Digital Mixing Amplifier

DMV 64 – Datasheet

1. Technical Specifications

Global Audio Performance	
Frequency response	40 Hz to 20 kHz, -3 dB, LINE selection
Frequency response	160 Hz to 20 kHz, -3 dB, MIC selection
Dynamic range	≥ 108 dBA, 20 Hz to 20 kHz, 0 dB gain
THD input to output	≤ 0.01%, all gain settings 0 dB
Total latency input to output	2,55 ms

Analog Input Section	
Number of balanced inputs	6 (Phoenix 3,81 type connector)
Number of unbalanced inputs	1 (RCA type connector)
Sensitivity MIC-HI	-58 dBu (1 mV_{rms}), dip-switch activated
Sensitivity MIC-LO	-34 dBu (15 mV_{rms}), dip-switch activated
Sensitivity LINE	-19 dBu (87 mV_{rms}), dip-switch activated
Analog gain	from 0 dB up to 30 dB, manual adjustable
Phantom power	+48 VDC stabilized, 16 mA/channel, dip-switch activated
Balanced inputs impedance	5 kΩ @ 1 kHz
Unbalanced inputs impedance	33 kΩ @ 1 kHz
EIN (Equivalent Input Noise)	-126 dB, 20 Hz to 20 kHz weighted, Rs=150 Ω
Input protections	radio frequency interference (RFI) transient voltage spikes external overvoltage

Analog Output Section	
Number of balanced outputs	4 (Phoenix 3,81 type connector)

DAC Dynamic range	120 dB (“A” weighted)
Residual noise of output driver	-100 dBu (20 Hz ÷ 20 kHz)
Nominal level (balanced output)	+0 dBu (0,775 V_{rms})
Maximum level (balanced output)	+20 dBu (7,75 V_{rms})
Balanced outputs impedance	140 Ω @ 1 kHz
Unbalanced outputs impedance	70 Ω @ 1 kHz
Output protections	short circuits

Number of amplified outputs	Up to 2 (Euroblock type connector)
Amplifier Configurations	1 x 150 W_{rms}, 1 x 240 W_{rms}, low impedance or 50 V, 70 V, 100 V with transformer
	1 x 320 W_{rms}, 1 x 480 W_{rms}, low impedance or 50 V, 70 V, 100 V transformerless
	2 x 150 W_{rms}, low impedance or 50 V, 70 V, 100 V with transformer
	2 x 320 W_{rms}, low impedance or 50 V, 70 V, 100 V transformerless
	2 x 480 W_{rms}, low impedance or 50 V, 70 V, 100 V transformerless
Amplifier classes	Class B, power ratings 150 W_{rms}, 240 W_{rms}
	Class D, power ratings 320 W_{rms}, 480 W_{rms}

Analog to Digital Conversion	
Sampling Rate	48 kHz
Bit Depths	24 bit
Converter type	sigma delta

SNR	104 dB (“A” weighted @ 48 kHz)
Dynamic range	≥ 104 dB (-60 dB_{FS})
Total harmonic distortion	-93 dB (1 kHz, 0 dB_{FS})
Oversampling factor	512 Fs

Digital Signal Processor	
DSP	ADSP21261 – SHARC Processor 32-bit / 40-bit, Floating-Point 150 MHz – 6,67 ns instruction cycle Super Harvard Architecture 900 MFLOPS, 1 Mbits SRAM

Digital to Analog Conversion	
Bit resolution	24 bit
Converter type	sigma delta
Sampling frequency (Fs)	48 kHz
Signal to noise ratio (SNR)	112 dB (“A” weighted @ 48 kHz)
Dynamic range	≥ 112 dB (-60 dB_{FS})
Total harmonic distortion (THD)	-94 dB (1 kHz, -0,1 dB_{FS})
Delay time	0,58 ms
Oversampling factor	512 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

5-PEQs equalizer	Frequency	20 Hz ÷ 20 kHz
	Gain	-15 dB ÷ 15 dB
	Bandwidth	0,014 ÷ 6,672 octave
Noise gate	Threshold	-60 dB_{FS} ÷ 0 dB_{FS}
	Hold Time	100 ms ÷ 10 s
Dynamic range compressor	Threshold	-90 dB_{FS} ÷ 20 dB_{FS}
	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	6 In / 4 Out
Matrix cross point level adjusting	-60 dB ÷ 10 dB, step 0,5 dB

Output Blocks (for each channel)		
5-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_{FS} ÷ 0 dB_{FS}

	Hold Time	100 ms ÷ 10 s
Dynamic range compressor	Threshold	-90 dB_{FS} ÷ 20 dB_{FS}
	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_{FS}	
Automatic feedback suppressor (up to 2 channels)	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	

Operative System and services	
	Linux 10 (buster)
	Icacast 2.4.4 to stream the audio signal over the internet via integrated streaming media server
	AVE Media Streaming, a built-in web player allowing users to listen audio stream directly within the browser.
	A built-in web server allowing for remote configuration of end-user settings

Software	
	AVE Mixer User Control software for DSP setting via Ethernet port
	Secure shell (SSH) for OS configuration via Ethernet port

Data Connections

Front panel	Bluetooth 4.1, USB-A 2.0(front panel)
Rear panel	Ethernet 802.3, USB-B 3.0(rear panel)
Internal	Wi-Fi 802.11 (optional)

Display	
LCD	20 characters x 2 lines

User Interface	
	Peak and signal LEDs indicator per input channel on front panel
	Peak and signal LEDs indicator per output channel on front panel
	Knob for master volume selection, accessible via front panel
	Knob for preset selection, accessible via front panel
	User Access Protection via front panel with PIN code
	Web remote control via LAN connection
	USB MP3 decoder player on front panel
	Bluetooth 4.1 receiver

PSU Module	
AC range	90 VAC to 264 VAC (Universal Input)
Input frequency	47 Hz to 67 Hz
Power consumption	max 1900 VA with amplifier configuration 2 x 480 W_{rms}

Mechanical	
Width	484 mm
Height	88 mm

Depth	230 mm
Weight	6,0 kg / 13,28 lbs
Weight	7,5 kg / 16,53 lbs
Weight	12,0 kg / 26,45 lbs
Weight	13,5 kg / 29,76 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

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
info@ave-stuttgart.de