swissonic

ZM 4

zone mixer

th•mann
MUSIC IS OUR PASSION

user manual

Musikhaus Thomann
Thomann GmbH
Hans-Thomann-Straße 1
96138 Burgebrach
Germany
Telephone: +49 (0) 9546 9223-0
E-mail: info@thomann.de
Internet: www.thomann.de

08.02.2018, ID: 277390

Table of contents

1 General notes

This user manual contains important information on safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to other users, be sure that they also receive this manual.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

Symbols and signal words

This section provides an overview of the symbols and signal words used in this user manual.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – high-voltage.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for amplification, mixing and playback of signals from musical instruments and microphones. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety

DANGER!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present. Never remove any covers.

There are no user-serviceable parts inside.

DANGER!

Electric shock caused by high voltages at the power amplifier output

The output voltages of modern high-performance amplifiers may result in death or serious injury.

Never touch the bare ends of loudspeaker cables when the amplifier is on.

DANGER!

Electric shock caused by short-circuit

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

CAUTION!

Possible hearing damage

With loudspeakers or headphones connected, the device can produce volume levels that may cause temporary or permanent hearing impairment.

Do not operate the device permanently at a high volume level. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment.

NOTICE!

Risk of fire

Do not cover the device nor any ventilation slots. Do not place the device near any direct heat source. Keep the device away from naked flames.

NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

NOTICE!

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

NOTICE!

Possible damages by using an external battery

Improper handling may cause an arc or short circuit between the bare ends of a live power cable to an external battery. This can destroy the battery and there is a fire hazard!

If you use an external battery for power supply, connect the power cord to the screw terminal on the rear panel first. Then connect the free ends of the cables to the battery poles. Pay attention to the polarity marking! To disconnect the battery, unscrew the cables on the battery first, then on the terminals of the device.

Also pay attention to the safety instructions of the battery manufacturer.

3 Features

- 4 microphone/line inputs
- 4 line outputs
- AUX inputs
- Phantom power (15 V)
- Telephone paging
- Priority control
- Screw terminals for the connection of speakers and off-grid voltage supply

4 Installation and starting up

Unpack and carefully check that there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Establish all connections as long as the unit is switched off. Use the shortest possible high-quality cables for all connections.

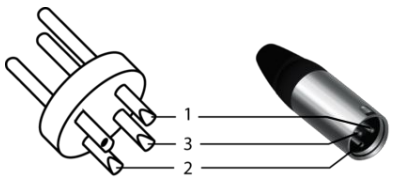
4.1 Pin assignment

You can use XLR and 1/4" plugs with balanced or unbalanced wiring. In the following, we will give you an overview of the various options.

XLR connections for signal inputs

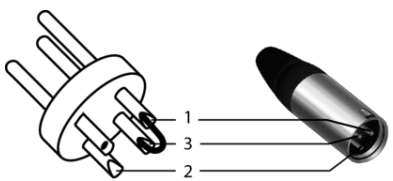
Balanced XLR sockets serve as signal inputs. Drawings and tables indicate the XLR pin assignment.

Balanced wiring:



1	Ground, shielding
2	Positive signal (+)
3	Negative signal (–)

Unbalanced wiring:

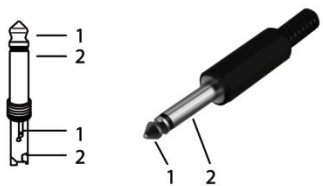


1	Ground, shielding
2	Signal
3	Bridged to pin 1

Phone sockets for signal inputs

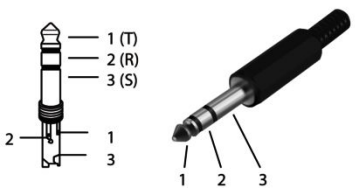
Drawings and tables indicate the pin assignment of 1/4" phone plugs to be used.

Unbalanced wiring of a TS plug:

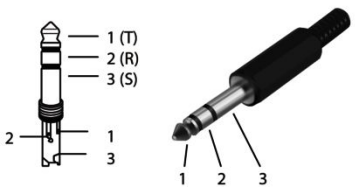


1	Signal
2	Ground, shielding

Unbalanced wiring of a TRS plug:



1	Signal
2, 3	Ground, shielding

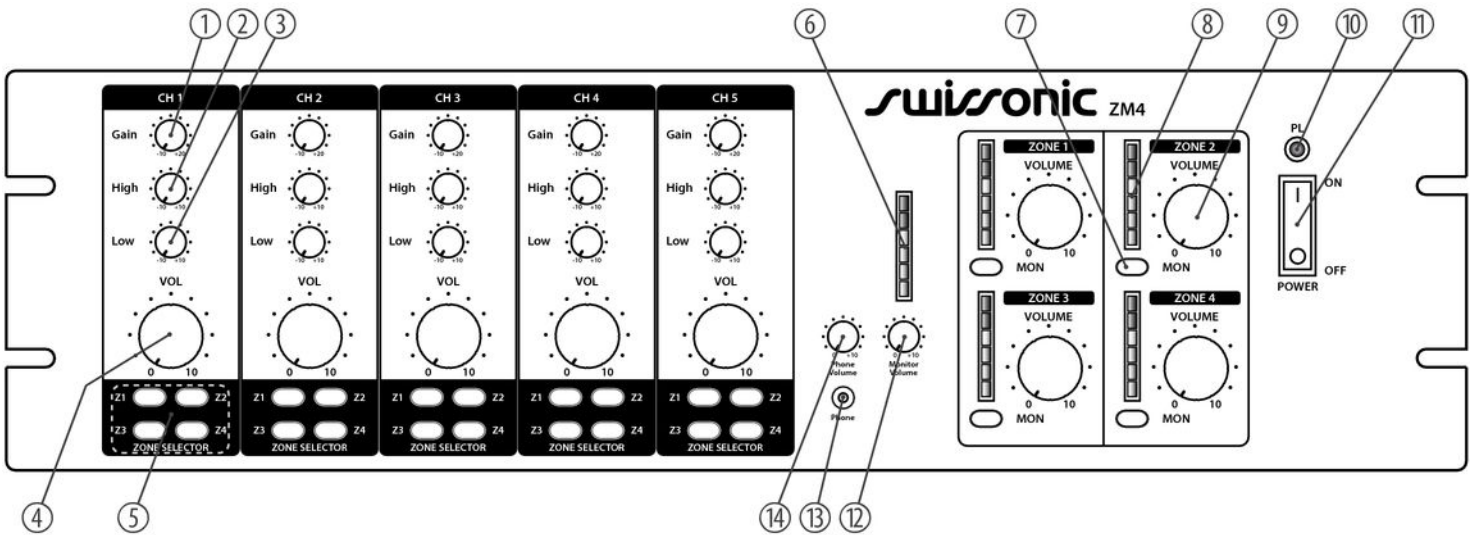


Balanced wiring of a TRS plug:

1	Positive signal (+)
2	Negative signal (–)
3	Ground, shielding

5 Connections and operating elements

Front panel

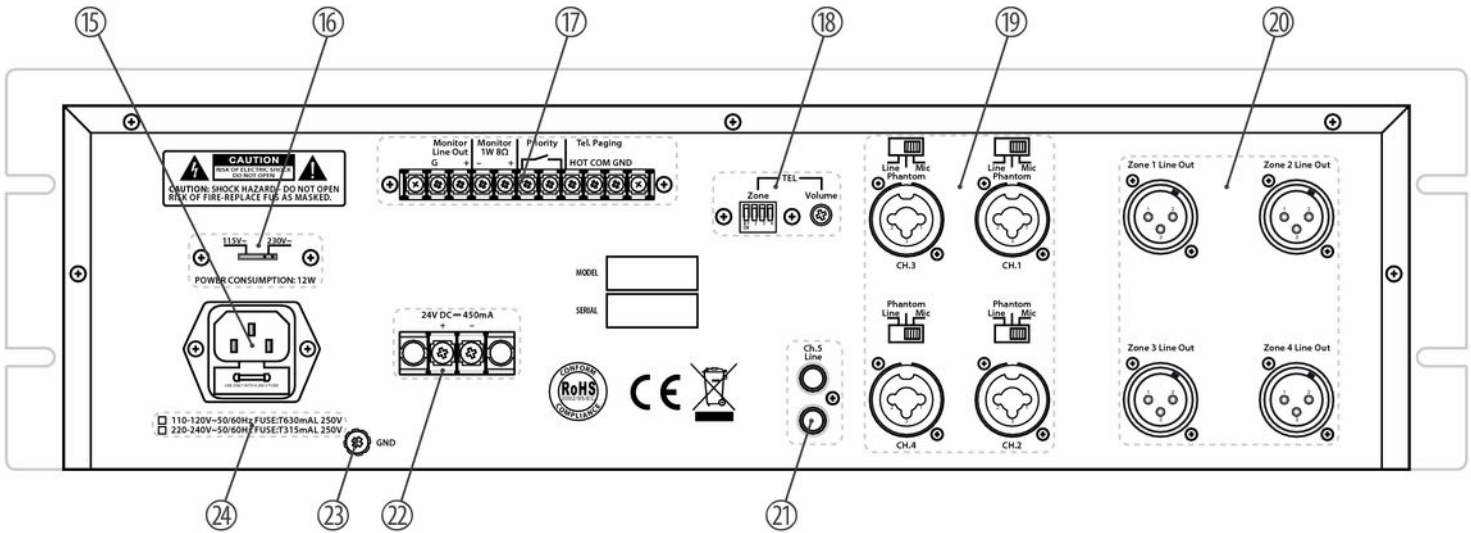


1	**Gain** Input gain control for each channel (CH 1 to CH 5). Turn the knob to adjust the input gain within a range of –10 to +20.
2	**High** Control to increase or attenuate the high frequencies in each channel (CH 1 to CH 5). Turn the knob to adjust the input gain within a range of –10 to +10.
3	**Low** Control to increase or attenuate the low frequencies in each channel (CH 1 to CH 5). Turn the knob to adjust the input gain within a range of –10 to +10.
4	**VOL** Channel volume control (CH 1 to CH 5).
5	**ZONE SELECTOR** Push buttons Z1, Z2, Z3 and Z4: Use these buttons to assign the input signal of each channel (CH 1 to CH 5) to the desired zone(s) (1 to 4).

6	LED chain: signal level indicator at the Phone and Monitor outputs of the zone mixer. Set the signal level using the VOL controls of the channels CH 1 to CH 5.
7	**MON** Push buttons to assign the public address zone signal (ZONE 1 to 4) to the monitor outputs of the zone mixer or to mute the signal.
8	LED chain: signal level indicator of the public address zones (ZONE 1 to 4) of the zone mixer. Use the VOLUME controls of the zones 1 to 4 to adjust the signal level.
9	**VOLUME** Volume control of the public address zone (ZONE 1 to 4).
10	**PL** LED Lights up when the device is switched on and operational.
11	**ON / OFF** Mains switch to turn the device on and off.
12	**Monitor Volume** Volume control for the monitor outputs on the rear panel of the zone mixer.

13	**Phone** Headphones output.
14	**Phone Volume** Volume control for the headphones output of the zone mixer.

Rear panel


15
16
17
18
19
20
CAUTION
CAUTION: SHOCK HAZARD - DO NOT OPEN
RISK OF FIRE-REPLACE FUS AS MASKED.
115V~
230V~
POWER CONSUMPTION: 12W
110-120V~50/60Hz FUSE:T630mAL 250V
220-240V~50/60Hz FUSE:T315mAL 250V
GND
24V DC⎓450mA
Monitor Line Out
Monitor 1W 8Ω
Priority
Tel. Paging
G
HOT COM GND
TEL
Zone
Volume
MODEL
SERIAL
Line
Mic
Phantom
CH.3
CH.1
CH.4
CH.2
Ch.5 Line
Zone 1 Line Out
Zone 2 Line Out
Zone 3 Line Out
Zone 4 Line Out
24
23
22
21

15	IEC chassis connector with fuse holder for operating voltage supply.
16	**115V~/230V~** Operating voltage selector (115 V ~ or 230 V ~, factory preset).
17	Screw terminal bar to connect speakers and telephone system(s): **Monitor Line Out**: Line out to connect an amp or recording device. **Monitor 1W 8Ω**: Output to connect an 8 Ω monitor. **Priority**: Circuit breaker port for muting channels CH 2 to CH 5. **Tel.Paging**: Connector for emergency announcements, see *'Connection for emergency announcements' on page 24*.
18	**TEL — Zone / Volume** DIP switch for entering the paging signal to the desired zone(s) (ZONE 1 to 4) and volume control for the paging signal.
19	**Ch.1 — Ch.4** Lockable XLR/phone jack combo socket for signal inputs 1 to 4. Use the **Line/Mic/Phantom** selector to set the input sensitivity for each channel individually.

20	**Zone Line Out** XLR output sockets for the public address zones (ZONE 1 to 4) of the zone mixer.
21	**Ch.5** RCA input sockets to connect an external audio device (line level).
22	Screw terminals to connect an external voltage supply (24 V ⎓).
23	**GND** Connection screw for a grounding cable.
24	Indication of the factory preset operating voltage of the device (115 V ~ or 230 V ~).

Priority rule

CH1 has priority and mutes the channels CH2 to CH5.

Connection for emergency announcements

ZM4 offers the screw terminal port 'Tel. Paging' for emergency or other important announcements. Connect the shielded audio cable to the 'COM' terminal, ground wire to 'GND' and the circuit breaker to release announcements to 'HOT' and 'GND'. So the audio signal is permanently present on the 'COM' terminal and closing the breaker superimposes all other channels.

6 Technical specifications

Frequency response	20 Hz … 22 kHz (±2 dB)
Max. input gain	Main out: 60 dB CH MIC IN (XLR, balanced) Rec out: 50 dB CH MIC IN (unbalanced) Mic. out: 60 dB CH MIC IN (unbalanced) Mono out: 60 dB CH MIC IN (unbalanced)
Tone stack	Treble: ±10 dB Bass: ±10 dB
THD	< 0.3 %
Input impedance	MIC: 1.4 kΩ others: 10 kΩ
Output impedance	120 Ω

Operating voltage supply	115/230 V ~ 50/60 Hz 24 V ⎓
Power consumption	12 W
Fuse	115 V: 5 mm x 20 mm, 630 mA, 250 V, slow blow 230 V: 5 mm x 20 mm, 315 mA, 250 V, slow blow
Dimensions (W × H × D)	483 mm × 44 mm × 195 mm
Weight	2.9 kg

7 Protecting the environment

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

Disposal of your old device

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

Musikhaus Thomann · Hans-Thomann-Straße 1 · 96138 Burgebrach · Germany · www.thomann.de