Dante Digital Signal Processor DP44



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AISPEECH

CATALOG

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Product Introduction

The AIDAP-DP44 is a professional networked digital audio processor from AISpeech, integrating 4×4 analog I/O and 4×4 Dante® I/O with 48 kHz / 24-bit processing. It incorporates core modules such as AEC, AGC, ANS, AFC, auto-mixing, ducker, and parametric EQ, delivering low latency and wide dynamic range for professional venues including meeting rooms, multi-function halls, auditoriums, and administrative centers.

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Main Features

I/O Architecture

DP44 provides parallel 4×4 analog and 4×4 Dante® I/O with a visual matrix for flexible routing and bridging. DP44 handles conversion and inter-room links on a single processor, simplifying new builds and retrofits while reducing system complexity and cabling.

Core Processing Suite

DP44 integrates AEC, AGC, ANS, AFC, auto-mixers, ducker, PEQ, filters, delay, and matrix. Per-channel chain configuration improves far-end clarity, raises gain-before-feedback, and streamlines multi-mic sessions for intelligible conferencing and dependable reinforcement.

DSP Platform

DP44 runs on an ADI SHARC® floating-point platform at 48 kHz/24-bit, delivering low-latency, reliable processing with headroom for complex algorithms and full-scale matrix operations, ensuring consistent results across multi-channel workloads and changing room conditions.

Audio Performance

The DP44 delivers voice optimized reproduction and transient response, maintaining natural, stable and low-noise performance even in complex routing and multi-microphone scenarios.

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Product Specifications

Function	Specification	
Basic function	• Analog input channels	4
	• Analog output channels	4
	• Dante input channels	4
	• Dante output channels	4
DSP performance	• Processing capability	400 MIPS, 1.6 GFLOPS
Audio performance	• Sample rate	48 kHz ± 100 ppm
	• Quantization bits	24 bit
	• THD+N	< -95 dB @ 17 dBu
	• Input dynamic range	113 dB
	• Output dynamic range	113 dB
	• Channel isolation (@1kHz)	108 dB
	• Frequency response (20–20kHz)	± 0.5 dB
	• Maximum input level	+18 dBu
	• Input gain range	0–48 dB (6 dB steps)
	• Input impedance	5.4 kΩ (Balanced)
I/O characteristics	• Output impedance	600 Ω (Balanced)
	• Phantom power	+48 V / 10 mA max
System delay	• Processing delay	< 3 ms

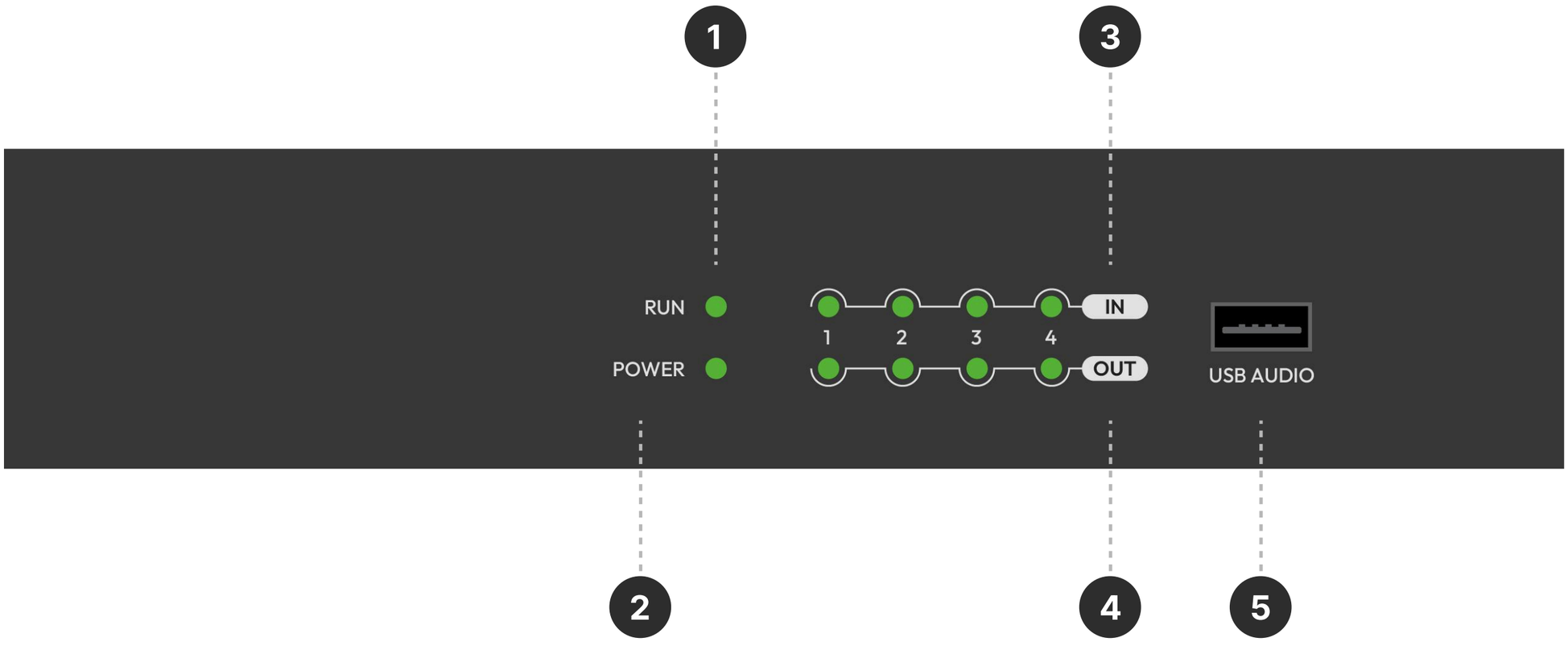
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Product Specifications

Function	Specification	
Processing features	• AEC (echo cancellation)	2-ch Independent, Tail: 512 ms, Convergence: 60 dB/s, Cancellation: 60 dB
	• AFC (feedback suppression)	Notch Algorithm, Gain Boost: 10 dB
	• ANS (noise suppression)	SNR Improvement: 18 dB
	• Equalizer	8-band British Parametric EQ, 5 Filter Types
Control & Expansion	• Custom user interface	Supported, up to 30 devices
	• Central control	RS232, RS485, UDP;
	• USB sound card	Built-in 2-in 2-out, Playback, Recording, Videoconferencing
Power & Physical	• Power supply	DC 12 V / PoE 48 V
	• Dimensions (W × D × H)	215 × 162 × 44 mm
	• Shipping weight	2 kg

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Component Instructions



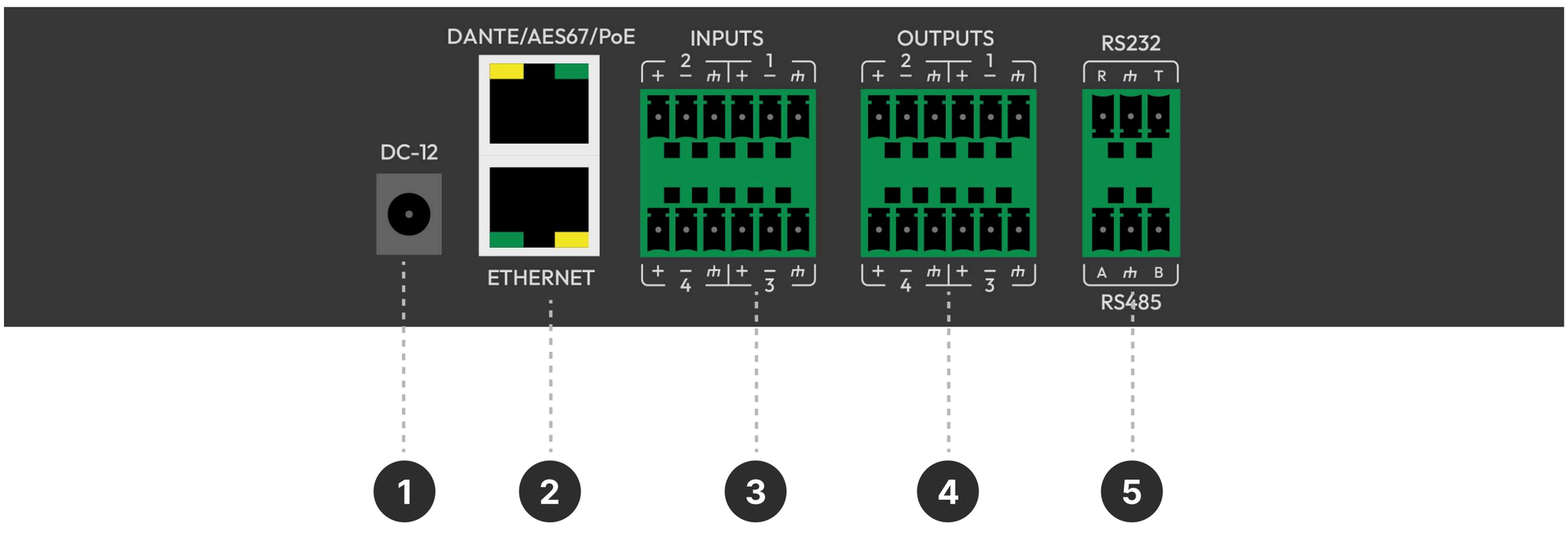
1 RUN: System status indicator light

2 POWER: Power indicator light

3 IN: signal light

4 OUT: signal light

5 USB AUDIO: sound card interface



1 DC-12: Connects to a 12V DC power supply.

2 DANTE/AES67/PoE: Used to connect to a Dante audio network, debug and monitor devices, and receive PoE power supply.

3 INPUTS: Signal Input Interface (Can be connected to microphones, DVD players, and other devices)

4 OUTPUTS: Signal Output Interface (Can be connected to amplifiers, active speakers, and other devices)

5 RS232+RS485: Connects to control terminals or central control devices.

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