

D-2008SP/D-2000CB/ D-2000AD1

D-2008SP

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Digital Mixing Processor Unit  
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The network controllable digital mixer shall use digital signal processing for all mixing and signal processing functions and shall be modular for flexibility in system configuration. The mixer shall comply with the limits for a Class A computing device pursuant to FCC Part 15, Subject J. The mixer shall have a frequency response from 20 to 20k Hz, +/-1 dB.

The mixer shall utilize a modular architecture and be capable of up to 32 inputs or 32 outputs and up to 2 control modules. Module ports shall include 8 total ports. There shall be one optional CobraNet port. The mixer shall have up to 24 independent mixing busses programmable in GUI software. The mixer shall have an optional CobraNet module with 16 independent mixing busses programmable in the GUI software. The optional CobraNet module can be used to cascade up to 4 D-2008SP units allowing up to 128 total channels.

All software-based settings shall be accessible from PC-based setup software. At least 32 FLASH memory presets shall be available and each memory shall store all software-based settings used in a given configuration. Memory selection, channel volume and mute control shall also be selectable by simple dry contact closure using an optional remote control card.

Each mixer input bus shall feature all of the following signal processing capabilities: Gain trim stage, variable high pass filter, variable low pass filter, variable high pass filter, 4-band parametric equalization filters, dynamics control selectable as either compressor or leveler, gating, ducking, group-assigned automixing, and group-assignable input level fader.

Each input dynamics processing section shall be selectable as either compressor or leveler. The compressor settings shall include variable threshold, variable compression ratio, variable attack and release times, and variable gain settings. The leveler settings shall include variable target level, maximum gain and variable attack and release times.

Each input gate shall have separately adjustable signal level detection attack and release (integration) times, gate attack and release times, and gate hold time, as well as gate depth, threshold and hysteresis levels. Controls for each gate shall include an on/off switch.

Each mixer input shall be optionally assignable to one of up to four auto-mix groups. Each auto-mix group shall be automatically attenuated by a user-defined amount based upon the number of "open microphones" (i.e. ungated input channels) in that group (NOM attenuation). Each input shall also be optionally assignable to one of eight ducking priority levels within the same auto-mix group.

All mixer outputs shall feature all of the following signal processing capabilities: Group-assignable output level fader, filter section selectable a multi-way crossover or up to 24-band parametric equalizer, full-featured compressor, and variable-increment signal delay.

Crossover filter slopes shall be selectable as either 6, 12, 18, or 24 dB per octave. Crossover filter characteristic (excluding 6 dB per octave slope) shall be selectable as either Butterworth, Bessel, Linkwitz-Riley, or variable Q (Linkwitz-Riley applies to 12 and 24 dB per octave only). Variable Q crossover filters shall have a Q-factor that is adjustable from 0.5 to 2.563.

Each output channel not assigned to a crossover section shall pass through 24 user-configurable equalization filters. Each user-configurable filter shall be selectable as either high pass, low pass, all pass, shelving, horn compensation EQ, notch filter, or fully parametric peak/dip filter.

All parametric peak/dip filters shall have a center frequency that is adjustable over the range of 20 to 20k Hz, a Q-factor that is adjustable from 0.267 to 69.249, and a gain range of +15 dB to "15 dB in 0.1 dB increments. All high/low pass and shelving filters shall have a center frequency that is adjustable over the range of 20 to 20k Hz.

Each input bus shall be assignable to each audio bus and each CobraNet bus. Each audio bus will provide a variable-increment signal delay and each audio bus will be assignable to each output using

a cross-point gain matrix to allow for full matrix mixing of inputs to outputs.

4 automatic feedback suppressors shall be assignable to any of the up to 24 audio busses, providing up to twelve narrow-band feedback suppression filters. Each feedback suppression filter shall be assignable as either automatic or dynamic in function. The mixer shall be capable of automatically testing the sound system for feedback through the assigned input and output channels, and automatically setting the assigned filters to reduce the feedback tendency.

Windows-based PC control software shall be provided at no extra cost and shall allow for adjustment of mixer settings by computer via 10-BASE-T/100BASE-TX network connection. The software shall provide for both off-line editing and storage of setup files, as well as live, real-time adjustment of setup parameters. The software shall allow the saving of setup configurations to the mixer's resident memory banks.

RS-232 D-sub connector (9 pins) can be used for external control by a third party control system.

Setup software shall visually indicate the status of all programmable setup parameters and shall provide visual indication of both input and output levels. Audio levels on each input bus and output bus shall be indicated by on-screen two-color signal level indicators. On-screen indicators shall also indicate input channel gate status and fan status.

The unit shall include rack-mountable in standard equipment rack. Dimensions (W x H x D) shall be 19.0" x 5.22" x 12.6" (482.6 x 132.6 x 320 mm) and weight shall be 15.2 lbs. (6.9 kg).

The digital mixer shall be TOA model D-2008SP.  
The VCA remote controller shall be TOA model D-911. (note: requires D-984VC module)

The four channel 24-bit mic/line input module shall be TOA model D-2000AD1.  
The two channel 24-bit mic/line input module shall be TOA model D-921E.  
The two channel 24-bit mic/line input module shall be TOA model D-921F.  
The two channel 20-bit mic/line input module shall be TOA model D-922E.  
The two channel 20-bit mic/line input module shall be TOA model D-922F.  
The two channel auxiliary input module shall be TOA model D-936R.  
The two channel digital (AES/EBU) input module shall be TOA model D-923AE.  
The two channel digital (S/PDIF) input module shall be TOA model D-937SP.

The four channel line output module shall be TOA model D-2000DA1.  
The four channel line output module shall be TOA model D-971M.  
The four channel line output module shall be TOA model D-971E.  
The four channel line output module shall be TOA model D-971R.  
The four channel digital (S/PDIF) output module shall be TOA model D-961SP.  
The four channel digital (AES/EBU) output module shall be TOA model D-972AE.

The 16 channel CobraNet module shall be TOA model D-2000CB.

The network based, motorized fader controller shall be TOA model D-2012C.  
The remote control and monitoring module (8/8 I/O) shall be TOA model D-981.  
The remote control and monitoring module (24/16 I/O) shall be TOA model D-983.  
The VCA control module shall be TOA model D-984VC.  
D-2000CB

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CobraNet Interface Module  
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Digital CobraNet interface module with redundant network connections (primary and secondary). Stereo outputs in the AES / EBU format with 2 RJ-45 jacks.

Sampling rate: 48 kHz  
Outputs: 16 channels 20/24 bit  
Inputs: 16 channels 20/24 bit

Manufacturer: TOA  
Model: D-2000CB

D-2000AD1

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Mic/Line Input Module  
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Input module with four balanced audio inputs. 3-pole XLR jacks for signal input. Sensitivity and phantom power by PC software switchable, ground-lift switch on the module.

ADC: 24 bit  
Sampling frequency: 48 kHz  
Frequency response: 20 Hz - 20 kHz (+/-1 dB)  
Total harmonic distortion: < 0.008%  
Dynamic range: 104 dB  
Phantom power: + 48V  
Inputs: 4 balanced, 7 k ohm  
Sensitivity: -50 / -36 / -10 / + 4 dBu

Manufacturer: TOA  
Model: D-2000AD1