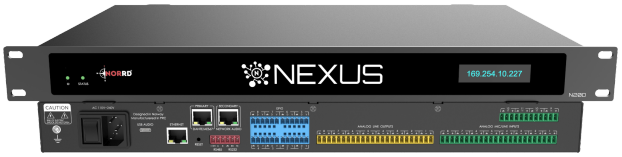
NORRD

NEXUS N20D w/USB - 12x8 DSP with Dante | N20D



Flexible Dante DSP for modern AV systems

The N20D steps up to the SIMDx2 variant of the ADI SHARC 21489 processor running at 450 MHz, providing the headroom to handle 12 analog inputs, 8 analog outputs, and 8×8 Dante channels while maintaining under 3 ms system delay. This positions it for rooms where the microphone count exceeds what a smaller processor can accommodate — divisible conference rooms, courtrooms with witness and jury zones, council chambers, or multi-purpose spaces with separate presenter, audience, and interpreter feeds.

The full DSP suite runs on every channel without prioritization or feature gating. AEC operates in full-duplex across all paths, which matters in rooms where multiple video conference endpoints or acoustic zones overlap. ANS cleans up per-channel background noise, while the auto mixer manages open microphone discipline across up to 12 simultaneous analog sources — critical when a room has table microphones, ceiling arrays, and a lectern active at the same time. AGC smooths the level differences between a softly spoken witness and a projecting chairperson, and ambient noise compensation adjusts output to track the room's changing noise floor from audience movement or HVAC cycling. Audio ducking provides automatic priority override for paging, fire alarm relay, or interpreter channels.

Per-channel adaptive feedback suppression works independently on each input, identifying and notching feedback frequencies without affecting adjacent channels. In rooms with complex acoustic paths — hard-walled council chambers, for example — this independence prevents one channel's correction filters from reducing intelligibility on another. The full mixing matrix allows unrestricted routing across all analog, Dante, and USB paths. Eight independent presets store complete system configurations for different room modes.

The USB-C sound card interface participates fully in the DSP chain. Audio from UC platforms such as Microsoft Teams or Zoom is processed through the same ducking, EQ, mixing, and routing as analog and Dante sources — there is no separate processing path or reduced feature set for the conferencing connection. The combination of local analog I/O and 8×8 Dante connectivity addresses facilities that are transitioning to AV-over-IP while retaining legacy analog microphones and amplifiers. All analog inputs provide +48 V phantom power with gain adjustable from 0 to 48 dBu in 3 dB steps.

Multi-device Ethernet management allows several NEXUS units to be administered from a single software session, simplifying commissioning across a building. Control via RS-232, UDP, and TCP supports direct integration with Crestron, AMX, Extron, and other control systems. Two types of software-programmable wall panels provide room operators with preset recall and volume adjustment without access to the full configuration. The N20D is housed in a 1U rack-mount chassis (482 × 260 × 45 mm) powered by AC 110–240 V.

KEY FEATURES

12 balanced analog inputs / 8 balanced analog outputs with +48 V phantom power

8×8 Dante networked audio channels

Upgraded ADI SHARC 21489 @ 450 MHz SIMDx2 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 N20D
Description	12×12 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	< 3 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	12
Analog Outputs	8
Dante Inputs	8
Dante Outputs	8
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	Yes (configurable port)
Ethernet	Yes
Wall Panel Support	2 types (software programmable)
Software Compatibility	iOS, Windows
NETWORK	
Protocol	Dante
Dante Channels	8×8
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