

ALL-IN-ONE AUDIO SOLUTION

Impact ADSP 04

All-in-One Digital Signal Processor with Built-in 2x150W Amplifier & Wireless Mics



4 In / 4 Out
ANALOG MATRIX I/O

2 × 150W
DIGITAL POWER AMP

2 Channels
UHF WIRELESS MIC

32-Bit
Floating
TI 456MHZ DSP

PRODUCT OVERVIEW

The **Impact ADSP 04** is an advanced All-in-One Digital Signal Processor engineered to deliver high-fidelity audio integration for modern multimedia environments. Equipped with a high-performance 32-bit floating-point DSP engine, 24-bit/48kHz sampling, integrated 2-channel UHF wireless microphone receivers, and a dual-channel 150W digital power amplifier, the Impact ADSP 04 eliminates the need for external amplifiers and standalone wireless systems. Featuring comprehensive matrix mixing, Acoustic Echo Cancellation (AEC), Acoustic Feedback Cancellation (AFC), and Adaptive Noise Suppression (ANS), it provides crystal-clear sound reproduction tailored for auditoriums, conference centers, classrooms, and command centers.

KEY ARCHITECTURAL FEATURES

- All-in-One Integration:** Combines 4x4 DSP, 2-channel UHF wireless mics, and 2x150W power amp in a compact 1U chassis.
- Smart Acoustic Processing:** Built-in AFC (16 notch filters, 24dB depth), AEC, ANS, AGC, Ducker, and Auto-Mixer algorithms.
- Flexible EQ & Dynamics:** 5/8/12-band PEQ and 10/15/31-band GEQ per channel with compressors, limiters, and expanders.
- Cross-Platform Web Control:** Built-in web server for seamless browser-based control on Windows, macOS, Android, iOS, and Linux.
- PTZ Camera Tracking:** Supports VISCA, PELCO-D, PELCO-P protocols with customizable preset triggers for automated voice tracking.
- Multi-User & Preset Management:** Supports 100 scene presets with power-failure memory protection and up to 10 concurrent user log-ins.



CATEGORY	PARAMETER ITEM	PARAMETER DESCRIPTION
CORE & SYSTEM ARCHITECTURE	Processor	TI 456MHz FLOPS dual-core 32-bit floating-point DSP
	Audio Conversion & Sampling	24-bit A/D and D/A converters, 48kHz sampling rate
	Analog Input / Output Interfaces	4 Analog Inputs / 4 Analog Outputs (Balanced Phoenix)
	Built-in Amplifier Output	Digital Amplifier: 2 × 150W
AUDIO PERFORMANCE SPECIFICATIONS	UHF Wireless Microphone	2 Channels Built-in (Display shows RF & channel info)
	Frequency Response	20Hz ~ 20kHz (±0.2dB)
	Total Harmonic Distortion (THD+N)	≤0.003% @ 1kHz, +4dBu
	Signal-to-Noise Ratio (SNR)	108dB
	Dynamic Range	Input: 108dB A/D: 114dB D/A: 120dB
	Channel Isolation & Noise Floor	Isolation: >100dB @ 1kHz Noise Floor: -90dBu
	Input & Output Impedance	Input Balanced: 20kΩ Output Balanced: 100Ω
	Max Input / Output Level	+18dBu (A-Weighting) / 18dBu
	System Latency & CMRR	Latency: < 9ms CMRR: > 60dB @ 50Hz
	Input Processing Modules	51dB Preamplifier, Phantom Power (+48V), Phase Invert, Signal Generator (Sine, Pink/White Noise), Expander, Equalizer (5/8/12-band PEQ, 10/15/31-band GEQ), Compressor, AGC, Auto-Mixer (Gain Sharing / Gating), Ducker, AFC, AEC, ANS.
DSP PROCESSING & ALGORITHMS	Output Processing Modules	Delay, Crossover (Butterworth, Bessel, Linkwitz-Riley), Equalizer (5/8/12-band PEQ, 10/15/31-band GEQ), Limiter, Invert.
	Acoustic Feedback Suppressor (AFC)	Manual & Dynamic Notch Feedback Cancellation (up to 16 feedback points, inhibition depth up to 24dB).
CONTROL & INTERFACES	Network & Serial Control	1x RJ45 Ethernet Port, 1x Bi-directional RS232 Port
	Web & Camera Tracking Control	Cross-platform Web Controller; Camera tracking compatible with VISCA, PELCO-D, PELCO-P protocols.
	USB & Storage Interface	Extendable USB interface supporting U disk recording/playback or USB Audio Class. Storage of user manual & software on device.
GENERAL SPECIFICATIONS	Power Supply & Maximum Power	AC 100V ~ 240V, 50Hz/60Hz Max Power Consumption: 330W
	Chassis Form Factor & Dimensions	1U Rackmount Dimensions: 482.4mm × 260.5mm × 44mm (L×W×H)
	Net Weight / Package Weight	3.5 kg / 4.0 kg
	Operating Temperature & Humidity	0°C ~ 40°C, 10% ~ 90% RH (Non-condensing)

* Due to continuous product development, specifications may change without prior notice. ** Product images are for illustration purposes only and may vary from the actual product.