

SINUS - 2K

Mixing amplifier

User Guide



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1. Introduction

Thank you for choosing the A.V.E. mixing amplifier SINUS -2K with five microphone/line inputs and a switchable CD/Aux.-Input. It was designed particularly for superior audio quality in churches as well as other utilizations with acoustically difficult room proportions. It's possible to achieve an optimized acoustic pattern every time. Each microphone/line input is equipped with a Gain-controller, a 3-band equalizer, indicators for volume and operating status. Additionally it's equipped with a switchable input (CD/Aux) with a separate treble- and bass control. A graphic 9-band equalizer acts only on the inputs 1-5.

All signal sources can be controlled by master volume control. SINUS -2K has a VU meter and a clipping und protection indication.

Therefore SINUS - 2K is qualified to sound each kind of critical spaces.

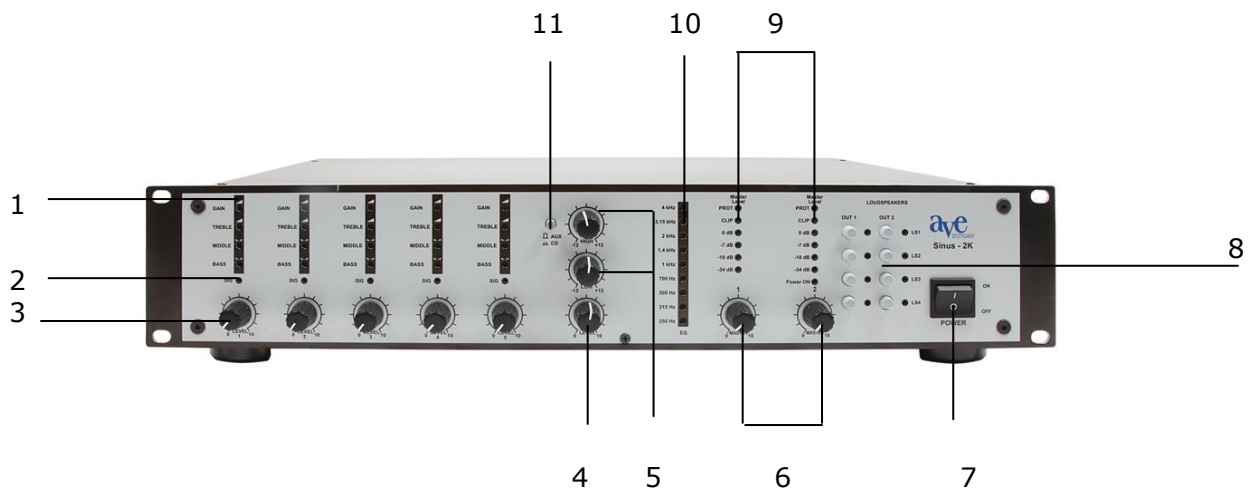
2. Safety instructions

Please read the information provided in this manual before starting up the unit.

WITHIN THIS UNIT THERE IS DANGEROUS VOLTAGE PRESENT CONSTITUTING A RISK OF ELECTRIC SHOCK. DO NOT OPEN THE COVER. INTERNAL MODIFICATIONS ARE TO BE COMPLETED BY AUTHORIZED PERSONNEL ONLY.

The SINUS -2K is equipped with an approved power cable. At one end there is a three-pole mains connection socket (rubber connector) and at the other end a CE-standardized Schuko-socket to connect to a 230 V/ 50 Hz voltage source. Please take care, not to damage these power cords. Do not use any defective or damaged power cords!

3. Description of components and their functions



1. Control dial for **GAIN, THD, treble, middle and bass**

The 4 potentiometers per channel allow following adjustments:

Gain: The Gain-controller customizes the amplification of the channel to the level of the signal source of the input.

With the **3-band-equalizer** (treble, middle and bass) the microphone is adapted to the speaker to achieve an optimized sound.

Treble: ± 12 dB at 10 kHz

Middle: ± 12 dB at 700 Hz

Bass: ± 12 dB at 70 Hz

2. Signal display (for channel 1 – 5):

Optical display of activated e.g. overdriven input.

3. Volume control (for channel 1 – 5):

With these volume controls all levels of the signal sources can be adjusted which are plugged to the microphone/line-inputs (26). During installation by authorized experts the optimized level will be marked with a sign.

4. Volume control for CD/Aux

5. Bass and treble control for CD/Aux

6. Master control

7. Power switch

8. 4 Output switches with optical display

9. VU meter, Out State display

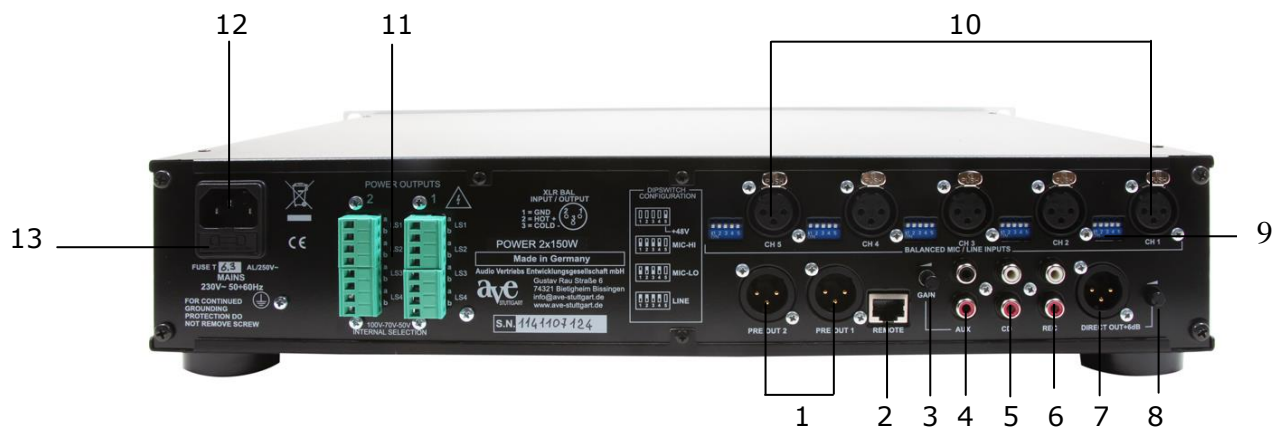
Red: amplifier overdriven at input Yellow: failure

When switching on the amplifier the LED flashes short time and disappears afterwards.

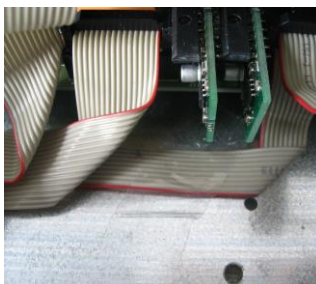
10. Graphical 9-band equalizer

11. Channel switch CD/Aux:

Sound carrier selection. The reproducers can be connected at the backside.



- 1. PRE OUT 1 and 2 connection for additional amplifiers 0 dB.**
- 2. Optional remote control**
- 3. Sensitivity control AUX**
- 4. Cinch-connection AUX**
- 5. Cinch-connection CD**
- 6. Cinch-connection for recording units**
- 7. Direct OUT +6 dB:**
Direct output without any signal processing. This output can be used for example for transmission of the direct room settings to external rooms.
- 8. Level Direct OUT controls the volume of the direct output.**
- 9. DIP switch phantom power 48 V, line, micro low, micro high**
- 10. Microphone/Line-inputs**
- 11. Terminals for loudspeakers 1 – 4 (50, 70, 100 V, 4 Ohm), channel 1**
Terminals for loudspeakers 1 – 4 (50, 70, 100 V, 4 Ohm), channel 2
- 12. Power supply**
- 13. Fuse 3,15 A**



Optional Remote Control

By insertion of the print the possibility is given to regulate the outputs from distance. Therefore jumper 11 must be unsoldered.



Mute-Switch for all or alternatively favoured inputs. By removing or jumper 1 - 6 you can obtain that a favoured input is active despite of mute-switch.

4. Technical Specifications

Line	electronic balanced
Input sensitivity:	-19 dBu \pm 1 dB
Frequency response: (-3dB):	40 Hz to 20 KHz

Microphone	
Input sensitivity (mic high/mic low):	-58 dBu/ -34 dBu \pm 1 dB
Frequency response (-3dB) input microphone:	160 Hz bis 20 KHz
CMMR:	> 60 dB @ 1 kHz
THD-level:	20 dB
Hi-pass-filter:	160 Hz, 6 dB/oct
Phantom power:	+ 48 V for each input selectable

Equalizer	
Treble:	\pm 12 dB @ 10 kHz
Middle:	\pm 12 dB @ 700 Hz
Bass:	\pm 12 dB @ 70 Hz
LED-display:	green (signal)

AUX/CD	
Impedance AUX:	20 k Ω
Impedance CD:	27 k Ω
Input sensitivity AUX:	-13 dBu/+3 dBu \pm 1 dB
Input sensitivity CD:	+3 dBu
Frequency response (-3dB) input CD/AUX:	20 Hz to 20 KHz

CD/AUX EQ	
Bass:	\pm 12 dB @ 100 Hz
Treble:	\pm 12 dB @ 10 kHz

Outputs	
Output impedance PREOUT 2:	140 Ω balanced; 70 Ω unbalanced
Output impedance PREOUT 2:	0 dBu
Output impedance DIRECT OUT:	140 Ω balanced; 70 Ω unbalanced
Output level DIRECT OUT:	+9 dBu (variable potentiometer)
Output impedance REC:	70 Ω unbalanced
Output level REC:	0 dBu

Noise	
Noise level OUT 2 (20 Hz – 20 kHz) master volume at 0:	-95 dBu
Noise level OUT 2 (20 Hz – 20 KHz) master Volume max.:	-80 dBu
Noise level CD/AUX (20 Hz – 20 KHz) master volume max.:	-80 dBu
On Mic (20 Hz – 20 kHz) Rs = 150 Ω :	-124 dBV

Output power	
Output power:	2 x 150 W
Output impedance:	50V/70V/100V
LED-display:	yellow (dysfunction), red (overdriving)

General	
Remote control:	optional remote control for both outputs
Mute:	Muting for each input
Operating voltage:	230 V~, 50-60 Hz
Power consumption:	130 W
Dimensions (W x H x D):	483 x 88 x 340 mm
Weight:	13 kg

BEFORE OPENING THE UNIT, TURN IT OFF AND REMOVE THE POWER CORD.
ONLY THEN REMOVE THE SCREWS AND THE COVER.

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