



ATDM-0604 Digital SmartMixer®



Automatic Mixers

Features

- 4 balanced mic inputs, 2 balanced Mic/Line inputs and 1 stereo unbalanced input
- 1 stereo and 2 mono outputs
- 2-channel USB audio interface for soft codec integration or playback from computer
- Onboard acoustic echo canceler (AEC) processing
- Full digital processing on inputs and outputs
- 8 x 3 audio routing matrix
- 6-channel SmartMixer (gate or gain sharing)
- Front panel direct operation and Web Remote functionality
- IP control for third-party CCS administration
- Up to 6 mixers can be linked using Cat5e cable

Description

Audio-Technica's ATDM-0604 Digital SmartMixer® is a microprocessor-controlled, programmable, automatic mixer designed to improve audio quality in meeting, conference, or soft codec applications. The SmartMixer technology allows channels to be mixed automatically in gate or gain sharing mode, ensuring consistent, high-quality audio output from all inputs in a setup, without the introduction of feedback, excessive ambient noise, or comb filtering.

For use with low-impedance dynamic and condenser microphones (including wireless microphone systems), as well as with line-level sources, the ATDM-0604 automatically mixes in gate or gain sharing mode for the best possible audio quality. In gate mode, microphones or line-level inputs not currently supplying an audio signal are automatically turned down. In gain sharing mode, the total gain within the system is kept at a constant level by automatically adjusting the gain levels of each input currently supplying a signal. If automatic functions are not desired, the ATDM-0604 SmartMixer can function in manual mode, bypassing the mixer's automatic switching and attenuation functions, causing the unit to behave like a conventional mixer.

Each of the ATDM-0604's six balanced inputs provides switchable 48-volt phantom power, low-cut filter, phase inversion and 4-band EQ. Input gain can be adjusted for each mic input; attenuation can be adjusted for line-level inputs. A selectable acoustic echo canceler (AEC) applies to all balanced inputs. An unbalanced stereo input is also provided.

The mixer includes two balanced mono outputs and one unbalanced stereo output. Output routing bus controls allow each input to be routed to one or both of the mono outputs or to the stereo output. Each output channel is equipped with adjustable output level, 12-band fully parametric EQ with notch filtering, compressor, limiter, and 8-band feedback suppressor.

Monitoring and control tools are accessible on the mixer's front panel or on a PC, Mac, iOS or Android device via the mixer's Web Remote interface. Six different setting configurations can be saved as presets for quick transitioning from one meeting setup to another.

Controls and LED indicators on the mixer's front panel allow users to easily adjust settings. The mixer also includes Web Remote functionality, which lets users log in and make adjustments from a Windows-based PC, Mac, iOS or Android device (no app or other software installation required). Logging in as an Operator allows user to make basic level adjusts and recall presets; logging in as an Administrator gives the user full access to system controls.

For large multi-mic installations, up to six ATDM-0604 SmartMixers (a total of 36 channels) can be connected via the Audio-Technica Link ports, using Cat5e (or better) cable.

The mixer is a half-rack unit designed to mount in a standard 19" equipment rack using the included rack-mount adapters. The AT8631 Joining Plate, available separately, can be used to mount two mixers side by side, and the AT8649 Table Mount Kit, also available separately, can be used to mount the mixer to the underside of a table or other flat surface.

Architect's and Engineer's Specifications

The audio mixer shall be a microprocessor-controlled, programmable, automatic mixer. It shall be suitable for use with low-impedance dynamic and condenser microphones (including wireless microphone systems), as well as with line-level input sources.

The mixer shall be equipped with four balanced mic inputs, two balanced Mic/Line inputs, and one unbalanced stereo input. Each balanced input shall provide switchable 48-volt phantom power, low-cut filter, phase inversion and 4-band EQ. Independent input trim (for gain setting) and channel level controls shall be provided for each balanced input, allowing the automatic mixer to accept a wide variety of microphone- and line-level signals. The mixer shall also be equipped with one unbalanced stereo output and two balanced mono outputs. Each output channel shall be equipped with adjustable output level, 12-band fully parametric EQ with notch filtering, compressor, limiter, and 8-band feedback suppressor. Input and output connections shall be via Euroblock connectors. Mating connectors shall be included with the mixer. Each input shall be configurable for bus assignment to any of the outputs.

The mixer shall be designed to allow certain inputs to have priority over other inputs when the SmartMixer function is turned on and gate mode is selected. It shall be possible to independently configure the priority setting for each input channel. Any number of channels can be given priority over other channels for maximum operational flexibility. The mixer shall allow for last microphone on operation. In this mode, the last active microphone shall stay active (on) so that ambient sound is never muted. The time that the mixer keeps a channel's gate open shall be configurable from 0.5 to 10 seconds.

The SmartMixer functionality shall also be capable of operating in a gain sharing mode that keeps the total gain within the system at a constant level by automatically adjusting the gain levels of each input currently supplying a signal. Each channel can be weighted to more evenly distribute the overall gain.

The mixer shall offer a selectable acoustic echo canceler (AEC) to deliver clear audio with no echo.

The mixer shall offer a manual mode, which bypasses the mixer's automatic switching and attenuation functions. Front panel LED indicators shall be provided to aid in the adjustment of system settings.

The mixer shall be equipped with a 2-channel USB audio interface for soft codec integration or playback from a computer. The mixer shall also provide a Web Remote interface to allow for monitoring and control on a PC, Mac, iOS or Android device.

For large multi-mic installations, up to 6 automatic mixers (a total of 36 channels) may be connected via RJ-45 A/B link ports, using Cat5e (or better) cable (up to 100 meters). When operating in this way, the output for all of the linked mixers shall appear at the master mixer in the chain.

The mixer shall be a half-rack unit designed to mount in a standard 19" equipment rack. Removable rack-mount adapters shall be included with the unit. (When mounting two mixers side by side, a joining plate, available separately, shall be required.) The mixer shall also mount to the underside of a table or other flat surface with the aid of a table mount kit, available separately. The mixer shall incorporate an internal power supply designed to operate on 120 or 240 V AC.

The Audio-Technica ATDM-0604 is specified.



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Specifications

Input Impedance	Mic: 1,600 ohms Line: 10,000 ohms ST (L/R): 10,000 ohms
Output Impedance	Balanced: 150 ohms Unbalanced: 150 ohms
Maximum Input Level	Mic: -20 dBu Line: +24 dBu ST (L/R): +20 dBV
Maximum Output Level	Balanced: +10 dBV/+20 dBV/+24 dBu Unbalanced: -13 dBV/+10 dBV
Nominal Output Level	Balanced: -10 dBV/0 dBV/+4 dBV Unbalanced: -33 dBV/-10 dBV
Maximum Gain	64 dB
Frequency Response	20 Hz to 20 kHz (Mic -16 dBu): ±1 dB 20 Hz to 20 kHz (Mic -60 dBu): +1/-2 dB 20 Hz to 20 kHz (Line 24 dBu): ±1 dB 20 Hz to 20 kHz (Line -40 dBu): +1/-2 dB
Dynamic Range	110 dB or higher, A-weighted/ST
Signal-to-noise ratio¹	90 dB or higher, A-weighted/ST
Headroom	20 dB or higher
Equivalent Input Noise	-126 dBu or less, R _s =150 ohms, DIN
Common-Mode Rejection Ratio	80 dB or higher, 1 kHz
Residual Noise	-86 dBu or less, A-weighted
Channel Separation	-80 dB or less, 1 kHz unity
Total Harmonic Distortion	0.03% or less, 1 kHz unity
Mic/Line Input Pads	-24 dB
Microphone Phantom Power	+48V DC
Power Supply	100V-240V AC, 50-60 Hz, 17W
Power Consumption	17 W
Operating Temperature	32° to 104° F (0° to 40° C)
Operating Humidity Range	25% to 85% (with no condensation) 217.0
Dimensions	217.0 mm (8.54") W x 326.0 mm (12.83") D x 44.0 mm (1.73") H (including feet, knobs and connectors)
Weight	1.85 kg (4.1 lbs)
Accessories Included	AC power cable; 10 Euroblock connectors; small rack-mount adapters; 4 rubber feet

In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

¹ Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.