

D-Cell504 Integrated Solution

2-ch and 4-ch Integrated Amp Module for Professional Applications



D-Cell504 IS is a plug-and-play 2-channel or 4-channel amplification platform consisting of power supply, DSP, output stage, power connectors panel and input/output interface all assembled on an elegant aluminum heatsink panel.

D-Cell504 IS condenses the power of one or two D-Cell504 amplifier modules in a 2-channel or 4-channel solution, easy to be implemented in mono and stereo subwoofers, 2-way and 3-way systems.

The power of the on board integrated DSP allows full customization of the processing architecture with no need for any additional boards or wiring.

The power supply with PFC guarantees worldwide operation and optimal performance in all operating conditions.



- ▶ Small Single Subwoofer
- ▶ 2-way Stage and Studio Monitor
- ▶ Small Power Active Mixers
- ▶ Small Double Subwoofer*
- ▶ Small 3-way Cabinets / Line Arrays*
- ▶ Small sub+satellites PA systems*

*when two amplifier units are used

- ▶ Thermal protections (power limiting - thermal shutdown)
- ▶ Short-circuit/overload/high frequency output protections
- ▶ Clip limiter, permanent signal limiter
- ▶ Auxiliary output voltages
- ▶ Bypass line outputs for external active/passive filters
- ▶ Mute command
- ▶ Temperature controlled internal fans and output
- ▶ Optional DSP boards
- ▶ Fully integrated in Armonía Pro Audio Suite™ for Monitoring, Remote Control with the DSP board



FIXED
switching
frequency

2 or 4
channels

DSP
onboard

Armonía
Pro Audio Suite™

Single subwoofer	700 W @ 8 Ω BTL
2-way unbalanced load	LF: 350 W @ 4 Ω SE
	MF/HF: 190 W @ 8 Ω SE
3-way unbalanced load (4-channel version)	LF: 700 W @ 8 Ω BTL
	MF: 350 W @ 4 Ω SE
	HF: 190 W @ 8 Ω SE
Max output voltage per channel	55 V _{peak}

- ▶ Premium Performance
 - ✓ Powersoft class-D technology used in DigiMod modules is an industry standard in terms of quality, reliability, robustness and attention to detail. Accurate design of the Pulse Width Modulation block guarantees maximum performance, high predictability and immunity from intermodulation artifacts.
- ▶ Powerful and flexible signal processing tools
 - ✓ Tailor the module's behavior to fit the loudspeaker design thanks to the full support in Armonía Pro Audio Suite™ or through the low level programming features of the Analog Devices SigmaStudio™ environment.
- ▶ Complete set of protections
 - ✓ Powersoft amp modules are equipped with extensive protection circuitry: power limiters, thermal shutdown, short circuit and overload, clip limiter.
- ▶ Certification process made easy
 - ✓ Powersoft provides EMI/safety certifications, reports and documentation that will effectively cut certification costs on the final product.



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Specifications

General	
Number of channels	1 in / 2 or 4 out
Output power	
Maximum output power per channel @ 4 Ω	350 W
Maximum output power per channel @ 8 Ω	190 W
Maximum output power per channel @ 16 Ω	95 W
Maximum output power @ 8 Ω Bridged	700 W
Maximum output power @ 16 Ω Bridged	380 W
Max output voltage	55 V _{peak}
Max output current	35 A _{peak}

Audio	
Gain	32 dB (x40 voltage gain)
Frequency response	10 Hz - 20 kHz (±3 dB) @ 1 W, 8 Ω
S/N ratio	> 113 dB (A weighted)
Input sensitivity @ 8Ω	0.94 V / 1.7 dBu
Max input level	4.36 V / 15 dBu
Input impedance	10 kΩ balanced
THD+N	< 0.05% from 0.1 W to full power (typically <0.01%)
DIM100	< 0.02% from 0.1 W to full power (typically <0.005%)
Slew rate	30 V/μs @ 8 Ω, input filter bypassed
Damping factor @ 8Ω	> 500 @ 100 Hz

DSP	
Architecture	Analog Devices ADAU® 1702 DSP architecture
Configuration	Configurable with Sigma Studio™ or predefined layout
Latency	0.644ms fixed latency architecture
Equalizer	fully parametric filters per channel, IIR: peaking, hi/lo-shelving, hi/lo-pass, band-pass, band-stop, all-pass
Crossover	Butterworth, Linkwitz-Riley, Bessel: 6 dB/oct to 48 dB/oct
Delay	up to 10 ms per output
Limiters	RMS voltage, RMS frequency dependent, Peak limiter

Mains Power	
Power supply	AC universal, regulated switch mode
Nominal power requirement AC	AC 100 V - 240 V, 50/60 Hz
Operating voltage AC	AC 90 - 264 V up to 80 Hz
Power factor	cosφ > 0.85 @ 4 Ω full power

Consumption		
	@ 230 V	@ 115 V
I/8 of max power @ 4 Ω	121 W 0.6A	122 W 1.08 A
I/4 of max power @ 4 Ω	225 W 1.04 A	229 W 2.04 A

AUX supplies	
Max aux supply current draw @ ±12 V	250 mA

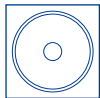
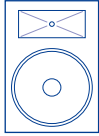
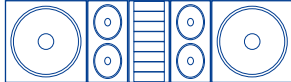
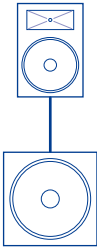
Thermal	
Environmental operating temperature	0° - 40° C / 32° - 104° F
Thermal dissipation	Passive @ 230 V
I/8 of max power @ 4 Ω	119.2 BTU/h 30.0 kcal/h
I/4 of max power @ 4 Ω	184.4 BTU/h 46.5 kcal/h

Construction	
Dimensions (L x W) 2ch/4ch Height	100 mm x 330 mm (3.9" x 13") 2-ch: 63 mm (2.4") / 4-ch: 110 mm (4.3")
Weight	2-channel version: 1.1 kg (2.4 lb) 4-channel version: 1.6 kg (3.5 lb)

Application Examples

Please note that the following configuration examples do not cover all possible applications.

Power ratings could vary depending on acoustic design and speaker specifications. Contact Powersoft for support in selecting the ideal solution for your specific needs.

single subwoofer	2-way	3-way line array	sub + satellites
		 4-channel version	 4-channel version
	MF/HF: 190 W @ 8 Ω or 95 W @ 16 Ω	HF: 95 W @ 16 Ω	HF: 95 W @ 4-8-16 Ω
700 W @ 8 Ω	LF: 350 W @ 4 Ω or	MF: 2x 190 W @ 8 Ω	MF: 200 W @ 2-8 Ω
		LF: 2x 350 W @ 4 Ω	LF: 600 W @ 8 Ω