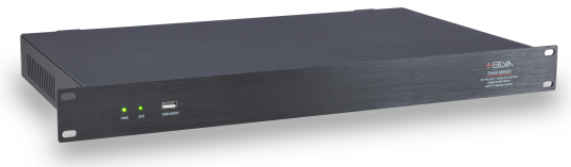
SONIX M1616D

# 16IN-16OUT DSP AUDIO MATRIX WITH BUILT-IN 16X16 DANTE™ CHANNELS

The SoniX M1616D digital matrix, thanks to its powerful and flexible hardware and software architecture, is designed to be the heart of multi-zone audio systems for various types of installations. Its sophisticated processing, the quality of the AD and DA converters, the presence of a built-in card with 16 additional DANTE™ digital inputs and outputs, the advanced audio processing features with patented algorithms including Echo Cancellation, Feedback Suppression, Noise Suppression, and Automatic Gain, the 8 GPIO ports for integration with other equipment, and the powerful PC control software make it suitable for both conference solutions and multi-zone systems with up to 16 sources and 16 outputs.

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## HIGHLIGHTS

### TOTAL CONTROL, MAXIMUM FLEXIBILITY

Versatility is at the heart of the control experience. All functions can be managed through dedicated Windows® software featuring a clean, intuitive interface that makes programming every processing parameter fast and straightforward. The design is professional and highly functional: anyone familiar with audio processors and digital control systems can create and customize presets in just minutes, seamlessly integrating analog inputs/outputs, Dante networking, and a full suite of advanced processing tools.

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## STAY CONNECTED: CONTROL FROM TABLETS AND MOBILE APPS

In addition to PC software, you can take charge of everyday tasks like adjusting volumes, muting channels, and recalling presets right from wall-mounted control panels or a mobile app on Android and iOS devices. These convenient options give you quick access to essential functions without having to launch the full desktop interface.

All communication between the system and these external devices — whether it's a tablet on a stand, a phone in your pocket, or a wall-mounted touch controller — runs over a standard TCP/IP network. This means you can monitor and make routine adjustments from anywhere on the same local network, making system operation smooth, flexible, and accessible for live events, installations, or on-the-move tweaks.


## HIGH-PRECISION SHARC DSP PROCESSING FOR PRO-LEVEL AUDIO

At the core of this system's audio processing capabilities is a powerful digital signal processing (DSP) engine built around SHARC-based processors from Analog Devices. These DSP chips deliver high performance with speeds up to hundreds of millions of instructions per second, supporting both 32-bit and 40-bit floating-point computation for incredibly accurate and detailed audio calculations — ideal for professional-grade sound processing tasks.

SHARC DSP architecture is widely used in advanced audio systems because it handles complex mathematics efficiently and precisely, enabling low-latency filtering, mixing, and effects processing with superb dynamic range and fidelity.

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## COMPREHENSIVE AUDIO AND CONTROL PROCESSING

Every analog or Dante input comes equipped with a suite of powerful processing tools, including a Compressor, Expander, Auto Gain Control, an 8-band Parametric EQ, and an 8-filter Feedback Suppressor (static or dynamic). On the output side, analog and Dante outputs feature Crossover filters, 8-band Parametric EQ, delays up to 1200 ms, and limiters, ensuring precise control over the audio signal at every stage.

Advanced features such as Automatic Echo Cancellation (AEC), Automatic Noise Suppression (ANS), and a sophisticated 5-level priority automatic mixer provide smooth, professional audio handling even in complex setups.

For extended system integration, RS-232 and RS-485 serial connections allow seamless interfacing with third-party equipment. These connections can also control up to 64 cameras across multiple communication protocols, enabling automatic control of pan, tilt, zoom, focus, and other camera parameters directly from the system.


## FLEXIBLE USB PLAYBACK AND RECORDING ON SONIX MD MATRICES

The SoniX MD features a convenient front-panel USB port, enabling real-time audio playback from, and recording to, external USB drives. Both playback and recording are fully integrated into the matrix, allowing them to function as additional stereo sound sources and stereo outputs. Like all other analog and Dante™ inputs and outputs, these USB sources can be freely configured to suit any setup, providing maximum flexibility in routing and audio management.

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## DANTE™ AV NETWORKING: SCALABLE, HIGH?QUALITY AUDIO FOR MODERN INSTALLATIONS


Using Audinate’s Dante™ digital audio?video networking protocol brings major advantages to audio and multimedia installations. Dante runs over standard Ethernet, allowing hundreds of channels of high?quality, uncompressed audio to travel across a single network cable with extremely low latency and precise synchronization — eliminating bulky analog cabling and reducing signal degradation. Its automatic device discovery and easy software?based routing simplify setup and ongoing changes, making system expansion straightforward.

When connected to Helvia SoniX MD Series audio matrices with both analog and Dante I/O, signals from traditional analog sources and networked Dante sources can be routed, managed, and mixed seamlessly within the same system, giving integrators flexibility, scalability, and professional?grade networked audio control.

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## PRODUCT DETAILS

### KEY FEATURES

- Analog Device SHARC® chipset
- Capacity up to 400MIPS, 1600MFLOPS
- 32-bit and 40-bit Floting-Point Processing
- Full Channel Audio Signal Matrix
- 16 Line/Mic Inputs x 16 Analog Outputs
- Built-in Dante™ 16x16 Channels
- AEC (Echo Cancellation), AFS (Feedback Suppression)
- ANS (Noise Suppression), AGC (Automatic Gain),
- Auto Mixer, Ducker function
- 12 band PEQ, 1200ms Delay & Limiter on Outputs
- 8x GPIO ports
- 16 Presets for recall
- USB Audio Player/Recorder
- Support Camera Tracking

### SPECIFICATIONS

| | |
|---|---|
| **Processor** | ADI SHARC 21489(x2) |
| **Sampling rate/Digitalizing bit** | 48K/24bit |
| **Input Gain** | from 0dBu to 48 dBu |

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| | |
|---|---|
| **Phantom Power** | 48V |
| **Frequency Response** | 20~20KHz ±0.3dB |
| **Maximum Level** | +18dBu |
| **THD + Noise** | 0.003%@4dBu |
| **Input Dynamic Range** | 110dB |
| **Output Dynamic Range** | 112dB |
| **Background Noise (A-weighted)** | -91dB |
| **Common Mode Rejection Ratio @60Hz** | 80dB |
| **Channel Isolation @1KHz** | 108dB |
| **Input Impedance (Balanced Connection)** | 5.4K? |
| **Output Impedance (Balanced Connection)** | 600? |
| **System Delay** | <3ms |
| **Working Power** | AC110~240V 50Hz-60Hz |
| **Maximum Power Consumption** | <40W |
| **Dimensions (WxDxH)** | 482 x 260 x 45mm (19 x 10.2 x 1.8 in) |
| **Shipping Weight** | 4Kg – 8.8 lbs. |

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