3 A	609 W 3.1 A	
	1/4 Max Output Power @ 4 $\Omega$	1219 W 11.4 A	1219 W 11.4 A	
5204	Idle	69 W 1.2 A	88 W 1.35 A	
	1/8 Max Output Power @ 4 $\Omega$	609 W 8 A	813 W 4 A	
	1/4 Max Output Power @ 4 $\Omega$	1219 W 14.8 A	1625 W 7.4 A	

AC Mains connector IEC C20 inlet (20 A max)  
region-specific power cord provided

Construction	
Dimensions	483 x 44.5 x 360 mm 19.0 x 1.75 x 14.2 in
Weight	8 Kg (17.7 lb)



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