

NEXUS 12

8×8 ANALOG I/O • USB-C • BLUETOOTH

VAL audio

Die Liebe zur Musik



OVERVIEW

Built on the VAL NEXUS platform, NEXUS 12 is an 8×8 professional DSP processor for installed audio systems, combining balanced analog I/O with USB-C audio, Bluetooth and VAL NEXUS Control in a compact 1U chassis. Its 32×32 internal DSP architecture provides flexible matrix routing and comprehensive processing including EQ, delay, crossover, compression and limiting, alongside AI-AFC, AI-ANC and AI-AEC processing, 12-zone control with 3-source ducking and camera tracking support.

KEY FEATURES

Balanced Analog I/O

Professional balanced analog inputs and outputs.

32×32 DSP Processing

High-capacity internal DSP with 32×32 matrix routing.

USB-C Audio

USB-C audio interface for computer audio connectivity.

Bluetooth Audio

Integrated Bluetooth stereo audio input.

Advanced Processing

HPF/LPF/PEQ, dynamic EQ, delay, crossover and dynamics.

AI Audio Functions

AI-AFC/ANC and AI-AEC/AFC processing functions.

Camera Tracking

Camera tracking control support for conferencing and meeting-room applications.

VAL NEXUS Control

Ethernet-based browser control and monitoring.

12-Zone Control

12-zone control with 3-source ducking.

APPLICATIONS

Conference & Meeting

Flexible routing, USB/Bluetooth program audio, camera tracking and system processing.

Hospitality

Distributed audio, zone management and source control.

Education & Institutional AV

Centralized DSP processing for speech, program and paging.

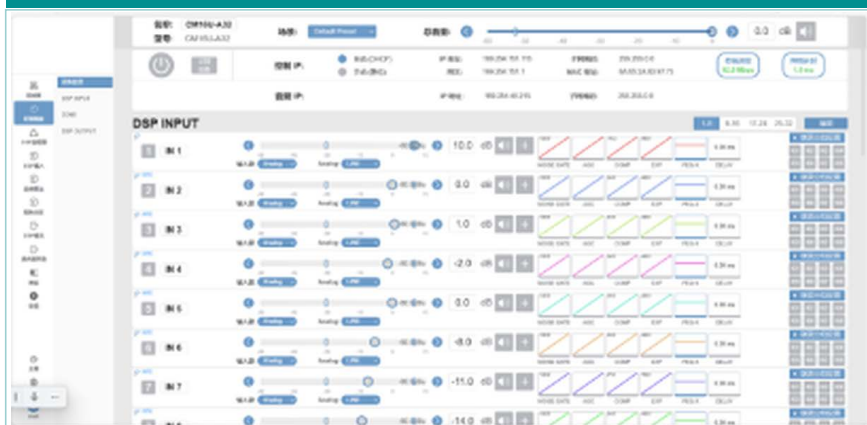
Retail & Commercial

Multi-zone background music, announcements and control.

Fixed-Installation PA

High-capacity matrix processing for installed sound systems.

VAL NEXUS CONTROL



Browser-Based DSP Control

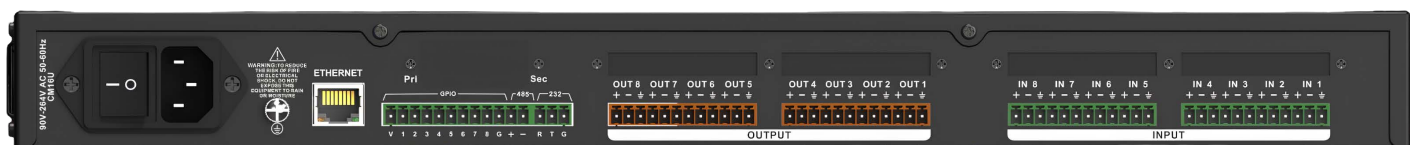
VAL NEXUS Control provides browser-based setup, routing, processing and real-time system management via Ethernet.

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SYSTEM INTEGRATION

- Full matrix mixing and routing for flexible system design.
- EQ, delay, crossover, dynamics and limiting for comprehensive system processing.
- VAL NEXUS Control via Ethernet for setup, configuration and real-time management.
- USB-C and Bluetooth provide convenient program-audio connectivity.
- Camera tracking control can be integrated into conferencing and meeting-room workflows.

VAL NEXUS PLATFORM

VAL NEXUS Control • Ethernet-based setup, configuration and real-time management

TECHNICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
Analog I/O	8 × 8 balanced analog I/O
DSP architecture	32 × 32 internal DSP processing capability
Sample rate	48 kHz
DSP word length	32-bit DSP processing
Matrix routing	32 × 32
USB digital audio	2 Tx × 2 Rx
USB interface	USB-C audio interface
Bluetooth	2 Rx / stereo audio
AI processing	AI-AFC / ANC / AEC; AI-ANC / AFC / AEC
EQ / filtering	HPF / LPF / PEQ; Dynamic EQ
Dynamics	Compressor / Limiter
Zone control	12 zones with 3-source ducking
Speaker presets	Analog output available
Network control	TCP/IP via RJ45
Control ports	RS232 / RS485 / GPIO
Maximum input level	+18 dBu
Power supply	AC 100-240 V, 50/60 Hz
Rack format	1U rack mount
Processor	ADI SHARC 21569 1 GHz + ARM quad-core processor 1.3 GHz
AD / DA	48 kHz, 24-bit; system delay: 3 ms
Input-Z	7.5 kΩ
Output-Z	78 Ω
Frequency response	20 Hz–20 kHz (±0.5 dB) / Line; 20 Hz–20 kHz (±0.8 dB) / Mic
THD+N	–96 dB / Line; –90 dB / Mic
SNR	114 dB / Line; 105 dB / Mic