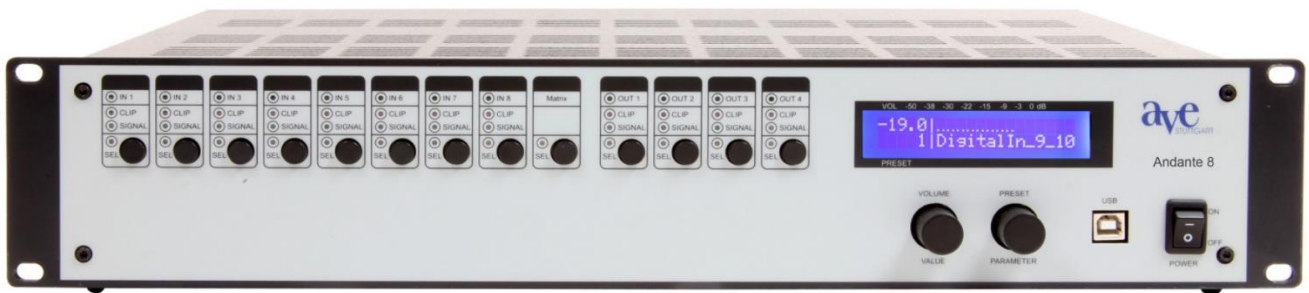


# Digital Audio Mixer

## Andante 8 – Datasheet



# 1. Technical Specifications

## Global Audio Performance

Frequency response	20 Hz to 20 kHz, $\pm 0.3$ dB, +4 dBu output
Dynamic range	$\geq 108$ dBA, 20 Hz to 20 kHz, 0 dB gain
THD input to output	$\leq 0.01\%$ , all gain settings 0 dB
Total latency input to output	2,88 ms

## Analog Input Section

Number of balanced inputs	7 + 1 (XLR type connector)
Number of unbalanced inputs	1 (RCA type connector)
ADC Dynamic range	122 dB ("A" weighted)
Analog gain (digitally adjustable)	0 dB $\div$ 60 dB, 0.5 dB steps
Nominal sensitivity (balanced input)	-84 dBu (38,8 $\mu\text{V}_{\text{rms}}$ )
Phantom power (digitally activated)	+48 VDC stabilized max 16 mA / channel
Balanced input impedance (XLR)	8 k $\Omega$ @ 1 kHz
Unbalanced input impedance (RCA)	14,7 k $\Omega$ @ 1 kHz
Maximum balanced input level	20,2 dBu (7,92 $\text{V}_{\text{rms}}$ )
Input protections	radio frequency interference (RFI) transient voltage spikes external overvoltage

## Analog Output Section

Number of balanced outputs	3 + 1 (XLR type connector)
Number of unbalanced outputs	1 (RCA type connector)
DAC Dynamic range	121 dB ("A" weighted)
Residual noise of output driver	-101 dBu (20 Hz $\div$ 20 kHz)
Nominal level (balanced output)	+4 dBu (1,23 $\text{V}_{\text{rms}}$ )

Maximum level (balanced output)	+20.2 dBu (7,92 V <sub>rms</sub> )
Output impedance	50 Ω typical
Output protections	short circuits radio frequency interference (RFI) transient voltage spikes external overvoltage

### Analog to Digital Conversion

Bit resolution	24-bit
Converter type	sigma delta
Sampling frequency (Fs)	48 kHz
Signal to noise ratio (SNR)	111 dB ("A" weighted @ 48 kHz)
Dynamic range	111 dB (-60 dB <sub>Fs</sub> )
Total harmonic distortion (THD)	-102 dB (1 kHz, -0,1 dB <sub>Fs</sub> )
Oversampling factor	128 Fs

### Digital Signal Processor

DSP	32-bit / 40-bit, Floating-Point 333 MHz – 3,3 ns instruction cycle Super Harvard Architecture 2,4 GFLOPS, 2Mbits SRAM
-----	--

### Digital to Analog Conversion

Bit resolution	24-bit
Converter type	sigma delta
Sampling frequency (Fs)	48 kHz
Signal to noise ratio (SNR)	117 dB ("A" weighted @ 48 kHz)
Dynamic range	117 dB (-60 dB <sub>Fs</sub> )
Total harmonic distortion (THD)	-104 dB (1 kHz, -0,1 dB <sub>Fs</sub> )
Delay time	0,66 ms

Oversampling factor	256 Fs
---------------------	--------

## Digital Processing

### Inputs Blocks (for each channel)

Anti-Hum Filter	Butterworth filter type with cutting frequency at 160 Hz and slope -12 dB/octave	
Lowpass / Highpass filter	Butterworth filter type, slope -12 or -24 dB/octave	
8-PEQs equalizer	Frequency	20 Hz ÷ 20 kHz
	Gain	-15 dB ÷ 15 dB
	Bandwidth	0,014 ÷ 6,672 octave
Noise gate	Threshold	-60 dB <sub>FS</sub> ÷ 0 dB <sub>FS</sub>
	Hold Time	100 ms ÷ 10 s
Dynamic range compressor	Threshold	-90 dB <sub>FS</sub> ÷ 20 dB <sub>FS</sub>
	Ratio	R=1:1 ÷ R=20:1
	Post Gain	-20 dB ÷ 20 dB
	Attack Time	1 ms ÷ 250 ms
	Release Time	10 ms ÷ 2500 ms
Automix function	Adaptive Threshold	
	NOM Gain	
	Max opened channels	1 ÷ 16
	Hold Time	100 ms ÷ 5 s
	Attenuation	-60 dB ÷ 0 dB
	Priority	1 (low) ÷ 5 (high)
Fader level	-60 dB ÷ 10 dB, step 0,5 dB	

### Input / Output Routing Matrix:

Matrix size	8 In / 4 Out
Matrix cross point level adjusting	-60 dB ÷ 10 dB, step 0,5 dB

**Output Blocks** (for each channel)

8-PEQs equalizer	Frequency	20 Hz ÷ 20 kHz
	Gain	-15 dB ÷ 15 dB
	Bandwidth	0,014 ÷ 6,672 octave
31-Bands graphic equalizer	Gain	-12 dB ÷ 12 dB
	Step	0,5 dB
Lowpass / Highpass filter	Butterworth filter type, slope -12 or -24 dB/octave	
Noise gate	Threshold	-60 dB <sub>FS</sub> ÷ 0 dB <sub>FS</sub>
	Hold Time	100 ms ÷ 10 s
Dynamic range compressor	Threshold	-90 dB <sub>FS</sub> ÷ 20 dB <sub>FS</sub>
	Ratio	R=1:1 ÷ R=20:1
	Post Gain	-20 dB ÷ 20 dB
	Attack Time	1 ms ÷ 250 ms
	Release Time	10 ms ÷ 2500 ms
Limiter	Threshold fixed at 0 dB <sub>FS</sub>	
Automatic feedback suppressor	Up to 5 ultra-narrow notch filters (Q = 0,1) configurable in fixed/dynamic mode	
Delay	0 m ÷ 233 m, 0 ms ÷ 679 ms	
Phase control	0°, 180°	
Output level	-60 dB ÷ 10 dB, step 0,5 dB	
Master level	-60 dB ÷ 10 dB, step 0,5 dB	

**Tools**

Spectrum analyzer	Real time Fast Fourier Transform (FFT) for input/output signal spectrum analysis
-------------------	--

**Data Connections**

Front panel	USB 2.0
Rear panel	RS232 @ 38400 kbit/s

**Display**

LCD	20 characters x 2 lines
-----	-------------------------

**PSU Module**

AC range	90 VAC to 264 VAC (Universal Input)
----------	-------------------------------------

Input frequency	47 Hz to 67 Hz
-----------------	----------------

Power consumption	Stand-by 24 VA, max 33 VA
-------------------	---------------------------

**Mechanical**

Width	483 mm
-------	--------

Height	88 mm
--------	-------

Depth	260 mm
-------	--------

Weight	4,3 kg / 9,48 lbs
--------	-------------------

**Temperature Range**

Indoor	0°C to 40°C (32°F to 102°F)
--------	-----------------------------

**Humidity**

0–98%, non-condensing
-----------------------

**Compliances**

Electromagnetic compatibility	EN 55022, class B, FCC part 15, level B
-------------------------------	---

Emissions	IEC/EN 61000-3-2 class B
-----------	--------------------------

Grounding scheme	AES48-2005 grounding scheme
------------------	-----------------------------

Marking	CE
---------	----

RoHS	2002/95/EC
------	------------

## Notice

ALL AVE mbH DESIGN SPECIFICATIONS, FILES, DRAWINGS, TABLES, LISTS, AND OTHER DOCUMENTS ARE BEING PROVIDED “AS IS.”

AVE mbH MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Information furnished is believed to be accurate and reliable. However, AVE mbH assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. No license is granted by implication or otherwise under any patent or patent rights of AVE mbH. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. AVE mbH products are not authorized for use as critical components in life support devices or systems without express written approval of AVE mbH Corporation.

## Trademarks

AVE mbH, “Ascolto” and the AVE logo are trademarks or registered trademarks of AVE mbH in the Germany and other countries. Other company and product names may be trademarks of the respective companies with which they are associated.

Copyright

© 2024 AVE mbH. All rights reserved.



**German Technology**

**Made in Germany**



**AVE mbH**  
**Gustav-Rau-Straße, 6**  
**74321 - Bietigheim-Bissingen**  
**Germany**

**Telefon: +49 (0) 7142-78879-10**

**Fax: +49 (0) 7142-78879-18**

[www.ave-stuttgart.com](http://www.ave-stuttgart.com)

[info@ave-stuttgart.de](mailto:info@ave-stuttgart.de)