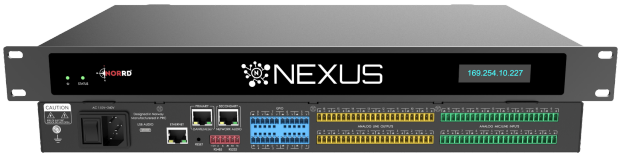
NORRD

NEXUS N32D w/USB - 16x16 DSP with Dante | N32D



High-performance Dante DSP for large systems

The N32D is the highest-capacity processor in the NEXUS range, running 16 analog and 16 Dante channels simultaneously on the ADI SHARC 21489 SIMDx2 at 450 MHz. System delay sits under 6 ms — a modest increase over the smaller models driven by the doubled channel count, but still well within the threshold for natural speech interaction and stable AEC convergence. At 113 dB dynamic range and THD+N below –95 dB, the audio floor stays clean even when all 32 channels are active.

The full DSP engine — AEC, ANS, AGC, ambient noise compensation, auto mixer, ducking, and independent adaptive feedback suppression — runs without restriction on every channel. In a 16-microphone installation, the auto mixer is managing a significantly more complex gain sharing matrix, and the per-channel feedback suppression is handling 16 independent acoustic environments. This matters in venues like divisible conference centres where partition positions change the room acoustics between configurations, or legislative chambers where fixed microphone positions face reflective surfaces at varying angles. AGC ensures consistent output level regardless of speaker distance or vocal power, and ambient noise compensation tracks the room floor in real time — keeping intelligibility stable as audience size or HVAC load changes.

The full 16×16 analog matrix combined with 16×16 Dante routing provides substantial flexibility for complex zone architectures. A single N32D can serve a main conference room, breakout feeds, interpreter channels, a lobby paging zone, and a recording output simultaneously. Eight independent presets store complete routing and processing configurations, enabling one-touch switching between radically different room setups. Channel linking and grouping simplify management of stereo program sources and multi-speaker output zones.

The USB-C sound card interface is a first-class participant in the DSP chain. UC platforms connect natively and are processed through the full mixing matrix — ducking, EQ, and routing apply identically to USB, analog, and Dante sources. In installations where video conferencing runs alongside a high channel-count installed system, this eliminates the need for separate USB breakout hardware and keeps the signal architecture unified.

All 16 analog inputs provide +48 V phantom power with gain adjustable from 0 to 48 dBu in 3 dB steps, handling everything from phantom-powered condenser boundary microphones to line-level wireless receiver outputs. Control via RS-232, UDP, and TCP supports integration with all major control platforms, and multi-device Ethernet management enables building-wide administration from a single interface. Two types of software-programmable wall panels give non-technical room operators access to volume and preset functions. The N32D is housed in a 1U rack-mount chassis (482 × 260 × 45 mm) powered by AC 110–240 V.

KEY FEATURES

16 balanced analog I/O + 16 Dante I/O channels with +48 V phantom power

2x ADI SHARC 21489 @ 450 MHz SIMD processor

Full-duplex AEC, ANS, AGC, ANC, auto mixer, and audio ducking

Per-channel adaptive feedback suppression (NHS)

Full mixing matrix with adjustable input gain (0–48 dBu, 3 dB steps)

USB-C sound card with full DSP processing on input and output

8 independent presets with channel linking and grouping

RS-232, UDP, and TCP control with iOS/Windows software

Software-programmable wall panels (2 types)

AC 110–240 V power — 1U rack-mount (482 × 260 × 45 mm)

GENERAL	
Product Name	NEXUS N32D
Description	16×16 Digital Audio Processor (Dante)
Dante Support	Yes
PROCESSING	
Processor	ADI SHARC 21489 @ 450 MHz SIMDN8D
Sampling Rate	48 kHz
Bit Depth	24-bit
System Delay	< 6 ms
AUDIO PERFORMANCE	
Frequency Response	±0.3 dB (20 Hz – 20 kHz)
Maximum Input Level	+18 dBu
THD+N	< –95 dB @ 17 dBu
Input Dynamic Range	113 dB
Output Dynamic Range	113 dB
Channel Isolation @ 1 kHz	108 dB
Input Impedance (balanced)	5.4 kΩ
Output Impedance (balanced)	600 Ω
I/O	
Analog Inputs	16
Analog Outputs	16
Dante Inputs	16
Dante Outputs	16
Input Gain Range	0 – 48 dBu (3 dB steps)
Phantom Power	+48 V / 10 mA max
USB-C Audio	Dual-channel USB sound card
DSP FEATURES	
Adaptive Echo Cancellation (AEC)	Yes
Active Noise Suppression (ANS)	Yes
Automatic Gain Control (AGC)	Yes
Ambient Noise Compensator (ANC)	Yes
Auto Mixer (gain sharing)	Yes
Noise-free Howling Suppression (NHS)	Yes
Audio Ducking	Yes
Presets	8
CONTROL	
RS-232	Yes
UDP & TCP	Yes (configurable ports)
Ethernet	Yes
Wall Panel Support	2 types (software programmable)
Software Compatibility	iOS, Windows
NETWORK	
Protocol	Dante
Dante Channels	16×16
POWER	
Power Supply	AC 110–240 V, 50/60 Hz
PHYSICAL	
Dimensions (W × D × H)	482 × 260 × 45 mm
Form Factor	1U rack-mount
Shipping Weight	4 kg